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# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTICULARLY TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

APRIL, 1919

No. 1



POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.

# TRY THE NEW WAY TO KILL LICE

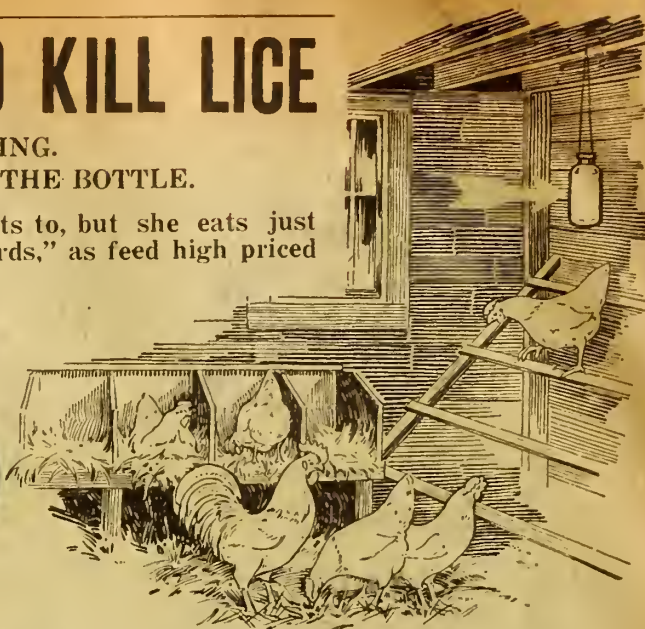
NO DUSTING,  
NO DIPPING.

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

# Licccil

**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

## GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$1.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$1.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Lévi Russell, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you sometime ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

"Received a bottle of your LICECIL some time ago and think it is all right. I am anxious to buy more. Have you an agent in Spokane from whom I can get it?" W. H. Wooster, Post Falls, Idaho.

## HOW TO USE LICECIL

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

Bottle, 75c; 3 Bottles for \$2.00, Prepaid.

AMERICAN SUPPLY COMPANY

Dept. P. K.

Quincy, Illinois

# Cream of the Vegetable World.

Complete List, Vegetable and Flower Seeds, Cinnamon Vines,  
Post Cards Etc.

PLEASE NOTE. My Seeds are extra selected and sold only in large packets. Positively none sold in bulk

|  |        |  |     |   |         |
|--|--------|--|-----|---|---------|
| <b>ASPARAGUS</b>   | Packet | <b>GOURDS.</b>   |     | <b>GIANT RHUBARB.</b>   |         |
| Giant Palmetto. (Best.)  | 10c    | Japanese Nest Egg  | 10c | Pie Plant   | 5c      |
| <b>BEANS, (Dwarf).</b>   |        | <b>KOHL-RABI.</b>  |     | <b>SALSIFY (Vegetable Oyster).</b>  |         |
| New Golden Eyed Wax  | 10c    | Early Vienna   | 5c  | Mammoth Sandwich Island   | 5c      |
| New Stringless Green Pod   | 10c    | <b>LETTUCE.</b>  |     | <b>SPINACH.</b>   |         |
| New Prolific Tree  | 10c    | Early Prize Head   | 5c  | Long Standing   | 5c      |
| Mammoth Bush Lima  | 10c    | Bonny Blonde   | 10c | <b>SQUASH.</b>  |         |
| <b>BEANS, (Pole)</b>   |        | California Cream Butter  | 10c | Giant Summer Crookneck  | 5c      |
| Powell's Prolific  | 10c    | <b>MUSK-MELON.</b>   |     | Improved Hubbard  | 5c      |
| <b>BET.</b>  |        | Rocky Ford. (Very early)   | 10c | New Faxon. (Best of all)  | 10c     |
| New Extra Early. (Select.)   | 10c    | Banana. (Over 2 feet long)   | 5c  | <b>SUNFLOWERS.</b>  |         |
| Market Gardener's. (Extra fine)  | 5c     | Giant. (Largest ever produced)   | 10c | Giant Mixed   | 10c     |
| <b>MANGEL.</b>   |        | Winter Pineapple. (A wonder)   | 10c | <b>TOMATO.</b>  |         |
| Golden Tankard   | 5c     | <b>WATER-MELON.</b>  |     | Golden Queen  | 5c      |
| <b>ASPARAGUS.</b>  |        | Extra Early Sugar  | 5c  | Mammoth Ignatum (New)   | 10c     |
| Beet or Chard  | 5c     | Monte Cristo. (A treasure)   | 10c | New Tree. (Don't Ship This)   | 10c     |
| <b>CABBAGE.</b>  |        | Sweet Heart. (New)   | 5c  | World Beater (Giant of all)   | 10c     |
| Cabbage seed is very choice, and is all home grown from Extra Selected. Solid. Perfect Heads, pure and true. |        | True Sugar. (Sweet as Honey)   | 10c | <b>STRAWBERRY TOMATO or</b>   |         |
| Early Jersey Wakefield   | 5c     | <b>OKRA.</b>   |     | Golden Husk. True Seed  | 10c     |
| Early Winnigstadt. ("All Head.")   | 5c     | White Velvet   | 5c  | <b>TURNIP.</b>  |         |
| Select Surchard ("All Head")   | 10c    | <b>ONION.</b>  |     | White Egg   | 5c      |
| Short-Stem Drumhead  | 10c    | Good Onion Seed is of utmost importance. Poor seed is always dear, even at a gift. Seed is home grown—from choice selected bulbs of VERY SUPERIOR quality. There is much money in onions if well managed. Beware of cheap seed. You cannot afford to lose your crop. |     | Extra Early Milan   | 10c     |
| Prize-winner. (Largest grown)  | 10c    | New Brown Beauty. (extra early)  | 5c  | <b>RUTA-BAGAS.</b>  |         |
| <b>CAULIFLOWER.</b>  |        | Large Red Wethersfield   | 5c  | Improved Purple-Top Yellow  | 5c      |
| Early Snowball. (Best of all)  | 15c    | Golden Oregon. (Extra)   | 10c | <b>VEGETABLE</b>  |         |
| <b>COLLARDS.</b>   |        | Prizetaker. (A wonder)   | 10c | Peaches   | 10c     |
| True Georgia   | 5c     | Gigantic Garzaus   | 10c | <b>SAGE.</b>  |         |
| <b>CARROT.</b>   |        | <b>PARSNIP.</b>  |     | Broad Leaved  | 5c      |
| Ox-Heart   | 5c     | Large Sugar or Hollow Crown  | 5c  | <b>POTATO SEED.</b>   |         |
| New Intermediate. (best)   | 10c    | Cook's Perfection. (Superb)  | 10c | Very choice   | 15c     |
| <b>CELERY.</b>   |        | <b>PARSLEY.</b>  |     | 5 Choice Cinnamon Vine Tubers   | 25c     |
| Mastodon. (Easy Growing)   | 10c    | Extra Double Curled  | 5c  | <b>EXTRA EARLY SIX WEEKS POTATOES.</b>  |         |
| White Plumie. (Self Blanching)   | 10c    | <b>PEANUTS.</b>  |     | Selected Seed for 40 Hills  | \$ 1.00 |
| <b>CITRON.</b>   |        | Early Champion   | 10c | Selected Seed for 100 Hills   | 2.00    |
| Colo. Preserving   | 5c     | <b>PEAS.</b>   |     | Selected Seed for 160 Hills   | 3.00    |
| <b>CRESS.</b>  |        | Early Premium Gem  | 10c | Selected Seed for 340 Hills   | 6.00    |
| Extra Curled   | 5c     | Ever-Bearing. (Delicious)  | 10c | Selected Seed for 1,000 Hills   | 17.00   |
| <b>DOMESTIC COFFEE SEED</b>  | 10c    | Mammoth Melting Sugar  | 10c | <b>NEW POST CARDS</b>   |         |
| <b>SWEET CORN.</b>   |        | <b>PEPPER.</b>   |     | Gems of Worth and Beauty  |         |
| Extra Early. (A money maker)   | 10c    | New Chinese Giant  | 10c | "Cheer" Post Cards, 20 for 15c  |         |
| Improved Evergreen   | 10c    | Coral Gem Bouquet  | 10c | "Cheer" Post Cards, 60 all different.....40c  |         |
| Country Gentleman  | 10c    | <b>PUMPKIN.</b>  |     | Temperance Post Cards, 20 for 15c   |         |
| Blue Mexican   | 10c    | Sweet Potato. (Best for pies)  | 5c  | Temperance Post Cards, 60 all different.....40c   |         |
| <b>POP CORN.</b>   |        | King of the Mammoths   | 10c | All the above—or any 120 Cards.....75c  |         |
| Extra Prolific   | 10c    | <b>RADISH.</b>   |     | These Cards are of the highest character—far superior to others. As a gift they are ever seasonable, always prized. |         |
| Children's Delight (Red Beauty)  | 10c    | New Chartier   | 5c  |   |         |
| <b>CUCUMBER.</b>   |        | New Early Icicle. (Best of all)  | 10c |   |         |
| Chicago Pickle   | 5c     | New Rosy Gem (Earliest of all)   | 10c |   |         |
| Japanese Climbing  | 10c    | White Chinese Winter. (New)  | 10c |   |         |
| Extra Long Green Giant   | 10c    | Japan Summer. (A wonder)   | 10c |   |         |
| <b>EGG PLANT.</b>  |        |  |     |   |         |
| Early Large Purple   | 10c    |  |     |   |         |

# Cream of the Flower World.

Gift Edge Flower Seeds,  
Selected.

SPECIAL TO ALL. Flower Seed Packets Are Double Usual Size.

|  |   |
|--|---|
| <b>ASTERS.</b> 30 Finest Dbl. Mxd. Ex. Large Pkt.....10c | <b>PANSIES.</b> Extra mixed, 40 colors.....10c            |
| <b>BALSAMS.</b> Finest Double Mixed, all colors..... 5c  | <b>PANSY COL.</b> 50 Giant Vari. Treatise, etc.....20c    |
| <b>CARNATIONS.</b> New Marguerite, great bloomers 10c    | <b>PETUNIAS.</b> 40 Varieties, colors and shades.....10c  |
| <b>CHRYSANTHEMUMS,</b> 10 annual varieties..... 5c       | <b>PHLOX.</b> 30 Choice, Bright colors mixed..... 5c      |
| <b>COBAEA VINE.</b> A charming annual climber.....10c    | <b>PRIZE POPPIES.</b> 40 Grandest Sorts..... 5c           |
| <b>COSMOS.</b> Early Giant Fancy; superb assort.....10c  | <b>PORTULACA.</b> All the Best kinds and colors..... 5c   |
| <b>COTTON SEED—For Flower Garden</b> ..... 5c            | <b>SALVIA SPLENDENS.</b> (Scarlet Sage).....10c           |
| <b>DIANTHUS or Pinks.</b> Double Mixed, 25 sorts.. 5c    | <b>SENSITIVE PLANT.</b> A Remarkable Curiosity.... 5c     |
| <b>EVERLASTINGS.</b> Finest Mixed Varieties..... 5c      | <b>SWEET ALYSSUM,</b> Little Gem. Finest of All.... 5c    |
| <b>FORGET-ME-NOT.</b> Delightful, Large Flowering 5c     | <b>SWEET PEAS.</b> 100 Gift Edge Var., full oz pkt...10c  |
| <b>ICE PLANT.</b> Very Unique and Handsome..... 5c       | <b>BUSH SWEET PEAS.</b> New type; pretty, oz. pkt 10c     |
| <b>JAPANESE HOP.</b> Choice New Variegated.....10c       | <b>PERENNIAL PEAS.</b> Finest Mixture.....10c             |
| <b>MIGNONETTE.</b> Mammoth. Very Fragrant..... 5c        | <b>SWEET WILLIAM.</b> 25 Best Varieties mixed..... 5c     |
| <b>MORNING GLORY.</b> Giant Japanese 100 Va.....10c      | <b>VERBENA.</b> A Superfine Mixture, all colors.....10c   |
| <b>NASTURTIUM.</b> Dwf. Tom Thumb. Fancy Mxd.... 5c      | <b>ZINNIA.</b> Large Double, 20 varieties and colors.. 5c |
| <b>NASTURTIUM.</b> Giant Flowering, Climb. Mxd... 5c     | <b>MIXED FLOWERS,</b> Over 300 Selected Varieties 25c     |

EVERYTHING SENT PREPAID  
SAFE ARRIVAL  
AND SATISFACTION  
ALWAYS GUARANTEED.

American Supply Co.

Quincy, Illinois

# The Hen That Lays Is the Hen That Pays

The Hogan method of scoring hens according to certain bone and body measurements proving a close test to show the number of eggs a hen will lay in a year. It also shows the reproductive powers of the male. Thousands of Poultrymen using this system successfully.

## Selecting Poultry For Egg Production.

By Russell F. Palmer.

Haphazard methods of mating and breeding don't pay, and indiscriminate methods cannot prove successful in building up a flock of laying hens. There never was a time in the history of this country when poultry and eggs were in greater demand; the price at which poultry and eggs sell has increased much more in proportion than has the price of feeds necessary to produce these products.

The opportunity is ours to insure greater profits, if we carefully and systematically solve the problem which is facing us: "How can we insure a reasonably high average egg production?"

In July issue I had an article in which I pointed out that the "Hogan Method" of selection and breeding made possible culling out the non-layers—the drones and slackers—and keeping only those we know will produce eggs in profitable quantities. The writer has received many letters from readers of this paper regarding this method; all requesting more information.

There are exceptions to all rules. You will find some exceptions in selecting, testing, and breeding poultry according to the "Hogan Method" described in the book known as the "Call of the Hen;" but many breeders have tested it for some six or eight years; many of these have doubled their egg yield in that time.

The "Hogan Method" does not stop with the mere selection of a good or poor layer of eggs.

It continues and shows the kind of males and females which will breed good layers. It shows the characteristics of males that are sure breeders or failures.

It is important to have males of the right formation to mate with the great layers for breeding purposes. The advantages of this method for one owning even a small flock of birds are so apparent that space need not be given to discuss it. Please read below the advertisement of "The Call of the Hen." Leavenworth, Kansas.

### THE CALL OF THE HEN.

The book by Walter Hogan on the science of selecting and breeding poultry for egg production, is especially timely now, when poultrymen are using every opportunity to increase the food supply in poultry and eggs. They want to eliminate the drones which will increase the meat supply and keep every pullet or hen that will lay enough eggs to pay for her keep and a profit as well. This can be done by following the instructions given in the book. Score your pullets and hens by this method and you will know which to keep as profitable layers. Prof. E. F. Knapp of Syracuse, N. Y., in 1910, scored about seventy females, and we give the scores he recorded by using the Hogan test, on twelve individuals, White Leghorns; and one year's laying, viz:

| Hen      | Scored | Layed    |
|----------|--------|----------|
| No. 37   | 235    | 235 eggs |
| No. 39   | 250    | 255 eggs |
| No. 42   | 250    | 254 eggs |
| No. 43-R | 235    | 226 eggs |
| No. 43-G | 220    | 222 eggs |

|        |     |          |
|--------|-----|----------|
| No. 45 | 265 | 262 eggs |
| No. 46 | 250 | 242 eggs |
| No. 1  | 280 | 282 eggs |
| No. 3  | 255 | 258 eggs |
| No. 4  | 220 | 228 eggs |
| No. 70 | 205 | 210 eggs |
| No. 71 | 205 | 201 eggs |

This proves that the Hogan System is a very valuable discovery and should be used by all progressive poultrymen.

"The hen that lays is the hen that pays." There has never been a time that has demanded action more than just now. Drones are being culled out in all lines of business activity, and rightly so, and the same is true with the poultry business. The hen which delivers the goods is the hen which is your salvation, especially now when feed is so high. There is a profit in egg farming at the present price of eggs. If this workable science in the selection of layers is adopted, females can be scored at any time, even several months after they begin to lay, so you can tell how many eggs she will lay in one year. Males can be scored by this method to ascertain which are desirable as breeders to raise egg-laying type of birds.

The Hogan method has been tried out for several years, at experimental stations, large and small poultry plants all over the country, with satisfactory results, increasing the profit in egg production very materially, and has the indorsement of well-known poultry experts.

We would appreciate receiving your order for this book, which you will find advertised for sale below.



## YOU NEED THIS BOOK!

### IT WILL CUT DOWN YOUR FEED BILL

Why feed the hen that never lays or that never lays enough eggs to pay her keep? There is a way to prevent this.

### Learn Which of Your Hens Lay Best

—THIS BOOK WILL TEACH YOU HOW—



**B**UT ONCE IN A CENTURY is a discovery made which revolutionizes an industry, adding to the sum of human knowledge a "missing link" in the chain of civilization—creating an exact science, where before chaos reigned supreme,—where things went sort of hit and miss fashion. What Edison has done with electricity, what Burbank has accomplished in the field of horticulture, Walter Hogan has done for the poultry industry. So that you can understand and apply to your own poultry work the result of all this, the full details in plain and terse language is given in his new one hundred and fifty page cloth bound book

## "THE CALL OF THE HEN"

Under the touch of his magic hand Nature's secrets stand revealed—secrets, the value of which cannot be estimated in dollars and cents—secrets which have enabled hundreds of thousands of poultrymen to double their profits in a single year.

### DON'T KILL THE LAYER—SWAT THE DRONE

If you only keep a dozen hens you need this book. It will cut down the feed bill and increase your average egg yield. Don't judge "The Call of the Hen" by other poultry books. It's a cloth bound illustrated description of a new discovery, revolutionary in nature, the result of a lifetime of investigating and experimenting and has been thoroughly tested by hundreds of the most successful poultry plants and pronounced wonderful and sure.

### CULL YOUR FLOCK NOW—SELL THE LOAFERS—KEEP THE WORKERS

By the Hogan method you can not only select your good layers, but also good BREEDERS, both male and female; birds that will reproduce their kind and enable you to rapidly increase the average egg production of your flock.

**You Take** when you send us \$2.00 for the new revised cloth bound, profusely illustrated book, "The Call of the Hen." We **No Chance** do not ask you to take our word for it, nor the word of such men as Prof. T. E. Quisenberry; L. C. Byce, member of the executive board of the A.P.A.; Michael K. Bover and others.

You be your own judge. Get the book. Fol. **Satisfaction or** low directions. Apply your own tests. If you are **Money Back** not satisfied—more than satisfied—send back the book. We will refund your money at once. Don't put this off. Order today. Right now! Price \$2.00 Postage prepaid.

Address Poultry Keeper, - Quincy, Illinois

# THE



# POULTRY



A JOURNAL FOR  
EVERYONE  
INTERESTED

# KEEPER

IN MAKING  
POULTRY  
PAY

VOL. XXXVI.

APRIL, 1919.

No. 1

## Natural and Artificial Brooding of Chickens

(Continued from March Issue.)

### Individual Hoovers and Brooders.

Gasoline brooders, brooder stoves burning engine-distillate oil, and a separate individual hover heated by a coal fire are coming into more general use, each with a capacity varying from 200 to 1,500 chickens. These large individual brooders are used in colony houses, and when the chickens are weaned the colony house is used as a growing coop, which requires a smaller investment than the long, piped brooder house, and allows one to rear the chicks on range to good advantage. Brooder stoves with a capacity of from 500 to 1,500 chickens, heated by distillate oil, are used quite extensively in some sections of the country. These stoves are usually seen in houses which are about 18 feet square, but are occasionally found in long brooder houses. Most of them are equipped with a wafer regulator that controls the flow of oil which is fed automatically from a tank or barrel outside the house, or several stoves may be connected with the same supply tank. This system provides good ventilation, sufficient heat to keep the chickens from crowding and requires a minimum of care.

Until one has had considerable experience it is best not to brood over 1,000 chickens in one flock, and a much smaller number would probably do better.

Individual hovers with a capacity of from 200 to 1,000 chickens have recently been placed on the market and appear to be giving satisfaction. Each hover is heated by a separate self-feeding coal stove which is adapted for use in a colony brooder house. The value of this brooder would appear to depend greatly on the efficiency of the heater and the time required to care for the stove.

### Correct Temperatures For Brooding.

The best temperature at which to keep a brooder or hover depends upon the position of the thermometer, the style of the hover, the age of the chickens, and the weather conditions. Aim to keep the chickens

By Harry M. Lamon,  
Senior Animal Husbandryman in  
Poultry Investigations, Animal  
Husbandry Division.

comfortable. As the operator learns by the actions of the chickens the amount of heat they require, he can discard the thermometer if he desires. When too cold they will crowd together and try to get nearer the heat. If it is found in the morning that the droppings are well scattered under the hover it is an indication that the chickens have had enough heat. If the chickens are comfortable at night they will spread out under the hover with the heads of some protruding from under the hover cloth. Too much heat will cause them to pant and gasp and sit around with their mouths open.

It is impossible to state for each case at what temperature the brooders should be kept to raise young chickens; however, it will run from 90 degrees up to 100 degrees in some

cases, as some broods of chickens seem to require more heat than others, an average being 93 degrees to 95 degrees for the first week or 10 days, when the temperature is gradually reduced to 85 degrees for the following 10 days, and then lowered to 70 degrees or 75 degrees for as long as the chickens need heat. This depends somewhat on the season of the year and the number of the chickens, as it can be readily seen that the heat generated by 50 chickens would raise the temperature under the hover to a higher degree than the heat given off by a lesser number, consequently the amount of heat furnished by the lamp or stove will have to be regulated accordingly. As the chickens grow larger and need less heat, the lamps may be used only at night, and later only on cold nights. The heat is usually cut off at the end of 4 or 5 weeks in March or April in the vicinity of Washington, D. C., while winter chickens have heat for 8 or 10 weeks, or until they



Fig. 8.—Brood coop with small run for hen, showing wire door which can be closed at night. The burlap covering on top of the coop and frame is to protect the hen from the sun and rain.

are well feathered. Care should be taken to prevent chilling or overheating the chickens, which weakens them and may result in bowel trouble.

Chickens need a cool place for scratching and exercising in addition to heat. Indoor brooders and hovers can be used successfully in unheated brooder houses except during the coldest weather in most sections of the country. Outdoor brooders usually have a cool compartment for exercising, where the chickens are fed in cold, stormy weather. If winter chickens are being raised, it is advisable to heat the brooder house to a temperature of 60 to 70 degrees, regardless of the temperature of the hover, which often requires placing brooder pipes around the outside walls of the brooder house. The need of this heat depends entirely upon the brooding system and the weather conditions; but it is absolutely necessary that the heat be kept at the desired temperature under the hover. Brooders and hovers should have from one-half to two inches of sand, dry dirt, cut clover, or chaff spread over the floor and in the brooder-house pen. The hovers should be cleaned frequently, as cleanliness is very essential in raising chickens successfully.

When chickens are first put into the brooder they should be confined under or around the hover by placing a board or wire frame a few inches outside (this would not apply to the small outdoor colony brooders). The fence or guard should be moved gradually farther away from the hover and discarded entirely when the chickens are 3 or 4 days old or when they have learned to return to the source of heat. Young chickens should be closely watched to see that they do not huddle together or get chilled. They should be allowed to run on the ground whenever the weather is favorable, as they do much better than when kept continuously on cement or board floors.

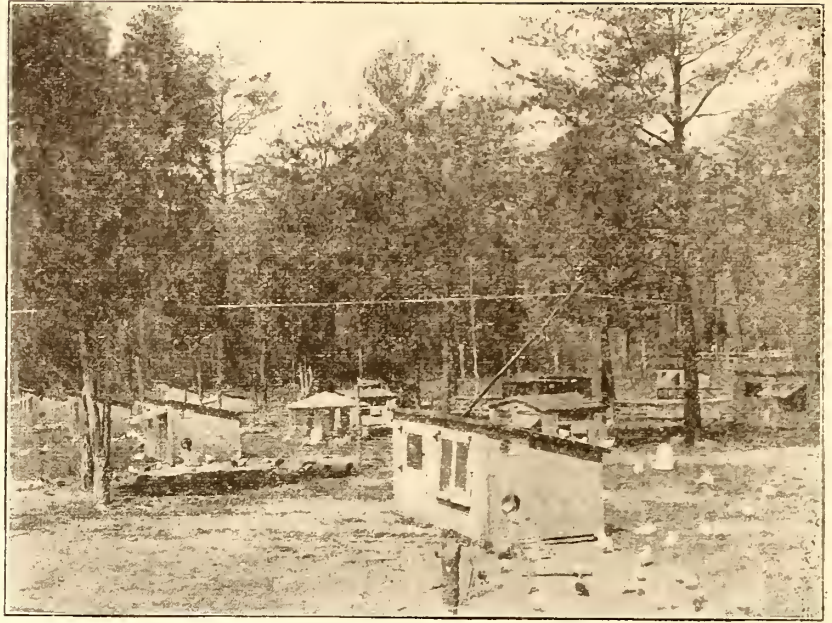


Fig. 9.—Artificial brooding of chicks, showing arrangement of outdoor brooders.

Weak chickens should usually be killed as soon as noticed, as they rarely make good stock, while they may become carriers of disease. Brooders should be disinfected at least once a year, and more frequently if the chickens brooded in them have had any disease.

#### Feeding Young Chickens

Young chickens should be fed from three to five times daily, depending upon one's experience in feeding. Undoubtedly chickens can be grown faster by feeding five times daily than by feeding three times daily, but it should be borne in mind that more harm can be done to the young chickens by overfeeding than by underfeeding, and at no time should they be fed more than barely to satisfy their appetites and to keep

them exercising, except at the evening or last meal, when they should be given all they will eat. Greater care must be exercised not to overfeed young chicks that are confined than those that have free range, as leg weakness is apt to result in those confined.

The young chicks may be fed any time after they are 36 to 48 hours old, whether they are with a hen or in a brooder. The first feed may contain either hard-boiled eggs, johnny-cake, stale bread, pinhead oatmeal, or rolled oats, which feeds or combinations may be used with good results. Mashies mixed with milk are of considerable value in giving the chickens a good start in life, but the mixtures should be fed in a crumbly mass and not in a sloppy condition. After the chickens are two months old they may be fed four times daily, and after three months old three times daily, with good results. Johnny-cake composed of the following ingredients in the proportions named is a very good feed for young chicks: One dozen infertile eggs or 1 pound of sifted beef scrap to 10 pounds of corn meal; add enough milk to make a pasty mash, and 1 tablespoonful of baking soda. Dry bread crumbs may be mixed with hard-boiled eggs, making about one-fourth of the mixture eggs, or rolled oats may be used in place of the bread crumbs. Feed the bread crumbs, rolled oats, or johnny-cake mixtures five times daily for the first week, then gradually substitute for one or two feeds of the mixture finely cracked grains of equal parts by weight of cracked wheat, finely cracked corn, and pinhead oatmeal or hulled oats, to which about 5 per cent of cracked peas or broken rice and 2 per cent of charcoal, millet or rape seed may be added. A commercial chick feed may be substituted if desired. The above ration can be fed until the chicks are two weeks

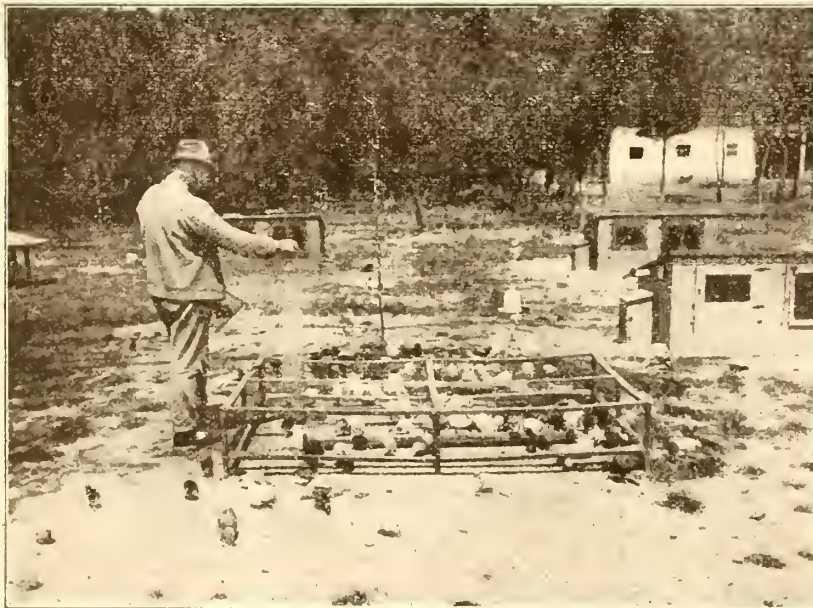
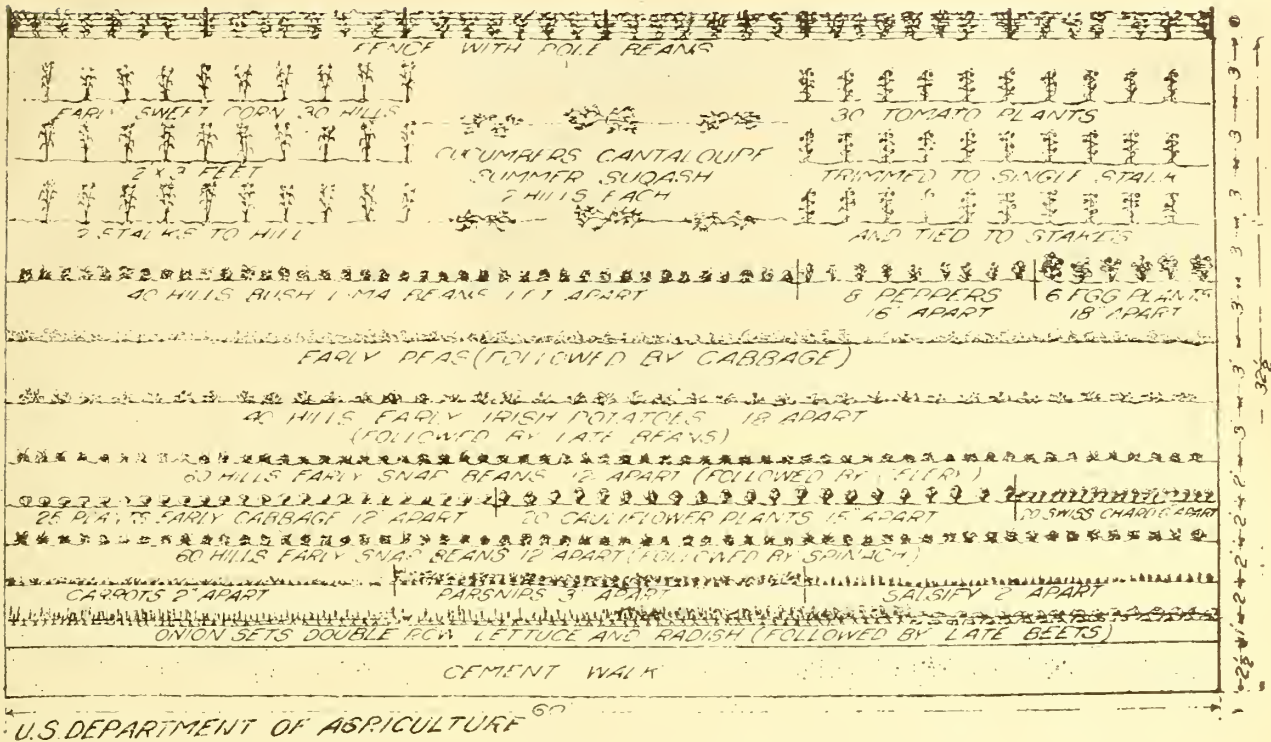


Fig. 10.—Frame covered with wire netting to protect feed of young chicks from the older fowls.

(Continued on Page 292)



# How to Plan and Locate Home Food Gardens



Plan recommended for a back-yard garden 30 by 60 feet.

The farmer generally selects the choicest plot of ground on the farm for his vegetable garden, and no pains are spared to make the land rich and productive. The city or village gardener, on the other hand, has little or no choice as to the character of the soil or its location. It is a question with him of taking the available land and doing the best he can with it. The land at his disposal often is shaded during a portion of the day, and the soil frequently consists of hard clay, refuse accumulated from building operations, or materials that have been dumped upon the land. It is possible, however, to grow many of the garden vegetables under adverse conditions. Results obtained by many city gardeners during the past two years are considered truly remarkable by specialists of the United States Department of Agriculture.

In casting about for a location for the garden, the back yard or home plot should be given first consideration, the specialists say. As a general rule, a location near the house is most desirable. In the first place, if the garden is near, it can be worked during short periods of available time; then, it is more convenient for gathering the vegetables as they are wanted for use; and finally, the garden can be better protected from molestation.

### Vacant Lots Often Good.

If the back yard or other ground near the dwelling is too small, is shaded during a considerable portion of the day, or if the soil is of such character that vegetables can not be grown upon it, the use of a vacant

lot in the neighborhood is recommended. Where no land is available in the immediate vicinity of the home, community gardens located in the outer part of the city have proved satisfactory.

There is a decided advantage in working upon one's own land, as the soil improves from year to year by fertilization and cultivation, and the best results can be secured where the use of the land is assured for a period of years.

### Some Location "Don'ts."

Don't plant a garden where the sun does not shine for at least five hours each bright day. Don't locate the garden on soil that is so thin and where the rocks are so near the surface that the garden will burn out during the summer. Don't attempt to grow a garden on land that is more cinders and rock than soil. Don't plant a garden under or near large trees that will not only shade the crops, but, in addition, draw all the moisture and plant food from the soil. Don't plant a garden on land that overflows.

The ideal garden spot is seldom found, but it is often possible to find a location that embodies the more important points and then to supply the others.

### Make Plan Before Planting.

A definite plan for the garden should be drawn on paper before any planting is done. First, determine the exact dimensions of the available land; then ascertain which parts of the garden will be best adapted to certain crops, especially those that require a large amount of sunshine.

Outline the garden plan on paper and sketch in the crops that are to be planted upon each part.

In planning the garden it should be borne in mind that certain crops, such as lettuce, radishes, and early beets, can frequently be grown in the same rows with other crops and be removed before the main crop attains sufficient size to require the entire space. It should also be remembered that carrots, beets, salsify, early turnips, parsnips, and all crops of that type may be grown in rows 12 to 18 inches apart and will occupy a comparatively small amount of space if grouped together. The taller growing crops, such as pole beans, tomatoes trained to stakes, and sweet corn, should be planted at one side of the garden where they will not shade the smaller crops.

### Arrange Rows for Convenience

It is generally conceded that the rows should run north and south; however, it is more important to arrange the rows for convenience of cultivation than for exposure to the sunshine.

Due consideration should be given to both companion and succession cropping. By companion cropping, the plan of planting two or more crops together and removing those that mature first is followed. By succession cropping, one crop follows another, keeping the land fully occupied all the time. Thus, early cabbage may be followed by celery or late tomatoes; early corn or early Irish potatoes may be followed by turnips, late beans, late beets, or late cabbage. The arrangement of crops, however, depends somewhat upon the locality and length of the season.

## Rearing the Young Turkeys

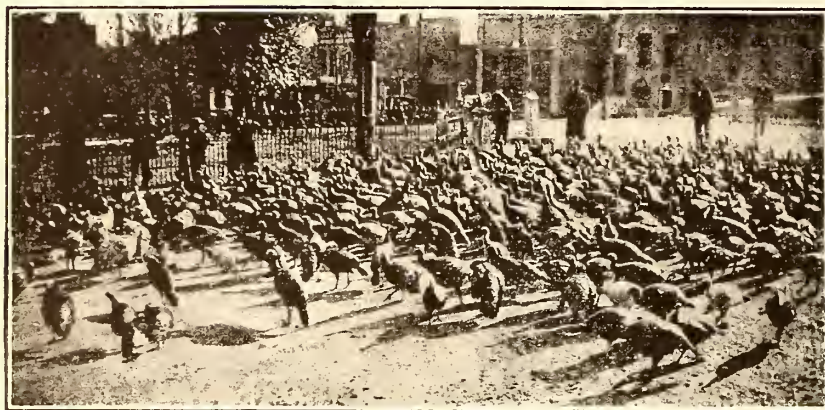


Fig. 15.—Driving turkeys to market, Glasgow, Ky.

When about 6 weeks old the young turkeys are old enough to go to roost. Practically all turkey raisers allow the birds to roost in the open trees or on fences or other roosts especially provided for them. In sections where high winds prevail it is customary to build the roosts next to a barn or shed, where there is some protection; when this is done posts are driven into the ground and poles laid across them 4 or 5 feet from the ground. By driving them to the roosting place and feeding them there every evening just before dark, young turkeys can be made to roost wherever desired. For the first few times it is sometimes necessary to keep them under the roost until dark, but they will finally fly up, and after a week or so will no longer have to be driven, but will come up every night to be fed and to roost.

During the summer and early fall turkeys can find an abundance of feed on the average farm. Grasshoppers and other insects, weeds and grass seeds, green vegetation, berries, and grain picked up in the fields all go to make up the turkey's daily ration. When this natural feed is plentiful, very little need be added until fattening time, except for the purpose of bringing the turkeys every night to roost and to keep them from straying from home. For this purpose one feed of grain every night just before roosting time is sufficient.

One of the greatest difficulties with which turkey growers have to contend is to keep their flocks from wandering over too wide an area and invading neighboring farms. To some extent, feeding heavily night and morning reduces the area over which turkeys range, but even then they often go too far. When trouble of this kind occurs, the most effective plan is to drive them into an inclosure, such as is described for a breeding pen, and keep them there until about noon. In warm weather turkeys do most of their ranging early in the morning and by 9 o'clock they are usually as far from home as they will get during the day. As soon as the sun becomes very warm they spend most of their time in the shade until 3 or 4 o'clock in the aft-

noon, when they begin moving toward home, ranging for feed along the way. If the weather is too warm they do not spend so much time lying in the shade, and consequently range over a larger area and may keep moving away from home until noon. By feeding in the pen every morning they soon learn to go there on coming down from roost and no time is lost in penning them. If they fly out of the pen after being fed, the flight feathers from one wing should be clipped.

### NATURAL AND ARTIFICIAL BROODING OF CHICKS

(Continued from page 290)

old, when they should be placed on grain and a dry or wet mash mixture.

After the chicks are 10 days old a good growing mash, composed of 2 parts by weight of bran, 2 parts

middlings, 1 part cornmeal, 1 part low-grade wheat flour or red-dog flour, and 10 per cent sifted beef scrap, may be placed in a hopper and left before them at all times. The mash may be fed either wet or dry; if wet, only enough moisture (either milk or water) should be added to make the feed crumbly, but in no sense sloppy. When this growing mash or mixture is not used a hopper containing bran should be accessible to the chickens at all times.

When one has only a few chickens it is less trouble to purchase the prepared chick feeds, but where a considerable number are reared it is sometimes cheaper to buy the finely cracked grains and mix them together. Many chick feeds contain a large quantity of grit and may contain grains of poor quality, so that they should be carefully examined and the quality guaranteed before they are purchased.

As soon as the chickens will eat the whole wheat, cracked corn, and other grains, the small-sized chick feed can be eliminated. In addition to the above feeds the chickens' growth can be hastened if they are given sour milk, skim milk, or buttermilk to drink. Growing chickens kept on a good range may be given all their feed in a hopper, mixing 2 parts by weight of cracked corn with 1 part of wheat, or equal parts of cracked corn, wheat and oats in one hopper and the dry mash for chickens in another. The beef scrap may be left out of the dry mash and fed in a separate hopper, so that the chickens can eat all of this feed they desire. If the beef scrap is to be fed separately it is advisable to wait until the chicks are 10 days old, although many poultrymen put the beef scrap



Fig. 14.—Marketing dressed turkeys on "turkey day" (Lisbon, N. Y.)

before the young chickens at the start without bad results. Chickens confined to small yards should always be supplied with green feed, such as lettuce, sprouted oats, alfalfa or clover, but the best place to raise chickens successfully is on a good range where no extra green feed is required. Fine charcoal, grit, and oyster shell should be kept before the chickens at all times, and cracked or ground bone may be fed where the chickens are kept in small bare yards, but the latter feed is not necessary for chickens that have a good range.

**A FLORIDA BREEZE.**

Editor of the Poultry Keeper:—  
I just do not know how a floral chat will take in a poultry paper, but variety is the spice of life, i e and business. So here is offered spice, which if it finds and ignominious grave in the waste basket, no one but the Editor and writer will ever be any the wiser for this little offer of giving Mrs. poultry raiser a chance to get a few Florida flower seed, of which I have a good supply after all my own garden is planted. I always gather so much of the flower seed, as I do hate to see them go to waste. I have plenty of the Star-eyed Ipomoea vine, a rapid growing and free flowering plant; the flowers are star shaped and a brilliant red, also seed of the Lautana, this is a pot plant in Illinois but here it grows in the open, the flowers all shades of red and yellow are produced in disc form, while the foliage is very aromatic, both of these kinds and have an abundance of seed less of several other kinds, any or all of which I will give to anyone who sends a stamp for postage, and a very plain address. Remember one is as necessary as the other.

Did any of you ever grow as a house plant the real down south cotton, if not, try it this year, you will be delighted with. They are not at all difficult, only give sandy soil if you have it, and plenty of sunlight warmth, soon you will be surprised with their great white flowers, which in a few days give place to a pink color, finally drop off, only to be followed by the cotton balls, which when mature will burst, showing the fluffy white cotton inside, from such are our cotton goods made, for which we have to pay fancy prices if we chance to possess the necessary. Let me say, do not send any stamped envelopes, for seed that is not always a satisfactory way to send them. Now as I am in no seed business, neither is this in any way an ad, or connected with one, hardly, for one of my advanced age, only one way of passing my time—doing for others.

The woodlands now are beautiful with wild flowers, the wild yellow Jessamine and Florida Easter Lily taking the lead. Did you ever see our native Easter lily, if not I will send you a bulb, when I go to get more of them for my garden. Plant in a pot of woods leaf mold, keep rather damp, give warmth and sunshine, and it will do the rest. You will be surprised that so large and

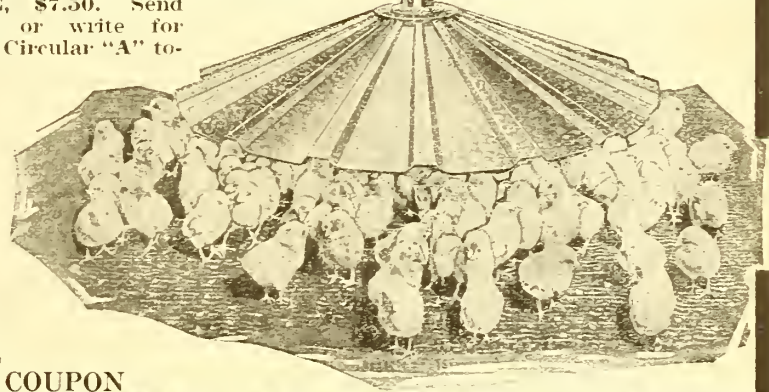
# Get This Brooder for Your 100 Baby Chicks

If you buy baby chicks or hatch with small incubator, here is just the dandiest kind of little colony brooder for you.

## Sol-Hot BABY Colony Brooder

Seamless metal hood, 22 inches wide; supported by four detachable wire legs; holding Sol-Hot No. 1 Blue Flame Wickless Burner suspended, so chicks pass underneath. One quart glass oil reservoir. Burns about 1 pint in 36 to 48 hours. Embodies all the principles of famous Sol-Hot large canopy brooders and heaters. Accommodates 100 chicks.

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Get our prices on Sol-Hot Heating equipment for all poultry requirements. Lamps, stoves, brooders, \$4.50 to \$15.00. Latest ideas. Lowest fuel costs. Best heat for brooders, incubators, hen houses, garages. Also complete plans for building famous IXL Incubators and Brooders, and Liberty Colony Brooders. Write today—stating what you need.

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Manufacturers of Incubators and Poultry Supplies.

I want your Sol-Hot BABY Brooder, all complete with canopy hood. Blue Flame Wickless Burner, glass oil reservoir, ready to use. Enclosed find \$7.50. Please ship at once to

Name .....

Address .....

beautiful white lily could come from a small bulb, but send a stamp for postage, if a lily bulb is also wanted.

Mrs. Alice Warner,  
232 East 5th St.,  
Jacksonville, Florida.

**A MITE KILLING TRICK**

The chicken mite does more to reduce profits in many a chicken flock than any other thing. The roosts and nests often become so infested that the fowls are compelled to leave, and sometimes hens will die on their nests because of the mites. Warm, moist weather is most favorable to their increase, and often they are present in thousands almost before one realizes any are about.

Coal oil, crude oil or any of the prepared mite and lice killers will do the killing business if put in the

right place, but to get it in all cracks and crevices is usually the trouble. If you will spend from \$2.50 to \$3 for a combination gasoline torch and sprayer you will have something that will force the dope where ever a mite can crawl. Get the quart size, fill it, then pump it up almost to capacity, and with the spray nozzle on, you are equipped for effective business. You can carry it anywhere in your hand and hold it close to cracks and odd corners where it is difficult to reach with anything else. There is force enough with the spray to carry the dope far in. It is more effective than any spray pump, and, besides, you have two tools in one, the other being a gasoline torch, always handy about the farm for heating soldering irons and many other heating and burning jobs.—H. H.

# POULTRY KEEPER

520 Hampshire Street,  
Quincy, Illinois.

Issued the First of Each Month.  
A Journal for Everyone Interested in  
Making Poultry Pay.

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A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## CO-OPERATIVE EGG MARKETING

Recent tests have demonstrated that no one can profit in a greater degree from cooperative marketing than the farmer or poultryman in the egg business. Perhaps the best illustration of this is a group of twenty farmers who have been making history in the egg industry of their state in the last year. Since February, 1915, up to about December first, these men have sold more than 10,000 dozen eggs at a premium of four cents per dozen above the regular market price on the day of delivery. This premium netted the members of the organization more than \$300 for the first eight months.

The association's guarantee of quality eggs, which is stamped upon every egg by the producing member, has built up a demand for eggs which has outgrown the resources of the association, despite the fact that the membership has been increased from twelve to twenty active members. One grocery store in a city of about 40,000 population, takes the entire product of the association, which is delivered at least twice each week during the summer season.

In December, 1914, a number of farmers who had grown tired of selling their eggs for whatever price they could obtain upon an uncertain market got together and formed the cooperative association, which has been doing pioneer work in the state. Each member is required to market his eggs as directed by the directors,

and the strict rules laid down prevent the marketing of "culls" thru the association channels. Harry Smucker is president and W. H. Moust is secretary and treasurer of the association. These men, with the board of directors, control the affairs of the association, though the secretary transacts all of the business of the association.

Each member is given a small rubber stamp which he uses to mark the eggs he markets. This letter stamp serves to identify the producer of every egg, and is an effective check on violations of the association's rules. The eggs are packed in special cartons and are sealed with a red seal which bears the inscription: "Do not accept if this seal is broken." The cost of these cartons and seals is about three-fourths of a cent for each dozen eggs. The association's requirement of an individual guarantee for every egg was so well lived up to during the year that complaints were received on only four cartons. The elimination of carelessness in packing has built up a permanent market for the association at the regular premium of four cents a dozen. The lone grocer who has stuck by the association lost money on the deal for several months but in time he built up a trade for "guaranteed eggs" which has made the agreement extremely profitable for him, too.

Thirteen rules have been laid down to govern the marketing of eggs in the by-laws. These requirements are:

"Chickens must be healthy, good sized and not mongrels.

"Plenty of clean nests must be provided.

"Sitting hens must be separated from the laying flock.

"Broody hens must be broken up immediately or transferred to a place where the sitting hens are housed.

"Eggs must be gathered daily in cool weather, and twice daily in very warm or extremely cold weather.

"All eggs must be kept in a cool, dry, and well ventilated place.

"A warm kitchen, damp cellar, or a room where oil, onions or strong odorous vegetables are stored is very unsatisfactory as eggs readily absorb odors.

"Never wash eggs, as it spoils their keeping qualities.

"Use very small and dirty eggs at home, or market them in regular cases, not in the association cartons.

"Eggs of questionable quality must not be marketed thru the association.

"Always keep the eggs as cool as possible and away from direct rays of the sun.

"Market all eggs at least twice a week during the summer and not longer than once a week during the

remainder of the year.

"After June 1, all mature males must be confined or sold and infertile eggs produced."—O. R. Geyer.

## STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,

Of the Poultry Keeper, published monthly at Quincy, Illinois, required by the Act of August 24, 1912.

Editor, A. Otis Arnold, Quincy, Ill.  
Managing Editor, A. Otis Arnold, Quincy, Ill.  
Business Manager, A. Otis Arnold, Quincy, Ill.  
Publisher, A. Otis Arnold, Quincy, Ill.  
Owner, A. Otis Arnold, Quincy, Ill.

Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of the total amount of bonds, mortgages, or other security. None.

(Signed) A. OTIS ARNOLD,  
Sworn to and subscribed before me this 1st day of April, 1919.

C. R. WARREN,  
Notary Public.

(My Commission expires May 18, 1920).

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WRITE QUICK for Catalog and SPECIAL OFFER  
Nests won't cost you 1c  
Your hens will pay for them  
in More Eggs

You will get 20 to 50 per cent more eggs with **KNUSDON Galvanized Steel Lice Proof Nests**. These wonderful sanitary nests last a lifetime. Satisfaction—Unlimited Guarantee. The illustration shows our longer—6 Nest Set. Cost Less Than Wood Nests. 25000 in use. Don't Wait, Make Big Money on Poultry. Write **SEAMAN-SCHUSKE METAL WORKS CO.** MANUFACTURERS ST JOSEPH, MISSOURI BOX 316

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The Hen's Only Rival!  
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Mrs. Grant, Md., writes: "Beats other incubators all to pieces." Thousands of other testimonials. Artificial incubators cost four times as much and are not as satisfactory. No freight to pay. To reach the million mark in 1919 we will send you a Special Introductory Offer with our Free Catalog. Agents wanted.

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Eggs, \$2.50 per 15; \$4.00 per 30. Farm flock, \$1.50 per 15; \$2.50 per 30; \$6.00 per 100. Golden Seabright Bantam eggs, \$1.50 per 15.

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**APRIL HATCHED CHICKS BEST**

Best results are hardest to secure with either very early-hatched or very late-hatched chicks. Of course "broilers" and "fries" must be gotten out early for the highest prices, but chicks hatched during April or May usually develop into the soundest breeding stock, and with the least labor. The factors that make for thrift and growth are most favorable at this time—green things are beginning to grow, the sunshine is warm and balmy, insects abound, all nature is alive to the need of growth.

Chicks hatched during the first

three months of the year encounter changeable weather and other conditions opposed to rapid growth, hence it takes extra care to keep them healthy and growing steadily. Moreover, eggs hatch better during April and May—the natural breeding season.

While we often set eggs from our own pens during March, we find it best to delay purchasing eggs that will have to be shipped until April, so they will hatch sometime in May. Previous to this time there is some danger of the germs becoming chilled in transit, and the hatch thereby ruined.

**PLEGDED TO CULL HENS**

As the result of 10 poultry-culling demonstrations held by the Farm Bureau during August, 1918, the owners of 43,049 hens out of 100,142 Westchester County, N. Y., pledged themselves to cull their flocks. The series of meetings was attended by 426 persons, and 120 signed pledges to cull their flocks and to keep a record of production for one week previous to the time they were culled and for the following week, these reports to be turned in to the Farm Bureau office.

**Regal White Wyandottes At Madison Square Garden January 21-25, 1919**

**30--Birds Under Ribbons--30**

Martin's Regal White Wyandottes eclipse all former achievements and make the most wonderful winning on record at the Imperial Show of America, Madison Square Garden New York City.

COCKS, 1st, 2nd, 3rd, 4th and 5th. PENS, 1st, 2nd and 5th.  
 HENS, 2nd, 3rd, 4th, and 5th. DISPLAY, 1st, with a score of 68  
 COCKERELS, 2nd, 4th, and 5th. points while my 15 competitors had a  
 PULLETS, 1st, 2nd and 3rd. combined score of only 28 points.

Over 150 of the finest White Wyandottes in America were on display but my birds carried all before them and were one of the sensations of the Show.

In the past year have also made record winnings at Boston, The Calanian National and the New York State Fair. It must also be remembered that I hold the White Wyandotte record for the Great Boston Show. In 1913 I won Best Display with a score of 72 points which shattered all previous records and placed the Regals far in the lead. This latest effort, however, is a fitting climax to nearly twenty years of successful effort.

**REGAL MATINGS FOR 1919**

In spite of many most attractive offers I positively refused to sell a single one of my 30 New York Winners. They are all in my breeding pens at Port Dover as well as hundreds of others of the same breeding and very close up to them in quality.

**WHAT DOES THIS MEAN TO MY CUSTOMERS**

It means that my customers who send to me for eggs will get them from the best lot of matings in America. No pens reserved. I have always sent out eggs from my best birds and this fact being generally known has done more to build up my business than anything else.

**IN THE PAST THREE YEARS FROM EGGS I SOLD CUSTOMERS HAVE WON FIRST AND SECOND PRIZES AT NEW YORK, BOSTON, AND CHICAGO**

At the National White Wyandotte Club Show held in Detroit 11 out of 18 Firsts, Seconds and Thirds were won by customers.

Can any White Wyandotte breeder in the world point to such a record. For the season 1919, my fifty-three Exhibition and Dorcas Matings are the finest ever offered and represent the result of years of careful breeding. For years the Regals have been bred for heavy egg production and stamina and it is generally conceded that no strain has a better record for usefulness. Upon my show records and the utility quality of my birds I base my claim that

**REGAL WHITE WYANDOTTES ARE THE BEST IN THE WORLD**

If you are not getting good results in fertility or egg production, if your birds are only good enough for the Seconds and Thirds while your competitors win the Blues, why not come to headquarters and start all over again with the pure Regal Strain.

My customers are winning and I have the records to prove it.

**EGGS FOR HATCHING**

Exhibition and Dorcas Matings, \$5.00 per 15; \$15.00 per 50; \$27.00 per 100.

Special Matings (Exhibition or Dorcas) \$10.00 per 15; \$18.00 per 30; \$25.00 per 45; \$50.00 per 100.

Utility Matings, \$12.00 per 100; \$110.00 per 1,000.

Special Utility Matings, \$18.00 per 100; \$35.00 per 200.

**2,000—COCKERELS, HENS and PULLETS—2,000**  
 For Immediate Sale.

Special value—Male and females, \$25.00, \$40.00, \$50.00, \$75.00 and \$100.00.

Choice Breeding Cockerels, \$8.00, \$10.00, \$15.00, \$20.00, \$25.00 and \$35.00.

Hens and Pullets, \$5.00, \$8.00, \$10.00 \$15.00 and \$20.00.

200 Vigorous Utility Cockerels at \$5.00 each.



**FREE**—Send for 20 page illustrated Catalogue.

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## Eggs and Chicks at Reduced Prices

After May 1st we sell eggs and day-old chicks at reduced prices. May hatched chicks will lay in October or November; the June hatched in December, and will make just as good winter layers as earlier hatched chicks.

We can furnish chicks from 200-230 egg strain in May and June—25 chicks, \$7.00; 50 for \$13.00; 100 for \$25.00; 1,000 for \$225.00. From 230-264 egg strain, 25 chicks, \$9.50; 50 chicks, \$18.00; 100 chicks, \$35.00; 1,000 chicks, \$285.00. Utility chicks, 25 for \$5.00; 50 for \$9.50; 100 for \$18.00; 1,000 for \$165.00. Safe arrival guaranteed.

We can fill all egg orders promptly, and we guarantee fertility and safe arrival. Prices for May and June from our 230-264 egg strain—15 eggs \$3.50; 100 eggs, \$16.50; 1,000 eggs, \$140.00. From 200-230 egg strain—15 eggs, \$2.50; 100 eggs, \$12.50; 1,000 eggs, \$115.00. Utility matings, 15 eggs, \$2.00; 100 eggs, \$9.50; 1,000 eggs, \$85.00.

### 8 WEEK OLD PULLETS

We are now booking orders for 8 week old pullets and cockerels, March and April hatched, for shipment during May and June. At this age the pullets weigh about  $\frac{3}{4}$  lbs. and the cockerels about 1 lb. We guarantee safe arrival anywhere in the United States and Canada. Prices are very reasonable. Pen of 10 pullets and cockerel from good utility stock, \$20.50; 100 pullets, \$150.00. From 200 egg strain, 10 pullets and cockerel, \$25.00; 100 pullets, \$200.00. From 230-264 egg strain, 10 pullets and cockerels, \$25.00; 100 pullets, \$250.00.

### ORDER BREEDING STOCK NOW

We have hundreds of cockerels, pullets, and hens to sell now. We guarantee safe arrival. Good utility cockerels, \$5.00; hens, \$2.50. Cockerels from 200 egg strain, \$7.00, and pullets and hens, \$3.50. From 230-264 egg strain cockerels, \$10.00; pullets and hens, \$5.00. Special prices for large numbers. See catalog.

### GUARANTEED WINNERS

We guarantee Ferris Leghorns to win at any show in America. Let us book your order now for the fall fairs. We can furnish birds hatched from our winners at New York, Chicago and other big shows. We also have eggs and chicks to sell from our "Blue Ribbon" matings at reduced prices after May 15th. We also sell 8 week old pullets and cockerels from our exhibition stock. Write for prices and particulars.

### THIS 1919 CATALOG IS FREE

Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Contains photos showing our 32-acre White Leghorn Farm at Grand Rapids where much of our laying stock is kept, and our 15-acre farm at South Bend, Ind., where our exhibition stock is bred; describes our methods of feed and care; how we improve laying qualities; list of winners at more than 50 big shows; many letters from customers; prices of exhibition, breeding and laying stock, eggs for hatching, and day-old chicks.

GEORGE B. FERRIS,

909 Union Ave., Grand Rapids, Mich.

## Questions and Answers

By Russell T. Barr

### The "Flu" in Chickens?

I would like to know whether it is possible for chickens to contract the popular disease known as "Flu," can you give me any light on this subject? J. S. C., Missouri.

From actual knowledge or experience it is not possible for us to answer this question either in the affirmative or the negative. I do not know whether experts who make a study of such subjects have as yet drawn any conclusions on the subject, I believe nothing has yet appeared on the subject. The question is a timely and interesting one. Chickens are subject to so many afflictions of one kind and another that it is to be earnestly hoped that they may not be subject to this new malady which is affecting the human race throughout the whole world. Quite often birds and animals can become carriers of various diseases which afflict human beings, although the manifestation in the birds or animals may be rather different from that in humans. If any of the readers of this Department have had experience along this line which would enable them to shed light on the subject, I would be glad to have them send us their ideas.

### Pekin Ducks.

Can you give us a little information about the Pekin Duck and what there is to recommend it to the prospective breeder? We want to take up some breed of ducks on a pretty generous scale and ask the information for that reason. L. C. J., Michigan.

Early in the 70's the Pekins were imported to the U. S. from China. They at once became popular on account of their great vigor, productiveness and generally satisfactory traits. This breed is now found on practically all of the very large commercial duck breeding plants in the United States, from which hundreds of thousands of birds are marketed each year. With the exception of the Indian Runner the Pekin lays better than any other breed of ducks and the eggs are large and white. On commercial plants the eggs are hatched in very large incubators, the baby ducks are fed systematically and rushed along to the fattening stage and onto the market with all possible speed. The full grown male Pekin weighs  $7\frac{1}{2}$  lbs. and the female from 6 to  $7\frac{1}{2}$  pounds. They are canary white in color with orange yellow bills, legs and feet. You will find this breed of ducks all you can hope for if you take it up on either a small or large scale.

### Prevent White Diarrhea.

Please give some simple instructions for preventing White Diarrhea in chicks, if there is anything one can do to prevent this miserable scourge. C. N. T., Tennessee.

As soon as chicks are out of the shell and dry take them from the nest or incubator, but do not feed

any food for 72 hours. The third day begin to give buttermilk and supply them with all they will take, keeping it before them all the time for the next four weeks. Buttermilk or sour milk is the cheapest and best method of fighting this disease, it also promotes growth and establishes vigor in the young birds. Don't forget to keep everything as clean as possible at all times. Nothing will take the place of cleanliness. Also don't allow the chicks to become chilled under any circumstances, as it will slow down the circulation and start troubles of a dozen different kinds. Begin to feed a little solid food the third day and gradually increase the amount.

### Turning Eggs

How often should the eggs in the incubator be turned from the 4th to the 18th day? Some books say turn the eggs only once a day while others say turn them twice a day. At what point with reference to the eggs should a hygrometer be placed in an incubator? I did not get any direction with my machine.

H. S., New York.

The usual rules for turning say begin to turn on the evening of the third day and continue turning morning and evening each day until the 18th or 19th day, or until the eggs begin to show signs of pipping. When you notice these signs prepare the incubator for hatching and do not disturb the tray under any circumstances until the hatch is over. Some may feel that one turning a day is enough, but I would advise that you give two turnings, one in the morning and one in the evening. It is a very unusual thing for an incubator



### 62 BREEDS

Most Profitable

Pure-Breed Chickens, Geese, Ducks, Turkeys Hardy fowls, eggs, and Incubators at lowest prices. America's Premier Poultry Farm Write for valuable Poultry Book FREE. F. A. NEUBERT, Box 374 Mankato, Minn.

**Standard Reliable Incubator and Blue Flame Oil Heated Hoyer**  
Is our most successful outfit for hatching and raising chickens. Tried and true to name. Reliable. Double heating system. Write for our catalog. RELIABLE INCUBATOR CO. Dept. A15 Quincy, Ill.



### "Successful" Sectional

Grain Sprouter

Feed sprouted grain. Turn one bu. wheat, oats or rye into 3 bu. feeding, crisp, green feed. Get 50% more eggs—cut feeding cost 30%. Write for booklet. Des Moines Incubator Co., 765 3rd St., Des Moines, Ia.

## Rheumatism

A Home Cure Given by One Who had it

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case.

I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but understand I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay. Write today.

Mark H. Jackson, No 63-E Gurney Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true—Pub.

to be sent out by a reliable manufacturer without full instructions being sent with the machine. Often the instructions are lost carelessly when the incubator is unpacked. Could this have been the case with you? If you have not operated an incubator before and have no instruction book to guide you, I would write at once to the manufacturer for instructions, as you should not try to operate the machine without full instructions. You will be sure to disappoint yourself and have poor success. The hygrometer can be placed at any point about on a level or a little above the eggs. Place near the center of the egg chamber rather than at either end of the chamber.

**The Sorehead**

Some of my young chickens have what I would call sorehead. First the eyes become sore and then the sore spreads until the eye is out. I have lost two and have two in the yard now with the trouble. I was advised to use Castor Oil and did so, but with no apparent results. Please give me some advice which will help me to overcome the trouble? It has only appeared among the young chicks.

W. A. D., Louisiana.

This sounds like the moist variety of chicken pox or sorehead. The eye probably fills up in time with frothy white substance which may later destroy the eye, especially in young birds. It results from the presence of a fungus in the atmosphere which is most prevalent when it is damp and chilly weather, as a rule. It is usually considered very contagious. Remove matter with cotton on end of stick and bathe or paint with some good disinfectant such as germizone to kill the fungus. Treat in this way three times a day and separate the sick birds from the rest. Better clean up premises, ventilate coops and houses, and use whitewash, etc., liberally as preventive measures.

**Lost Many Chicks**

Last year when my chicks got to be several weeks old they suddenly began to droop around and acted as if the light hurt their eyes. Some died then, but it was not long till others began to have swollen eyes with little bubbles of water in corners of eyes. In many cases one eye would swell shut, others would have both eyes swell shut. Some would die in this condition, but many just lingered along and we killed and buried many that were sick this way. There were large lumps of cheesy matter under the eye. What can I do to prevent this experience another year?

E. W. B., Ohio.

You do not explain whether you found the difficulty described above extending into and affecting the throat or not, but in all probability was in the mouth and throat too. The description you give would indicate that your chickens were affected with roup, or at least a very aggravated form of severe cold. The trouble may be caused by poor ventilation, damp quarters, unsanitary food or conditions. It may be contracted from other birds. Weak parent stock of low vitality may facilitate the development of the trouble. The diseased birds should be isolated promptly. Facilitate ventilation by the use of muslin curtains. Use fresh clean litter and disinfect coops with fresh whitewash? To treat sick birds remove the cheesy matter carefully with cotton on end of a stick and wash the surface with peroxide solution. Give the birds a recommended roup tonic, also best nourishing food seasoned with ginger. Study

to improve the general conditions as far as possible, as prevention is far better than attempting to cure after such a disease has taken hold. Disinfect all incubators and brooders thoroughly, if you used them last year on chickens suffering as you described above, so as to avoid starting out the season with the same line of trouble. Some soaked oats could be fed to chickens 6 to 8 weeks old, but do not have them very wet when fed 9— P K ia-gfi- eZsa and feed lightly. More solid food will be better for them at that age. Why not feed the oats sprouted, then they could eat all they cared to without any danger at all and it

would be good for them. The less moist food given growing chicks usually the better, as their bowels keep in better order.

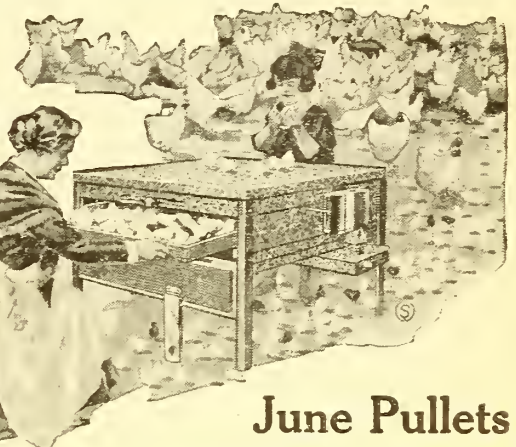
**State Aid for Poultry Industry**

I see reports in the Poultry Journals of Poultry Associations in some states getting aid from the state. Can you tell me whether the poultrymen of Pennsylvania have ever gotten such aid from the state, or what is being done in this direction.

S. H. F., Pennsylvania.

I am inclined to think your state legislature has never made an appropriation for the aid of the poultry industry of the state. In many states this has been done and with great success. Usually where there is a strong state poultry association rep-

**Hatches Now Mean Laying Pullets In Early Fall**



**June Pullets Lay Before Christmas But Why Wait Until June?**

I FIND 1918 reports showing those who started early have most profits because they made more hatches. In one case a customer made three April hatches from three different incubators, rather than start in January with one incubator. Mrs. Ben Graham, Clarksville, Iowa, says her income in 1918 was \$1,142.46 from one Old Trusty Incubator.

**All Sizes of Old Trusty Crated and Ready to Ship**

We ship the 100-egg size, metal covered, Old Trusty Incubator and the 100-egg size California Redwood Case Old Trusty, by express instead of freight if you will ask us to, and we will prepay express.

Remember, Old Trusty comes complete, set up and ready for business except legs and lamp shelf, which are packed inside for safety in shipping.

Note the big Oil Drawer and convenient thermometer holder.

**Send for Our Big FREE Book**

Gives a complete bird's-eye view of the poultry situation. Results of 25 years' Johnson Experience. Practical suggestions that have made our 800,000 Customers lots of money. You see an incubator that lasts for years, making hatches all the time and paying for itself every hatch, is bound to attract attention and the experience of its customers are interesting and valuable.

We give some of this experience in this Free Old Trusty Catalog. Mail a postal or a letter today.

HARRY H. JOHNSON, Incubator Man.  
M. M. JOHNSON COMPANY, Clay Center, Nebraska



representatives of the association go before the legislature and present the claims of the industry and obtain an appropriation for the state work. At the present time the State Poultry Association of Pennsylvania is making a move in this direction and I believe the plan now is to go before the legislature of Pennsylvania in the near future with a request for aid of a substantial form for the work of the State Association. The State Poultry Association of Pennsylvania has had a rapid growth in the past year and is taking on new life. It is a very live organization and if you are not now a member you should by all means get in touch with them and have yourself enrolled as a member. The secretary is Mr. Frank McGrann, Lancaster, Pa. He will be glad to give you any information you may wish as to the present or future plans of the association.

**A Good Tonic**

What is a good tonic to have before the chickens when such a thing is necessary. I think they often need something like this even though they are not really sick?

R. H. F., Michigan.

Whenever chickens need a tonic or are troubled with worms it is an excellent thing to put Douglas mixture in the drinking water in the proportion of one-fourth of a pint in the drinking water for say 25 hens every other day. Douglas mixture is made as follows: Sulphate of iron (copperas) 8 ounces, sulphuric acid one-

**The Right Brooding System Insures the Season's Profits**

Authorities agree that most losses in the poultry business are due to inability to regularly raise good flocks of strong, vigorous chicks. Faulty brooders are a menace to the industry. Avoid this danger, insure success, by using

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*"First in Efficiency"*

If you have good chicks, like those hatched in the famous Prairie State Incubator, these brooders will surely raise them. Both oil-burning and coal-burning types are most modern in design, honestly built, safe, economical, convenient and highly efficient.



The oil-burning hovers are best for growing small broods, and may be operated singly or in "batteries." The coal-burning brooders are preferred for quantity production. Each type is the best of its kind.

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**PRAIRIE STATE INCUBATOR CO.**

36 MAIN STREET HOMER CITY, PENNA.

half fluid ounce, and water one gallon. Add the copperas to the water, then stir in the sulphuric acid slowly. With good ventilation, scrupulous cleanliness and good food, this combination ought to keep away about

nine-tenths of the poultry troubles with which people have to contend.

**Interested in Brown Leghorn**

Can you tell me why we hear so little about the Rose Comb Brown Leghorns in the poultry journals? C. C., Missouri.

The fact that more is not heard of the Brown Leghorns is because at the present time most of the attention and interest is in the White Leghorns. It is not because the Brown Leghorn is in any way inferior to the White, but because it has lost out in popularity and is not being pushed as strongly by its national association. It is perhaps a little more difficult to breed the Brown Leghorn to strict standard requirements which may deter some from handling the Browns when they otherwise would. Of course there is always a readier sale for a breed which is most popular, so there is an advantage in breeding the popular if one wishes to make sales readily.

**Brown Leghorns as Layers**

Have the Brown Leghorns ever figured in any of the egg laying contests? Do they fall very far behind the other Leghorns in egg production? C. C., Missouri.

The Brown Leghorns have appeared in egg laying contests and have given a good account of themselves, too. Where bred for laying, they are not inferior, I believe, to the other Leghorns, though the advocates of the Whites might contend that I was mistaken in this. If the Browns are inferior it can only be in very slight degree.

**Changing to White Leghorns**

Would it be advisable for a person raising chickens for eggs to change from Rose Comb Brown Leghorns to the S. C. B. Leghorns or to White Leghorns? C. C., Missouri.

Other things being equal the Rose Comb and Single Comb varieties of any breed are exactly the same, except for the comb. The difference in the character of the comb does not affect the laying qualities at all. Whether it was advisable to change from one to the other, or to the S. C.



**BABY CHICKS**

With the proof behind them—that you are getting the very best for the least money.

I offer Baby chicks and hatching eggs from the five most popular breeds in America, viz: S. C. W. Leghorns (200 egg strain, Greater Chicago Show winners, St. Louis, Mo. winners) S. C. Rhode Island Reds, White Rocks, Barred Rocks and White Wyandottes. All parent stock have the farm range—nature's way—and baby chicks hatched from this stock have the "Pop" and vitality to grow, lay, and prove a profitable investment for you. All baby chicks are hatched in our modern incubators—into which fresh air is constantly flowing and foul air is removed.



- WHITE LEGHORNS
- WHITE ROCKS
- WHITE WYANDOTTES
- BARRED ROCKS
- RHODE ISLAND REDS

Prices on Baby Chicks Parcel Post paid and delivery guaranteed: Grade A, White Leghorns, \$20.00-100; \$12.00-50; \$7.50-25. Grade B, \$15.00-100; \$8.50-50; \$5.00-25. Hatching eggs that hatch one-half the price of chicks.

Prices on Rhode Island Reds, Barred Rocks, White Rocks, White Wyandottes are as follows: \$18.00-100; \$10.00-50; \$6.25-25. Hatching eggs that hatch, \$2.25-15; \$5.00-50; \$9.00-100.

I prepay postage on all chicks and eggs. A catalog telling all about our methods awaits your inquiry. As the demand for our chicks is greater than the supply you had better order chicks as early as possible.

**DAVID T. FARROW**

PEORIA, - - - - - ILLINOIS





W. Leghorns is a question which must be determined by your own desires in the matter and whether one variety is more salable than the other. If the locality where you are prefers the Whites it would not seem advisable to try to force the Browns on the market against the popular demand. This would have to be determined by a survey of the local situation as you find it in your territory. With the same care, feed and general attention the R. C. B. Leghorns should lay as satisfactorily for you as any of the other Leghorns. I think the question for you is—what do you want, and what do other people want. This will have to decide for you.

**Merits of Leghorns**

I appreciate very much the excellent information which Poultry Keeper is giving us through this Department, but I think it would help many of us who are anxious to learn more if Poultry Keeper could have an article on the merits of the different Leghorns. Would this be possible?  
C. C., Missouri.

We have tried to answer your questions briefly. Of course it is not possible to go into the subject at great length here. It would be very helpful if several of our readers who are interested in the Leghorns would write us short letters telling why they think the Leghorns deserve special consideration. I hope some of our good readers will do this.

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**SUCCESS WITH POULTRY**

A test book for the beginner and for all persons interested in better poultry and more of it. Contains the "secrets of success," both for pleasure and profit. New and valuable information on all branches of the poultry business. 176 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

**SILVER WYANDOTTES**

We want to call particular attention to the advertising in our classified column of C. F. Schroeder, St. Peter, Ill., who is advertising hundreds of breeders and exhibition birds for sale. He is making prices on eggs from trapnested bred to lay hens. Write him for circular and full particulars.



**Pratts**  
**"Baby Food for Baby Chicks"**  
**SAVES the Chicks—RAISES them All**

Such is the record of the original, guaranteed Pratts Baby Chick Food. No ration can do this unless it contains, *in proper proportion*, the food elements required to build bone, muscle and feather—unless it is appetizing and easily digested—unless it is made of high grade materials.

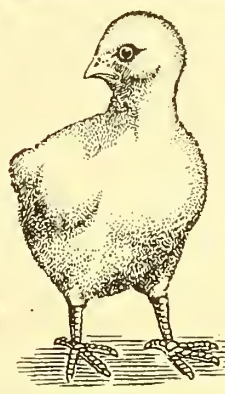
**Pratts Baby Chick Food**

meets these conditions now as it always has. *The time-tested formula has never been changed.* The original Pratts is slightly higher in first cost than imitations which are inferior, but it is the *cheapest* food as judged by results, by number, size and quality of chicks raised.

**Guaranteed Satisfactory or Money Back.** **Sold by Dealers Everywhere.**

Other profit-insuring poultry necessities are Pratts Poultry Regulator, Pratts White Diarrhea Remedy, Pratts Lice Killers, Pratts Disinfectant. Use them to prevent disease, to increase growth and production. *They are all guaranteed.* Write for **FREE Poultry Book.**

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**TWO MILLION FOR 1919**

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**FORTY TONS OF EGGS**


Best System of Incubation. Strongest Chicks Produced  
 The air in our incubator is completely changed every three minutes and moisture furnished by live steam.

**Prices Per 100 Chicks**

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|----------------------|---------|------------------------|---------|
| Barred Rocks         | \$15.00 | White Wyandottes       | \$18.00 |
| White and Buff Rocks | 18.00   | Black Minorcas         | 16.00   |
| Rhode Island Reds    | 17.00   | Anconas                | 16.00   |
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**SELECTING BREEDING STOCK**

The breeding season is again here and no doubt many of the breeding pens have been mated up and perhaps there are still some, especially of the smaller, quick maturing breeds, which may be hatched later in the season, which can still be mated. At any rate, whether the matings have been completed or not, I take it that all poultry breeders have long before this partially selected some of the birds that they intend to place in their pens from which to breed this season's flock. In other words I believe that since early last fall certain cockerels and individual pullets have been "spotted" so to speak, and have been more or less examined to see whether they possess the qualifications that make a good breeder. It is also self evident, especially among those who cull closely, that birds that showed indications of being unfit for breeding purposes, either in vitality, type, color, or other qualifications, have been sent to market or disposed of for home consumption. If that has been done, and it of course should be in every well regulated poultry yard, then only the cream of the flock remains and makes it easier to select the best birds for breeding purposes. At this season of the year the average poultry raiser is planning upon his this year's flock either for the show room or for utility and many will do both. That being the case the main consideration is to carefully select birds that show vitality and vigor. Too many mistakes are made by so-called fanciers who breed entirely for exhibition purposes and allow themselves to become over enthused with a bird that is ideal in color markings or one with an almost perfect comb or with some other qualification that is simply a minor issue when it comes to raising a flock of strong, vigorous birds. Many a so-called

"perfect" bird is used in a breeding yard whether it comes from ancestors that were poor layers or not, and this is one of the points that I desire to lay especial stress upon. After all it is the hen that lays that pays for her keeping and the one that is only a show bird and produces only a limited number of eggs in a year is not worth keeping.

It is often said, and I believe it to be true, that the male bird is one-half of the pen and therefore it is very important to select a bird at the head of the pen that possesses strong qualifications of vigor and strength. Many times out of a season's breeding it is impossible to pick out a male bird that is fit to breed. In such cases the first thing to do is to purchase either a cock or a vigorous cockerel from some reliable breeder, explaining just what kind of a male is desired and for what purposes. A few dollars invested in this way will prove a good investment. It is a simple matter to detect a good breeding male. When we see a male with a broad, deep body, good type, strong legs well set apart, bright eyes, and a short, broad head, we can usually figure that this will make a good bird to head a breeding pen. On the other hand we often see male birds with narrow breasts, and backs, knock-kneed and snakey heads. Such birds should not be allowed to enter a breeding pen under any consideration because they will never produce strong, healthy chicks. Where traps-net are used a record may be kept of every male bird and in this connection I desire to say that when possible it is important to use only male birds as breeders that come from a good laying female because this will have a tendency to improve the laying qualifications of the entire flock.

So much for the health and vitality of the breeding stock. Now we come to selecting breeders that will produce show birds. Not long ago I

**Biggest Hatches Strong Chicks**



That's what you want and will get with a Champion Belle City Hatching Outfit. My big catalog "Hatching Facts" tells the whole story—gives newest ideas and quickest ways to make poultry pay with my

**\$10<sup>95</sup> 140-Egg Champion Belle City Incubator**

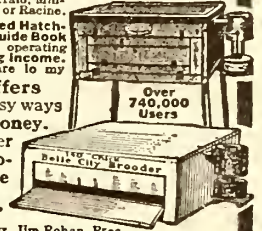
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I ship quick from Buffalo, Minneapolis, Kansas City or Racine. With this Guaranteed Hatching Outfit and my Guide Book for setting up and operating you can make a big income. You can also share in my

**Special Offers** They provide easy ways to earn extra money. Save time—order now, or write today for my Free Poultry Book "Hatching Facts"

It tells everything. Jim Rohan, Pres. Belle City Incubator Co., Box 145 Racine, Wis.



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**MANN'S BONE CUTTER** 10 Days Free Trial  
No money in advance. Cat'g free.  
F. W. Mann Co., Box 57 Milford, Mass.

spoke with a fancier who had recently embarked in the breeding of Partridge Plymouth Rocks, purchasing eggs for hatching last season. His pullets began laying early in the fall and continued laying through the months of December and January. He was well pleased with his birds and I was quite impressed when he said, "You see my birds are not strict show birds, but they are from a good laying strain and that is what I want for my foundation stock. After I get that established then I can begin improving them for show birds because a show bird is of little account unless she will produce a good number of eggs also." It seemed good to have an old fancier make this remark and I thoroughly agreed with him in all that he had said. It has always been my contention that too little attention is paid to the utility end of the poultry business by many of our fanciers and too much to the fine feathers. The sooner that we can get this idea impressed upon the fanciers of the country and the sooner that our Standard of Perfection will make it possible to breed both show birds and egg producers from a single mating the sooner will we be able to convince many of the farmers who are still of the opinion that a chicken is a chicken and one is as good as another, whether it be a mongrel or a Standard-bred bird. The United States government has been doing splendid work along this line during the past year and I hope that a sufficient appropriation will be made by congress to keep this work progressing because it will mean a great deal to the poultry interests of this country.—E. H. Hoffman in Western Poultry Journal.

**Cultivate triple acreage with Planet Jr. tools**

Your country needs all the food you can raise. Increase your production. Raise more than ever, by using Planet Jr. tools. They enable you to cultivate three times the acreage possible with ordinary tools, because you can do the work so easily, quickly and thoroughly.

Planet Jrs. are fully guaranteed and will last a life-time.

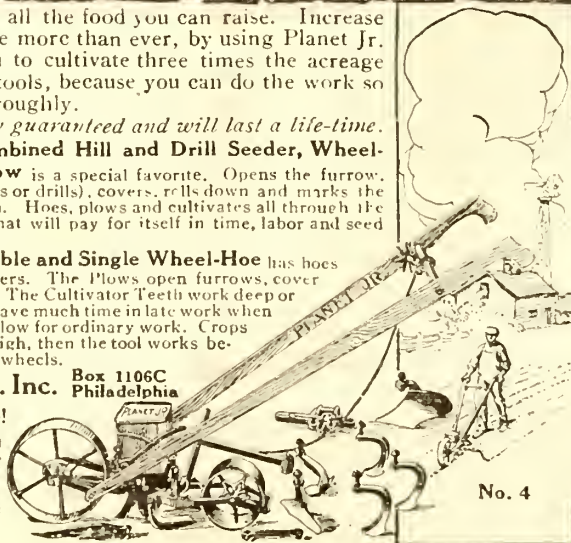
**No. 4 Planet Jr. Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow** is a special favorite. Opens the furrow, sows all garden seeds (in hills or drills), covers, rolls down and marks the next row all at one operation. Hoes, plows and cultivates all through the season. A hand machine that will pay for itself in time, labor and seed saved in a single season.

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Illustrates Planet Jrs. doing actual farm and garden work, and describes over 55 different tools, including Seeders, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Best, and Plant-Wheel Riding Cultivators. Write postal for it today!



No. 4

**THE BEST METHOD OF RAISING YOUNG CHICKS**

An egg that is fit for human consumption, if it is fertile and is incubated, will develop in the short period of 21 days into an active, living thing—a baby chick. In order to do this, a wonderful and rapid transformation must take place. The mistakes that are made from the day the egg starts to develop until it is laid and hatched, and the chick is about two months old is the most vital period in its whole existence, even if it should live to be ten years old. This covers a period of only a little more than three months, but the things which are done by a poultryman during these few days, are the things which lay the foundation for his success or failure for the coming year and perhaps for many years to come. You can trace any failure to its ultimate beginning, and you will find that it started with the egg in the breeding stock, during incubation, or during the first few days of feeding and brooding the young chicks. Why poultry raisers will drift along and suffer loss of high priced eggs, death in the shell, death from White Diarrhea, loss from improper feeding, loss from wrong methods of brooding and similar mistakes, is more than we can understand, especially when it is just as easy and less expensive to do the right thing.

Some poultry raisers seldom ever lose an egg or a chick. They make money from their flock while others right by the side of them fail. If anybody else can raise a fine flock of Standard bred chickens in 1919, you can do the same. The secret of success lies only in the use of the right methods.

One of America's greatest poultry experts was born on a Missouri farm. His father died when he was a small boy and he took up poultry raising. His relatives threatened to disinherit him if he did not give it up. His friends said he was wasting his time and money. He stuck to it in spite of every sort of discouragement. He studied, experimented, and applied his knowledge. He succeeded in raising more poultry and better poultry than anyone in his neighborhood or his state. Poultrymen recognized his ability and later he became Director of the Missouri State Poultry Experiment Station. He has filled many positions of prominence in his own state and in national organizations. We believe that it can be safely said that "Tom" Quisenberry to today sending out

# Save the Baby Chicks

Our book, "Care of Baby Chicks," and a package of Germozone are the best insurance against chick losses. Those formerly losing more than half they hatched now raise better than 90 per cent.

## 60 Days' Trial—Pay If Satisfied

To you who have never tried Germozone, we will send, postpaid, book and package as above. You pay, if satisfied, 75 cts.; 60 days' trial. We trust you and we know Germozone.

**"In Constant Use."**

I have adopted the constant use of your Germozone and have not had a sick chicken since I began its use. Before that I lost many of my best hens but not one since. M. H. Carter, Marshall, Tex

**"12 Years Best of All."**

I have used Germozone for the past 12 years and it is the best preparation for bowel troubles I have ever found. Geo. F. Vickerman, Rockdale, N. Y.

**"Used 17 Years."**

I have used Germozone for about 17 years and could hardly do without it. Mrs. T. A. Morley, R. 2, Box 71, Galien Mich.

**"Just as Advertised."**

I have used your products for the last few years and found them to be just as they are advertised. I used about all the different roup preventive remedies, but your Germozone got everything stopped under the sun. Germozone is given to the chicks as well as to the layers. The first thing the chicks get when placed in the brooder house is water containing Germozone. I haven't had a case of White Diarrhoea among the chicks or roup among my chickens since I started to use Germozone.

I raise from one to two thousand chicks a year. Ralph H. Wurst, Erie, Pa.

**"An Ardent Germozone Advocate."**

I have been an ardent user of the Lee's Germozone, both liquid and tablets, for a number of years and believe that is why I have the good success with my chickens. I use it in the drinking fountains regularly twice a week and my hens are in the best condition and we never fail to get eggs in winter. Frank V. Urdihl, Leigh, Neb.

**"Chickens and Puppies."**

Please send me two packages of Germozone tablets. Have been using Germozone for two years and have had fine luck with my young chicks, not losing one from disease in the two years and my bird puppies don't know what distemper is; it is for my puppies that I want this hatch. Curley Smith, Kennett, Mo

**"Cured the Puniest Chicks."**

Your Germozone is the best I have ever seen. It cured my puniest chicks this spring and they are growing as fast as the others. They are sure dandies. I wish you would send me your poultry books and also tell me who your dealers are here. Bernard Horning, 403 West Michigan St., Kirksville, Mo.

Druggists and seed dealers sell Germozone, the best poultry remedy and preventive. For old and young—bowel trouble, colds, roup, musty or spoiled food, limber neck, chicken pox, sour crop, skin disease, etc. Sick chicks can't wait. Do it now!

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Barron's pedigreed, trapnested birds. I claim I own the highest record birds in Iowa, 252 to 270 eggs are their records. 1919 mating list is ready. Send for it now. Eggs \$6.00 a hundred up. O. C. DUNTON, Manchester, Iowa.

helpful advice to more poultry raisers, in more states and in more countries than any other one poultry authority in the world.

He has just issued a bulletin on feeding the baby chicks, the layers and breeding stock, also a book on poultry raising which he offers to send free to every one of our readers. If you will write the American School of Poultry Husbandry, Box 401, Leavenworth, Kan., and ask for a copy of Prof. Quisenberry's latest book on poultry, they will be glad to send you a copy at no cost to you whatever.

### THE ONE DOLLAR OFFER

The hundreds of our subscribers who are taking advantage of the special one dollar offer on our back page, are testifying that this offer is exceptional. We do not know where you can get more reading of such high class, that will appeal to any poultry man, as you can get from this special offer.

If your time has not expired and you desire to take advantage of this offer, simply state that you are an old subscriber and your expiration date will be extended so that you will receive the full years subscription to POUULTY KEEPER.

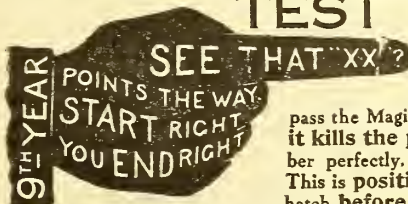
Not only should it interest you but it should interest your neighbors. You will do them a favor and they will thank you for calling their attention to this splendid offer.

### S. W. C. LEGHORNS

Do not overlook the advertisement of Harry A. Liebing, Milbank, South Dakota, who is advertising S. W. C. Leghorns in our classified columns.

His birds are bred for size, vigor, health, beauty and egg laying power.

## TEST YOUR EGGS



before you set them under hens or put them in the incubator. Whether you buy or sell eggs for hatching discard every one that does not pass the Magic Egg Tester. Don't try to hatch weak eggs—it kills the profits. Regulates moisture in the egg chamber perfectly. Demonstrated at poultry shows everywhere. This is positively the only way to tell which eggs won't hatch before you begin to incubate them at all. Read on:

This tester instantly shows the strength of any egg. Costs nothing to use and stays perfect for a life time. No judgment required—just a pair of eyes. Tests 300 per hour. Testimonials or circular if desired, \$2.00 each, with a trial of one year. Cost refunded if desired. Insured parcel post, sent same day order is received.

MAGIC EGG TESTER WORKS, Dept. E, Buffalo, N. Y.,

also Bridgeburg, Can.

# Breeding for Standard and Utility Value

Rob R. Slocum, Animal Husbandry Division, Bureau of Animal Industry, United States Department of Agriculture.

There has always been a regrettable tendency among poultry breeders to split into two factions, one of which has been widely known as fanciers and the other as utility poultrymen. The division between these two factions has been more marked at certain times than others, and within the last few years there has been a greater tendency for the two to draw together. Each faction has been more or less to blame for the tendency to pull away from each other instead of attempting to unite their interests. The reasons for this condition are numerous and some of the principal ones may be reviewed briefly.

The old-time, so-called "Dyed-in-the-wool" fancier was interested primarily in producing birds of high exhibiting quality, and many of these men had little or no concern as to whether their stock produced eggs beyond the extent needed to reproduce the flock by eggs laid during the spring breeding season. The most extreme of these men disregarded quite completely the question of whether, from an egg standpoint, their birds were profit producers. Naturally their attitude in the matter was not sympathized with by the men who were concerned primarily with the production for market and who depended for their profits entirely upon the ability of the flocks to produce the eggs.

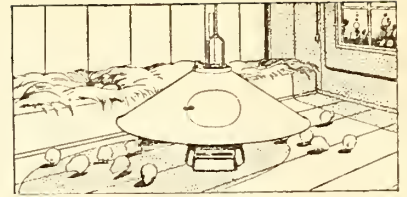
Fortunately during the last few years buyers have shown an increasingly insistent demand for fowls that have egg-producing ability back of

them. This fact has led the breeders of standard-bred poultry to see that if they are to take advantage of all possible profitable outlets for their stock they must pay attention to productivity. Just as with cattle or any other branch of live stock, breeders of stock of exhibition quality have come to realize that while they may make very profitable sales of animals suitable for exhibition, they must maintain at the same time their standards of productivity if they are also to cater to the demand for profit producers.

### Extremes to Be Avoided.

On the other hand some extreme utility breeders have had absolutely nothing in mind in breeding except that their fowls should lay as many eggs as possible. In this attempt they have disregarded almost entirely the appearance of their birds and have bred to a much less extent for uniformity than have the breeders of standard-bred poultry. In the belief that they are able in that way to increase the egg-producing ability of their birds, they overlook the fact that handsome fowls are attractive and will always be attractive to a large body of buyers, and therefore they overlook a profitable additional outlet for their stock.

Moreover, some men have made an effort to breed birds of exhibition quality and because of their lack of ability as breeders have been unable to place their birds among the winners. Becoming discouraged at their lack of success they have turned to the utility side entirely, and instead



## Use a coal burning brooder hover

It costs less per day to operate than you spend in feed for a mother hen and does the work better.

See page 782 of our big catalog, "Your Bargain Book." The Maynard is listed here in two sizes at prices much less than you are usually asked for similar outfits. Of course if you prefer kerosene hovers for smaller broods, they are here, too, at attractive prices.

Have you received "Your Bargain Book"? If not, send a postal request today. It's FREE.

**The Charles William Stores**  
191 Stores Building, New York City

of blaming themselves, have rather bitterly arraigned the so-called fancier.

It is well understood that successful poultry breeder, if he is to continue in business on a profitable basis during a long period of years, whether he is breeding for exhibition stock or for egg production, must base his operations on the production of birds of superior vigor and vitality. We see that the two classes of men, to this point at any rate, are breeding along exactly the same lines. Since vigor and vitality are the basis not only of egg-producing ability but of the size, strength, and vigor which must go with high-class exhibition specimens, the difference in the result in breeding for utility and for standard quality is largely one of beauty and appearance.

### Standard Requirements Not Opposed to Utility.

It is evident, therefore, that many of the differences which seem to exist between the fancier and the utility poultryman are those of misunderstanding as to each other's aims rather than of fact. Except in a few more or less isolated cases there is nothing in the standard requirements which is directly opposed to utility. Occasionally, of course, men have gone to the extreme in selecting for more or less isolated cases there is and in doing so have forgotten the matter of vigor and vitality. Breeders of utility stock have frequently been guilty of the same error. The natural result has been that the stock has lost in vigor and vitality and consequently in egg-producing ability, and cases of that kind have been urged unfairly by the utility men against standard-bred poultry in general.

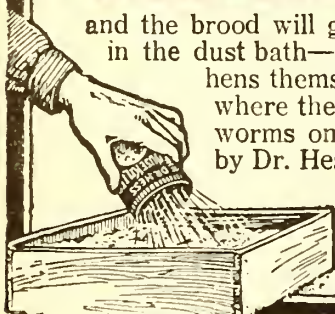
There are a few breeds in which the standard requirements call for extreme superficial characters, such as extreme development of comb, face, or crest, with the result that undue

It's money in your pocket to keep your poultry free from lice. Look out for the laying and setting hens. Put Instant Louse Killer in the nests and sift into the feathers. Clean up the parent stock, the pens and yards with



# DR. HESS INSTANT LOUSE KILLER

and the brood will get a good start, free from lice. Put it in the dust bath—that's always a good thing to do. The hens themselves work it into their feathers right where the lice live. It's fine for killing bugs and worms on vines, roses and plants. Guaranteed by Dr. Hess and sold by 28,000 dealers.



1 lb. 30c    2½ lbs. 60c  
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**Dr. HESS & CLARK**

Ashland

Ohio

importance is attached to these characters to the possible detriment of utility qualities. When it is demonstrated that the standard requirements are directly opposed to the utility values, the breeders interested in those particular varieties must make up their minds to accept one or the other. Either they must change their standard requirements so as not to be opposed to utility or they must decide to have their birds classed primarily as "fancy" fowls, with the knowledge that they will not be known as exceptional in their utility values.

Contrary to the facts in the case there seems to be a widespread opinion among breeders of utility poultry and generally speaking they are men who never have attempted to breed for exhibition quality—that because fowls meet the standard requirements they must of necessity be poor producers. Nothing could be further from the fact. Of course it is easy to understand that in the average flock there are fewer birds which combine standard requirements and good production than those that possess either of these qualities alone.

**Measuring Progress in Poultry Breeding**

In any flock the percentage of exceptional producers is relatively small. This is likewise true, from an exhibition standpoint, of the percentage of exceptionally high-quality fowls. It is only logical, therefore, that the number of birds showing the combination would be smaller than the number showing one set of characters alone. It is always harder to breed for high development of a combination of characters than it is to obtain a high development of some one character. Any breeder of experience knows that if he concentrates his attention upon the production of neat combs and disregards other points, he will make better progress in producing especially fine heads, but in so doing he will have neglected the other qualities which go to make up birds of exhibition quality, and he will not be so far ahead at the same time he is improving type and other qualities.

Admitting, therefore, that it is a more difficult task to breed for a combination of standard quality and utility values it is erroneous to suppose that it can not be done. It is being done by breeders, and each breeder should give careful thought to the opportunity which exists for the man who can succeed along these lines. The breeder who is successful in producing a strain of birds capable of good production has a promising market among the so-called breeders of utility fowls. If he is successful in combining with this production standard qualities, so that he can produce birds capable of winning in the poultry exhibitions of the country, he has a very profitable outlet in the sale of breeding stock to those who are interested in exhibitions of that kind. The man who breeds only for standard qualities or the man who breeds only for utility value has a much narrower outlet for his stock

and one which will prove to be very much less profitable.

The fact should not be overlooked that the man who breeds for standard requirements and therefore for beauty in his fowls has something which the casual observer can see and appreciate, and has in his fowls a quality which will sell breeding stock. If he has only egg production to commend his stock he must tell the purchaser about it, for there is little or nothing which the prospective buyer can see in the birds themselves to indicate to him whether the strain is a good producing one.

Results at the Government Farm

As an example of what can be done in the way of combining standard quality and utility fowls, the work which has been carried on at the Government Poultry Farm at Beltsville, Md., may be cited. While the work done there is experimental in character, in inaugurating it it was decided to use for the experimental work only birds of as good quality as could be obtained in this country. As a result of this start and the subsequent maintenance of quality it has happened that many of the birds which have proved to be good producers have also proved to be of most excellent quality.

Just as this has occurred at the



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I will be pleased to give you the benefit of my over forty years' experience in poultry raising. Write me.

J. W. Myers, Pres.  
Reliable Incubator and Brooder Co.

**RELIABLE Blue Flame Wickless Oil Heated Colony Hover**



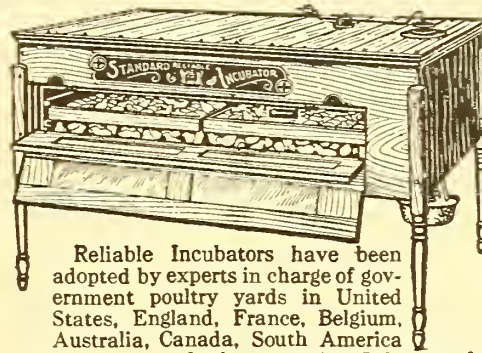
Greatest improvement of years in poultry raising equipment. Does away with all troubles of coal heated hovers. Burns kerosene with a clear blue flame—no smoke, no odor, no gas, no soot, no wick to trim, no waste of fuel because flow of oil is accurately regulated. Maintains even heat throughout hover at all times—prevents crowding and smothering—saves the chicks. Built of galvanized steel—lasts a life time. Sizes 30 in., 42 in., 52 in.

**In Use at University of California**

Poultry Division, University Farm, Davis, California, Sept. 13, 1918.  
Reliable Incubator & Brooder Co., Quincy, Ill. Gentlemen: Beg to acknowledge receipt of your Blue Flame Colony Hover. This hover has now been in operation over a month, has been burning exactly 17 gallons of oil per month and has been working perfectly during that time—J. E. Dougherty.

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**RELIABLE INCUBATOR & BROODER CO.**  
Dept. A15 Quincy, Ill.

**Your "Uncle Sam" and 9 Foreign Governments USE Standard Reliable Incubators and Brooders**



Reliable Incubators have been adopted by experts in charge of government poultry yards in United States, England, France, Belgium, Australia, Canada, South America

Get your incubator started early so your chicks come in February or March. That makes them ready for market or laying in fall and winter, when poultry prices are the highest.

and other countries. It has stood the test of rigid inspection and practical trials under the direction of experts for 37 years—never defeated at a competitive exhibit—1200 times a prize winner.

**Chosen by Big Poultry Raisers for Its Superior Hatching Qualities**

D. W. Gooding, Oriental, Pa., writes: "Sent you an order for two more Reliabilities, which makes 21 300-egg machines we have bought from you and 7 220-egg size. Have 6 machines of other makes, but prefer the Reliable."

Clara Colwell, Smith Center, Kan., writes: "Am so well pleased with Reliable Incubators that I enclose draft for 35 more 300-egg machines and 25 Hovers. Sold 65,000 chicks this spring. Have 15,000 more hatching, many of them sold."

**Successful for Beginners**

because it is as nearly self-operating as an incubator can be built. Mrs. Wm. O. Judd, Stafford Springs, Conn., writes: "The Reliable Incubator is good enough for me; had splendid luck with our first hatch; it simply runs itself; am surprised that it is so little trouble."

The Reliable is the incubator with the double enclosed heating system which maintains correct hatching conditions in coldest weather; saves fuel every hatch because it utilizes all the heat from the lamp in two ways, hot water and hot air; has scientifically correct heat control, automatic ventilation and moisture supply.

Substantially built of thoroughly seasoned timber, in all sizes from 80 eggs to combinations of 1000 eggs.

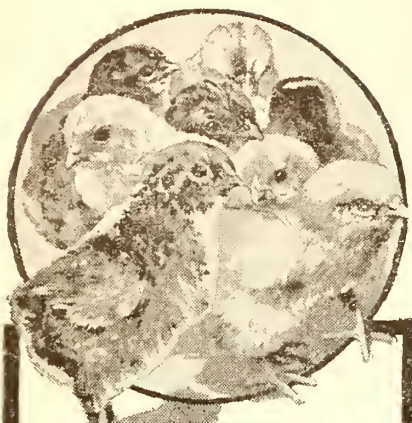
Write for my illustrated catalog giving full information and valuable hints on poultry raising.

**J. W. MYERS, Pres.**  
**Reliable Incubator & Brooder Co.**  
Dept. A15, Quincy, Ill.

Please send me Free Illustrated Catalog on your Incubators and Blue Flame Brooders.

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Your success in poultry raising this year more than ever depends upon bigger hatches and stronger chicks. The best insurance in the world consists in using the right equipment. Follow the lead of those who, from actual experience, have learned to depend on the Buckeye line.

### BUCKEYE THE PERFECT INCUBATOR

The incubator that always makes good and never fails. It hatches every hatchable egg and does it with the least possible trouble and expense. All sizes from 60 to 10,500 eggs. Sold and guaranteed by 6,000 leading dealers.

### STANDARD Colony Brooder

This is the brooder that raises every raisable chick. Reduces labor by a fourth and operating costs by half. Burns hard or soft coal, coke or gas. We are so sure of it we'll sign any reasonable guarantee and back it to the limit.

### BUCKEYE OIL-BURNING BROODER

A scientifically correct oil burning brooder, which heats perfectly in cold weather, even down to freezing. Sanitary, perfectly ventilated and very inexpensive in price and operation.

#### OUR NEW CATALOG

Fully describes the Buckeye line. Gives hundreds of hints and letters from best poultry raisers. You may have a free copy by merely sending your name on a postcard or letter.

**The Buckeye Incubator Co.**  
15 Euclid Ave. (8) Springfield, O.

government farm so it will occur in the hands of any capable breeder who is working with good stock. In the matings of the birds at the government farm this spring, male after male is being used which would be a credit to any breeder, and which would do well at any poultry show held in the country. Not only have these males this good quality so far as the standard requirements are concerned but they are out of hens of 200-egg production or better, and in many cases 200-egg production appears in their pedigrees to a considerable extent in addition to the records of their mothers.

#### ATTENTION PLEASE!

If you are interested in poultry you will be glad to read this fine "Oculum" testimonial.

"Oculum" Co., Salem, Va.

I had a male bird placed in with six hens that were laying on an average of five and a fraction eggs per day in December. He had a cold, giving it to the hens, and they dropped down to nothing in about ten days.

I did not want to lose these fowls as they were very good breeders. Soon after that I was at the Boston Poultry Show and the first one that I met was your man and "Oculum" looked too much like a "gold brick," so I passed him up; I ran across another make of medicine that I did not think sounded so big and took it home, but this worked like the rest; then and there I made up my mind that it was only \$1.00 more, so I sent to you for a dollar bottle and in less than two weeks I had eggs and their use as breeders was not hurt.

Yours very truly,

W. W. Wiles,

Clerk Taunton Poultry Ass'n., Raynam Center, Mass.

Try "Oculum," you'll be pleased with it. A trial bottle only costs a dime.

We know the "Oculum" Co. They will treat you right.

#### LOCAL EGG PRICES

In a certain farming town local egg prices averaged five cents a dozen, or thereabouts, below the wholesale prices in the nearest large city market. They compared very favorably with prices in other towns of the section, and the producers, mostly farmers with small flocks, were well satisfied. Then came a change. The country store owner who had handled the bulk of the local egg trade died, and the business passed into the hands of new people. Farmers soon found they

### HOW MR. JOHN MARTIN CONDITIONS BREEDERS

Successful poultry breeders, like Mr. John Martin, the Wyandotte specialist of Port Dover, Ont., know that perfect physical condition of the flock is the foundation of profitable poultry culture. This is especially true during the breeding season, as only birds that are healthy and vigorous can be depended upon to produce highly fertile eggs which will give big hatches of strong, livable chicks.

Mr. Martin's birds not only have the advantage of such outside influences as a bracing climate, fresh air houses and proper feed, but they are supplied with a dependable tonic or conditioner to keep them right inside.

Regarding this, Mr. Martin says: "After a long experience I find Pratt's Poultry Regulator to be absolutely the best tonic to keep a flock of poultry in condition. Just as soon as I find a pen is not doing well, I use the Regulator in their mash. Almost immediately I notice their appetite improves, their combs redden and they lay better."

Your dealer has or can secure for you a supply of this guaranteed preparation that will make your birds healthy, vigorous and highly productive. If necessary, you can obtain it from the manufacturers, Pratt Food Co., Philadelphia, who will be glad to send you some interesting poultry literature free on request.—Adv.

### CHAMPION LEG BAND



Aluminum, numbered to suit, with large raised figures. Postpaid 100-60c, 50-35c, 25-20c, 12-15c. Initials extra 10c per letter per 100; 50 or less 5c. More than one initial with cut figures. Circular free giving price on Superior, Pigeon Bands and Rabbit Ear Markers. Sample for stamp.

T. C. Cadwallader, Box 808, Salem, Ohio

were getting less for their eggs. Between local prices and the city wholesale quotations the differences was sometimes as great as twelve or fifteen cents. The new people at the store were accused of being grasping, but that was not the case. They really made less on eggs than their predecessor. The explanation of the difference in prices was this—the first man candled all eggs before shipment; the second did not.

On the first eggs the new owners shipped, basing their buying prices on published quotations and deducting shipping and commission charges and a small profit, they actually lost money. The cases had contained spoiled eggs which were a total loss. Eventually the store adopted a scale of prices, based on experience, which would protect them against such losses. The people who suffered were those who took pains in egg collecting and handling and who brought in good, clean, fresh stock.

Irrespective of the distance from large cities, country towns may be divided into three classes from an egg-selling stand-point—good, bad and average. The writer on a swing through eight towns and cities in a section no two points in which were more than eighteen miles apart, gathered egg price data one day in January. The range of difference in buying prices was fifteen cents—this for fresh ungraded farm eggs.

Whether prices are good or bad depends to a large extent on the country storekeepers. The man who candled, mentioned earlier in this article, was unusually progressive. He had candled over a long period, knew the kind of eggs each customer brought him, and exercising care shipped eggs which got as near the market top as farm eggs can. When the lamp revealed spoiled eggs, he was many times able to chalk the

## McKees Blue and White Orpingtons and Bronze Turkeys

Matings of finest birds. Do not overlook the one important point, QUALITY. Our Blue Orpingtons have won every time entered at N. Y. Our White Orpingtons have won at best shows. All imported foundation. Our turkeys are heavy bone, rich golden bronze. Place your order with us, and build your efforts upon a rock bottom foundation. Our catalogue free. Book on turkey feeding and mating and Orpington mating, 15c in stamps.

McKEES ORPINGTON FARM,

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Box K.

Watertown, Tenn.

loss against the farmer who had brought them in. Egg prices are pretty sure to be considerably better in those towns where the shippers candle.

He has two alternatives. He can sell direct to private customers, or he can join with other producers, and ship case lots to the large city market. The latter is often the better way. In the small town low buying prices are usually accompanied by low retail prices. Often there is no difference, the dealer buying in trade; seldom is it more than five cents. In the poor egg town there will be greater satisfaction with returns when small producers get together and ship graded eggs in standard cases to a city market.—J. B., in S. F.

#### DUCKS AND GEESE

A complete guide to profitable Duck and Goose rearing. Articles by foremost breeders. Complete instructions on breeding, rearing, feeding, housing, marketing and exhibiting these profitable fowls. 104 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

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Poultry Keeper could not be the magazine it is without the liberal patronage we receive from our advertisers. They are reliable. We strive to guard our advertising columns so only reliable firms may be represented. Study the advertising. Write for catalogs and mating lists.

There is a difference between oyster shells and clam shells. Also, there should be a difference in the price, but often there is not when the dealer can pass off his clam shells for oyster shells. Chickens can tell the difference.

## EGGS 15 CENTS A DOZEN

**HOW IT'S DONE:** I lost \$10,000.00 trying to raise poultry. I read journals till my head ached, tried every remedy I could find, but my losses increased. I was desperate, when a man, offered to rid by flock of disease for nothing—and HE DID.

Fowls dying with cholera he relieved over night, and White Diarrhea chicks in several hours; in a few days I had the prettiest, healthiest and best laying flock I ever saw.

I bought his secret for \$32,000.00, named it "OCULUM" and formed the "OCULUM" Co. And now with "OCULUM," I can raise chickens, turkeys and ducks with practically no loss. Disease has no horrors for me. I can keep sick and well fowls together without fear; the well stay well and the sick get well (with "OCULUM"). My hens moult quickly, my roosters are fertile and I get plenty of eggs where I got few.

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### My Victory Strain of Barred Rocks Continue to Win.

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

**Eggs** From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices.

Write for what you want.

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Have been attracting public attention for twelve years, and still are winning the Blue. They please my customers, no matter where located; and the best judges have awarded them the highest honors. Consider my latest winnings: At the Mt. Pleasant Poultry Show, in a large class of quality Reds, Nov. 27-Dec. 1, 1918; with an entry of six Single Combs, I won 1st cock and champion Single Comb male; 1st pullet and best pullet in the show, all varieties in the show competing; 3rd and 4th hen, 2nd and 4th cockerel. On Rose Combs I won 1st and 2nd hen; 1st, 2nd and 3rd cockerel; 1st, 2nd and 3rd pullet; 1st and 2nd pen; grand silverware special for best display, both varieties competing. At the Iowa State Show at Burlington, on Jan. 6-11, 1919, I entered five birds, four of them were placed, among them 1st Single Comb pullet and 2nd Rose Comb pullet. I still have a few fine Single Comb cockerels for sale... No pullets or hens for sale.

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I now have the best breeders mated up I ever owned. My birds have been line bred for twelve years, and have been strengthened and improved with new blood from time to time. You cannot afford to waste your time and money experimenting with an outcross. Line bred birds produce the desired color and type with a certainty.

Write me for my mating list which I will gladly send you upon receipt of your request. I will give you better value in eggs than you can obtain anywhere else for the money. I have satisfied hundreds of breeders and I can satisfy you. Address

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Box 500

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**BROODING AND FEEDING BABY CHICKS**

By Russell F. Palmer, Prof. American Poultry School, Leavenworth, Kansas.

Millions of baby chicks are annually lost because of wrong methods and mistakes of brooding and feeding. Considering present egg prices and, if it requires two eggs, on an average, to produce one chick; then adding the cost, time and worry of incubation egg, plus the value of baby chick food consumed before a chick dies; it will be seen the baby chick loss summed up in dollars and cents represents an enormous figure each year.

Thousands attempt poultry raising every spring who quit the effort through disgust because of this loss and disappointment which all too often follows. A little watchfulness, cooperation and a willingness to help a neighbor on the part of the more experienced poultry raiser will often safely steer the more amateur raiser to success. Therefore let me urge that we help one another. The year of 1919 should see the greatest amount of poultry ever produced in the world's history. The work of the next sixty days will make this possible if we all help. Space here will not permit that I go into the complete detail of many practical suggestions on feeding and brooding baby chicks which I feel would be helpful to many, but I will be glad to do my share and will answer anyone in detail who wishes to write me.

It behooves us to use methods which insures the lowest loss, most economical and quickest growth. Here at the American Poultry Experimental Station we use largely the brooder stove hover method of brooding. We have found this method dependable and permits raising a larger number of chicks in proportion to labor. There are many of these stoves on the market and most all of them are good and to be depended upon. These brooder stoves are designed to brood from 250 to 750 chicks at a time. They do this very well for the first three to five

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You can not get results unless you start right, with Standard Bred Poultry. You want a fowl that will GIVE YOU EGGS AND MEAT and a fowl that CONSUMES VERY LITTLE FEED and a fowl that HAS PROVEN for over a QUARTER OF A CENTURY that they are the BEST.

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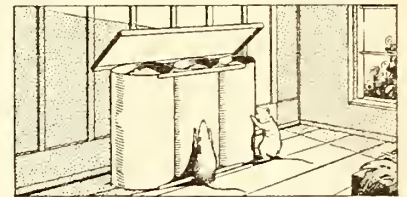
**EGGS FOR HATCHING U. R. Fishel, Hope, Indiana**  
**DAY OLD CHICKS**

BOX K

weeks after which greater success is more common if the brood is culled or separated into lots of 150 to 350 chicks, depending upon the size of the house and the amount of range surrounding it, which is not used by other fowls or chicks.

We have found here that 250 to 350 together, even at the start will do somewhat better than if a larger number are put together. For this style of brooding we use a house 10x20 feet or 12x24 feet. The house has a partition in the center with a runway for the chicks to go from one room to the other and a swinging door for the attendant. The stove is placed on one side of the partition and the cool room is used for feeding and exercise. It is necessary to have a cool room so the chicks can get away from the heat. This is one of the secrets of successful brooding. It also pays to give the little fellows access to the ground as soon after starting to brood them as possible. Even the second and third day is none too early, care being taken the first few days to be certain they know the way into and out of their house. Provided the sun is shining and no hard winds can hit them, baby chicks do well if allowed to run in and out even on fairly cold days. Do not put them out on hard frozen ground.

The houses for these brooder stoves are built similar to laying or

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Metal feed bins keep your grain intact from rodents and other vermin.

See page 782 of our big catalog, "Your Bargain Book," for the C. W. S. line of poultry feed bins. They are made entirely of heavy galvanized steel and are fitted with a hinged cover that extends completely across the top. The cost, as usual, is exceptionally low.

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**The Charles William Stores**  
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breeding houses. Special care must be taken to insure proper house ventilation. A slow movement of fresh air coming in on one side a foot above the floor and raising gradually upward as it warms and the oxygen from it has been consumed, until it reaches a point close to the ceiling where there should be an exit opening, will help keep the house free from impurities and foul odors, thus maintaining health, vigor and appetite among the chicks. We have found the commonly Fool Proof shutter ventilator system on the south side, with a hinged board opening just below the roof on the north side the most ideal and simple method of house ventilating. We would not build a special brooder house that could only be used three or four months a year. We locate these houses where the chicks can have plenty of range after they are partly grown. As soon as they are old enough to do without heat we remove the brooder stove and put in temporary roosts. The chicks roost in this house until fall or winter when we cull them and select the choicest for laying and breeding. In this way you avoid handling them so often, they are accustomed to their quarters, are not checked in their

EGGS

EGGS

**SCOTT'S****S. C. Rhode Island Reds**

RECOGNIZED FROM COAST TO COAST AS THE BEST

**Winners** At the Chicago Coliseum, Greater Chicago Show, World's Fair and all leading exhibits. Eggs from these matings will produce birds that will put down the ribbon for you. Bred on good range with plenty of shade, our flocks are the logical result of proper care and correct mating. They win and lay.

Send for your copy of our illustrated mating list.

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EGGS

EGGS



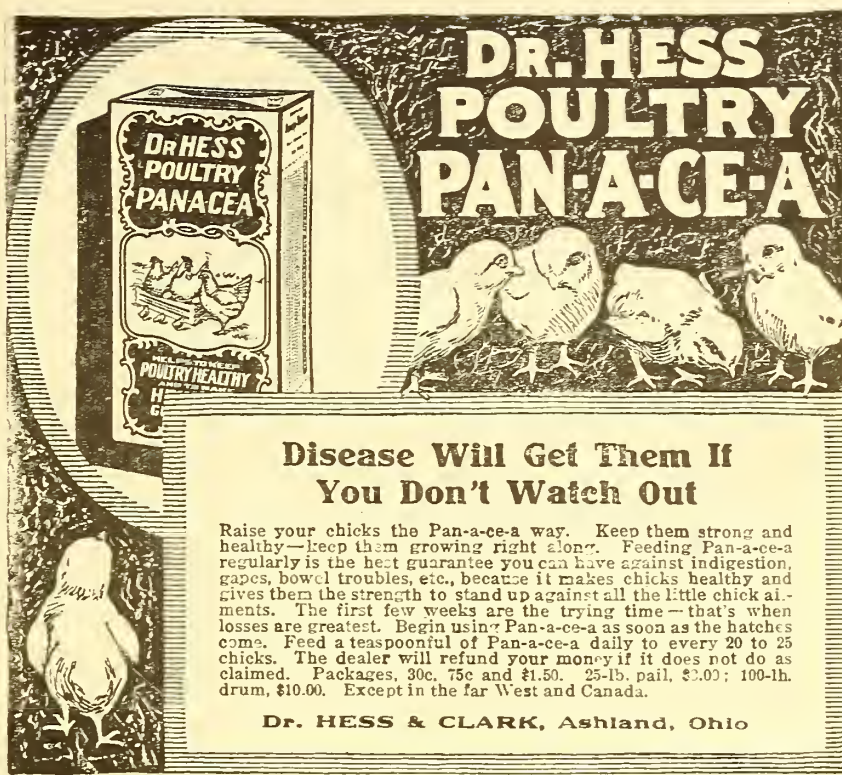
growth by moving and you get the benefit of your equipment throughout the year. Better to move the stove than the chicks.

Tack burlap cloth over ventilators to make the house comfortable and at least provide some method of ventilation near the floor but avoid drafts. Be certain to provide for one cool room. To help prevent the chicks from cannibalism-picking at one another's toes or vents,—paint the window panes a bluish or whitish forsting. You want light in your brooder house but not the direct rays of the sun. Keep the chicks busy and active. Put fresh earth on the floor in one corner of the room every two or three days. This will help prevent foot and leg weakness besides the little fellows like it. If they show signs of developing cannibalism, grind some lean meat and mix equal parts of bran, shorts, cornmeal and ground meat, with a little water just to moisten it a trifle. After it is mixed run it through a sausage mill or meat grinder and then feed it to the chicks every day.

You will not be troubled with the chicks piling up and crowding at night in a room where you use these brooder stoves if your room is kept warm enough.

Start feeding the chicks when sixty to seventy-two hours old, but first see that each has a drink of tepid warm water to which has been added five medicine dropper drops of carbolic acid to each pint. This will help prevent bowel trouble. We have also found some of the intestinal antiseptics advertised for prevention of bowel trouble and diarrhea when used in drinking water to be very good.

Cover the floor of the brooder rooms with clover or alfalfa chaff or fine cut straw. Don't have this too deep. Keep sour milk or butter milk before them to drink at all times from the first day. For the first two or three days feed a mixture of two-thirds rolled oats, one-third wheat bran, mixed with hard boiled eggs, a little powdered charcoal and fine bone meal. Feed a little five times a day for the first three days. Then give two meals a day of commercial chick feed. The first mixture is fed morning, noon and night and the chick feed is given between meals. As they become older, gradually eliminate the rolled oats until you use only the chick feed and keep before them a dry mash mixed in the following proportions: 10 lbs. wheat bran, 2½ lbs. ground oats, 5 lbs. shorts, 5 lbs. cornmeal, 2 oz. fine charcoal and 2 oz. fine salt. If you cannot secure sour milk or butter milk then mix two pounds of dry beef scraps with the above. If you use any form of milk, keep it before them at all times or at least the first half of the day.



**DR. HESS  
POULTRY  
PAN-A-CE-A**

**Disease Will Get Them If  
You Don't Watch Out**

Raise your chicks the Pan-a-ce-a way. Keep them strong and healthy—keep them growing right along. Feeding Pan-a-ce-a regularly is the best guarantee you can have against indigestion, gapes, bowel troubles, etc., because it makes chicks healthy and gives them the strength to stand up against all the little chick ailments. The first few weeks are the trying time—that's when losses are greatest. Begin using Pan-a-ce-a as soon as the hatchlings come. Feed a teaspoonful of Pan-a-ce-a daily to every 20 to 25 chicks. The dealer will refund your money if it does not do as claimed. Packages, 30c, 75c and \$1.50. 25-lb. pail, \$2.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

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**'A-1' Sanitary Nest**

**Roomy, Comfortable and Airy.**



May be used as ordinary laying nest or as a trap nest. Each compartment is 12x12x14 inches. Shipped knocked down—very easy to set up. In crates of two or six sets only.

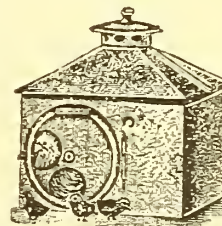
On six or more sets we prepay the freight. Experts advise providing one nest to every four hens. These nests are absolutely sanitary and attractive in appearance.

**The Saving of Baby Chicks Will Pay for This  
Coop Many Times Over.**

**'A-1' Brood  
Coop**

The round combination door closes storm tight or with screen air opening. There is also an opening for small chicks. The special ventilator at top keeps the air fresh and pure. Made of galvanized steel. No. 1, size 18-in. square and 13-in. to eaves; weighs 30 lbs. for crate of two or \$2 lbs. for crate of six. No. 2 size, 22-in. square and 13-in. to eaves; weighs 35 lbs. for crate of two or 95 lbs. for crate of six.

We prepay the freight on six or more coops. Shipped knocked down, but easy to set up with sliding seams. Will last several seasons.



**FARMERS SUPPLY CO.,** Write for  
Station "C" Kansas City, Mo. Special Spring Price List

**Hatching Eggs for Sale**

Barred Plymouth Rocks bred for size, vigor, shape and type, most excellent winter layers, the result of several years of careful breeding. Eggs, \$1.75 per 15; \$10.00 per 100.  
WM. HOPPE, JR., Route 1. Cullom, Illinois.

**HANSEN'S RUSSIAN ORLOFFS**

The beautiful mahogany colored birds at the Grand Coliseum Show, Chicago, December, 1918, were the subject of great admiration, where they again won. I am sorry that I have no stock for sale, but in order to help fill the demand for stock from these famous utility fowls, combined with beauty, I offer eggs this season and eggs only at \$1.00 each, and suggest that as the supply is limited that you place your orders well in advance of time desired so as to be assured of raising a flock this season. The Orloff is without doubt the finest table fowl on earth—stand the cold better than any other fowl, absolutely frost proof and will lay more eggs than any fowl of their weight. I BREED BUTTERCUPS—Won at Chicago Coliseum Show, 1, 2 pullet, 3rd pullet, 3 hen, Madison Square Garden, 1919. Eggs from grand matings, \$5.00 per 15.

DR. M. E. HANSEN, Importer and Breeder OSAGE, IOWA.

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Don't neglect to send for my New Bargain Fence and Gate Book and see for yourself how you can **SAVE 'G MONEY** buying **DIRECT FROM FACTORY**

Don't buy any fence until you get this book and compare my prices on **BROWN'S HEAVY ACID TEST GALVANIZED WIRE FENCE**—the fence that **resists rust longer**—that's stiffer and stronger—than **others**.

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I pay the freight and save you 20% to 40%. Over 150 styles. Also Gates, Barb Wire. Write for Bargain Book today. (6)

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**34 1/2¢ A ROD**

Made of Open Hearth heavily galvanized steel wire. Strong, durable, closely woven. Requires fewer posts, no base board or top rail. **Not a flimsy netting but a Poultry Fence. Sold direct to user.** Write for free Catalog showing 100 styles of Fence at **Reduced Money-saving Prices.**

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**\$150 PER YEAR PROFIT PER PAIR**

**FORTUNES IN RABBITS**

ONE PAIR WILL PRODUCE 400 LBS MEAT PER YEAR AT A COST OF 5¢ A POUND

BELGIAN HARES-FLEMISH GIANTS WERE MADE FOR SHOW BOIES-UTILITY-GIANTS ARE BRED TO SELECTED MEAT—THE ONLY MEAT RABBIT—ANY ONE CAN RAISE THEM—REQUIRE LITTLE SPACE-TIME OR MONEY A COMPLETE COURSE IN RABBIT CULTURE WILL \$35 FREE TO EVERY CORNER WRITE FOR OUR FREE BOOK—THE MEAT PROBLEM SOLVED—WORTH \$5 TO YOU BOIES RABBIT FARM—207 MILLBROOK-N.Y.

**New Zealand Red Rabbits**

and

**RUFUS RED BELGIAN HARES.**

Best Thoroughbred Stock.

3 Cent Stamp for Particulars

**J. E. JOHNSON,**  
Marionville, Missouri.

**\$4800. A YEAR** on a 50-foot lot raising Rufus Red Belgian Hares and Flemish Giant Rabbits. We furnish high grade stock and pay \$7.00 a Pair, also express charges, for all you raise from same. We need 3000 weekly. Get our **FREE BOOK** telling how to feed, breed and house. Get started right. Don't breed common rabbits.

**DAVIS & SON, 128 AVE. 31, LOS ANGELES, CAL.**

**30 YEARS' SUCCESS**

(Not an experiment.)  
Practical Poultrymen use

**Lambert's "Death to Lice"**

because they know it to be the **BEST** it will rid your flocks of vermin quickly and effectively without injurious result to the birds. Especially invaluable for sitting hens. 100 oz., \$1.00; 48 oz., 50¢; 15 oz., 25¢. Large trial can with booklet by D. J. Lambert, 10c. The Klein-Lambert Co., Mifflin, Traders Bldg., Chicago.

**THE "BEST YET"**  
Aluminum Leg Bands

Cannot come off. Five sizes, pigeon to turkey: State breed, 12-15c; 25-25c; 50-40c; 100-75c.

**COLORED LEG BANDS**  
Red, Green, Amber, Pink, Black, White, Yellow, Light Blue, Dark Blue; Pigeon and Baby Chick sizes, 12-10c; 25-20c; 50-35c; 100-60c. Poultry sizes, 12-20c; 25-35c.

50-60c; 100-\$1.00. Circular free.

**ALUMINUM MARKER WORKS,**  
Dept. N. Beaver Falls, Pa.

# Rabbits and Pet Stock

We have often heard the name Belgian hare and many people who are unacquainted with the rabbit business have applied that name to all domestic rabbits. In reality there is no such thing as a Belgian Hare, but many years ago European fanciers began breeding up a kind of rabbit that may have first originated in Belgium, but was developed in size and shape to resemble a hare and thus the name was adopted "Belgian Hare," though it is of the rabbit family and finally a Belgian Hare standard was adopted so that all standard bred Belgian Hares should be of a Rufus red color and somewhat of a racy build or shape and should weigh eight pounds for females and seven for males. The Rufus red color is not of a real red color but a rusty or sandy color, or a grayish red. The meat is almost as white as the white part of a chicken and the finest quality to be found when properly served.

The Flemish Giant is also a bred up rabbit but is larger, but varies as to color and some are gray, others coal black, some are snow white with pink eyes and some are checkered or spotted. The so-called Giants when properly bred are very large, 15 or 16 pounds, but inbreeding and raising too large litters an too often causes the so-called Giants to vary all the way from 8 to 16 pounds, as raised by some breeders. However, an effort is being made by some breeders to get them up to 18 or 20 pounds and have them in pure blacks, pure grays or pure checkered, then there are some breeders who have developed a breed called Angora, which have long hair like an Angora cat, only longer, and so they have been bred up in different colors. Then there are several varieties of the lop ears which have monstrous ears, measuring 24 inches from tip to tip, and 6 inches wide. These ears lay on the floor. These varieties, the Angora and Lop ears, are only for the fanciers, who have plenty of time and money to waste, but though there are many varieties of rabbits the world over the most to the fancier who developed the three standard meat rabbits, the Belgians, Flemish Giants and the New Zealands as they are all handsome and the meat is so wonderfully fine and nutritious that it is destined to become a well known, much desired meat for the rich and poor alike. The New Zealand, I think, is by far the most beautiful rabbit of them all, and is not really a red, but a buff, the backs being a reddish buff, while the bellies are a lighter color. The standard weight is 9 pounds for the bucks and 10 for the females. Unlike poultry, the female of all the rabbit family are the larger by about a pound. However, some New Zealand does, if kept for

9 or 10 months without rearing young will weigh 12 pounds, or even a little over. They are very robust and hardy when properly bred, and of a very rapid growth. The New Zealand in its purity was obtained from the country of New Zealand, but came to New Zealand from Scotland. However, we owe much to Mr. C. P. Gilmore, Hale Prather and a few other California breeders, who developed and perfected the breed and fixed a standard of type color and weight, and as the fur is so beautiful and skins so strong, it is destined to come into extensive use as a medium priced fur, and as fur animals are becoming scarcer, the makers of furs are already using many of them. The rabbit family (*Lepus Coniculus*) embraces all the above named rabbits and will not cross breed or mix with the hare family (*Lepus Timidus*). The Hares have only 2 to 4 young to a litter, while Rabbits have on an average of 5 to 8 and even as high as 12 sometimes. The so-called Belgian Hare is in reality a Rabbit, though it was bred up to resemble a hare, and hence its name Belgian Hare. The real Hare as we know it in the states of Missouri, Kansas, Oklahoma and Nebraska, are called Jack Rabbits, but their meat is very inferior and they are not of any value as a domesticated hare.

But I wish to speak of the great part the Belgian, New Zealand and Flemish rabbits are destined to play in aiding the city laboring man to have the best meat in the world, fit for a king (or we might better say president, as kings are a back number now), and though the city laboring man has only a little back yard and wants that for a garden and very little time to spare from his work, he can, on 10 or 15 feet square, put up a little shed, and with a few hutches rear rabbits to supply him and his family with meat every day, and as rabbits eat after night as well as day, only a few minutes' time night and morning are required to care for them, and the food will not cost over one third what it does to produce othr meat, and in the summer the lawn clippings of his lawn, some carrots from his garden and even much of the weeds from his garden will be good food for his rabbits, and a young rabbit of three months to four months old will make a good meal. Yes, fit even for a United States Senator.

Now, dear reader, there is much more to be said about rabbits. We have only begun, and the poultry fancier will not be injured, as rabbit eggs will continue, as in the past, to be scarce, and many poultry men will also rear rabbits, but I want to ask you as a reader, if you like the rabbit department of Poultry Keeper, just write the editor and tell him

### Judge J. H. Wolsieffer Gives Timely Information

Experienced poultrymen everywhere know "Harry" Wolsieffer and have great respect for his opinions regarding poultry matters. At his home farm at Vineland, N. J., he breeds White Wyandottes of unusual quality, both show specimens and heavy layers, so he thoroughly understands the practical side of the business, knows how to get results.

Mr. Wolsieffer is one of the popular poultry judges, having officiated at such leading shows as Boston, New York, Philadelphia, Baltimore, Richmond, etc. He has also lectured extensively at farmers' institutes in New York, New Jersey, Pennsylvania, Delaware, and Maryland. For two terms he was President of the New Jersey State Poultry Association.

Recently, when speaking of raising chicks, Judge Wolsieffer said—"I consider Pratts Baby Chick Food one of the best I have ever used. It gives the chicks the right start and carries them over the danger period, which is so essential to successful poultry."

Pratts Baby Chick Food, the original and most satisfactory, is sold by lived dealers everywhere. Refuse imitations and substitutes. Write Pratt Food Co., Philadelphia, Chicago, Toronto, for free Baby Chick Book.—Adv.

so and while you are at it you have a neighbor that ought to take the Poultry Keeper. Just show him a copy and ask him to let you send in his subscription for 1 to 3 years. Suppose you do this now, today, if you want this department to be a permanent one.

### TWO GREAT QUESTIONS

By Mrs. Don Wills.

"How am I to determine the proper amount of moisture in the incubator, and the kind of eggs to set?"

These questions are asked quite often. If my experience will help anyone, I am glad to give it out. In regard to eggs, we might, to advantage, go back a good ways, to start, beginning with the great ancestor of our stock, if we would have the best. But we will assume that we have good stock that lay reasonably good eggs, and then we are hardly with the majority. The majority of the farmers pay so little attention to their poultry stock, that I wonder they do as well as they do.

No egg above normal size, nor below normal size, should go in the incubator. First select medium sized smooth eggs (I prefer eggs laid by two-year-old stock). Then, every one of these eggs selected should be looked into to be sure none have been subjected to incubation heat long enough to quicken it. This often occurs in hot weather, in a nest where several hens deposit their eggs. They often are gathered without a knowledge of their development, the germ dies, decomposition begins, and with it no end of trouble. If it is put in the incubator it poisons the air and ruins your good eggs.

By the use of a good egg tester, you can detect these at a glance, before putting them in, as well as the blood spot we often see in fresh egg, which will never hatch. Then there is what we call a porous egg, the pores of which are so large that evaporation is too rapid. By the time the egg has been in the incubator

two weeks, it is not as full as it should be at hatching time. This can only be detected by the use of a good egg tester containing a magnifying lens, and then it seems to be all on the inside of the shell. In testing, before putting your eggs in the incubator, you find many cracks you otherwise would overlook.

### Evaporation

If when you look into your eggs after two weeks' incubation, you find the shell less than two-thirds full, there isn't enough moisture. You can increase by using less ventilation, or by using a dish of wet sand under trays. At hatching time, an egg should be about two-thirds full. To decrease moisture, employ more ventilation. Sometimes your largest chicks die in the shell. If you break the shell away, you often find the shell full and watery. This comes from too much moisture.

On the other hand, if we find the chick settled down half way, bound by the membrane unruptured, you may be sure you have a case of not enough moisture. These conditions should be detected before it is too late to correct the trouble. Look into the egg often, and if anything is going wrong, attend to it. This, by the use of the tester is simple, and there are many ways to increase or diminish moisture in the incubator.

Remember, if you will take time to look into two or three of your eggs daily, with a good tester, they will report conditions, so far as moisture is concerned, for the entire number.

### WONDERFUL BROWN LEGHORN Editor Poultry Keeper.

On St. Patrick's Day we heard a great noise in the chicken yard. Rushing out we found "Old Mother Hubbard" making a great outcry. She seemed to be yelling "I've laid an egg!" We had her shut off from the other hens. Sure enough there was an egg. She is laying regularly now every other day. "Old Mother Hubbard" is fourteen years old, a small Brown Leghorn. She was raised by Mrs. Joe Berger, and belonged to Mrs. Hubbard, whose son has been running the State Insurance Department at Springfield for the last fifteen years.

When Mrs. Hubbard went to Springfield last fall for the winter, she left the hen with Miss Watson with the injunction that she was not to be killed, and the promise that she would lay eggs at the proper time. I did not believe it and offered fifty cents for her first egg. When Mrs. Hubbard returned home the other day and the hen heard her voice she went right to her nest and laid the first egg.

Now, chicken fanciers of Illinois, if you have got a hen to beat this, trot her out.

Ill. Robert Mann Woods.

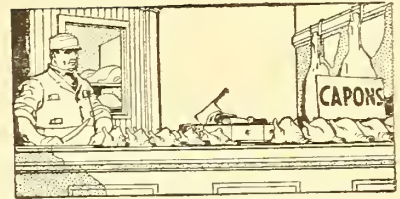
### Winter-Lay Egg-a-Day Strain

of pure-bred S. C. White Leghorns, 288 egg-line, Young's Strain the foundation stock. Every hen is caught, carefully examined and Hoganized. If she don't measure up to the high standard of vigor and health, with an egg capacity of from 200 to 300 eggs a year she is discarded from the breeding yards and sold to the poultry house, for we can't afford to breed from common layers as we guarantee our strain to be heavy winter layers and to lay two eggs to common Leghorns and large breeds one, or money refunded. Eggs hatch chicks anybody can raise. We are no bucksters, you get what you buy, and get our best. Circulars free. Eggs 15, \$1.50; 100, \$9.00.

### CLOVERDALE LEGHORN FARM,

DR. CANTRELL, Prop.

Aurora, Missouri.



### Capons mean big profits

Young roosters properly treated grow into fat, profitable capons that command the highest market prices.

See page 439 of our big cata'og, "Your Bargain Book." Here you find a caponizing set that will enable you to do the work yourself. Other poultry fanciers' supplies are shown here, all at attractive prices.

If you haven't received "Your Bargain Book," ask for it today. It's FREE.

The Charles William Stores  
194 Stores Building, New York City

### Potter Redybilt Poultry Houses

**Don't Build**

You can buy the famous Potter Portable Houses, Coops and Roosting and Nesting Equipment cheaper than you can build. Easy to set up and take down. Complete Henney Outfits (roosts, nests, etc.) \$3 up. Used over 10 years by thousands of successful poultry keepers. Makes it easy to start right. Get the best and save money. Send 4c stamps for 100-page book.

Houses \$16 Up.

35 Hen Complete Potter Outfit \$6.60

POTTER & CO., 16 Forest Ave., Downers Grove, Ill.

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**HP Poultry Foods**

MAKE POULTRY PAY

Made of pure, sound grain—clean, sweet, wholesome. No dirt, grit, weed seeds, or any other filler. All food. No waste. Fully guaranteed. Freight prepaid. Write now for full free particulars.

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Health and Vigor Guaranteed

## Deckas HIGH LAYING STRAIN

20 and 25c each—Discount in Quantities.

1200 BRED TO LAY BREEDERS

7600 INCUBATOR CAPACITY

EGGS FOR HATCHING

Send for Catalog.

### Deckas White Poultry Farm

R. 1. Box C. Des Moines, Iowa.

**RED SUSSEX**

Editor Poultry Keeper.

In response to your call for information in regard to the Red Sussex, will say I have kept a few for four years and like them very much. As to weight, hens usually run from 6 to 7½ lbs.; cocks about 9 lbs.; color, a never fading mahogany red; legs white. Hens, as they grow older, show penciling in their feathers. The cocks are a brilliant red black. The feathers in wings and tail and are the most beautiful of all the chicken tribe. Chickens sometimes hatch and show many white feathers which later disappear and are all gone at one year.

They are fine layers. Some four year old hens I have started early and lay every day. Have kept Orpingtons, Rocks, Wyandottes and these are best for eggs of any I have ever had. As a table fowl they far surpass any of those, being much tendered and better flavored.

As a roaster they beat them all.

Owing to their heavy coat of feathers, they are not subject to colds or roup. Have never lost one from roup in four years which is a good deal to say. You are mistaken in their not being in the Standard of Perfection. Both Red and Speckled are given brief descriptions. It is claimed these fowls have been bred in England for 200 years and are highly prized there.

Missouri H. Bolles.

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Brahmas, Cochins and Langshans, contains information on mating, breeding, selecting, exhibiting and judging. This information is of value to every breeder of Asiatics who wishes to produce the best of birds. Color plates of Buff and Partridge Cochins by F. L. Sewell. 96 pages, 9x12, illustrated. Price, 50c. Address Poultry Keeper, Quincy, Ill.

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Guide to success in rearing chicks. Experienced poultry raisers furnish information on all problems connected with the breeding, rearing, developing and fattening of chicks. Article and chart on line breeding. The day-old chick business, etc. 80 pages, 9-12, illustrated. Price, 50c. Address Poultry Keeper, Quincy, Ill.

**RHODE ISLAND REDS**

Origin and history of both the Rose and Single Comb varieties. How to mate for best results, by leading breeders of R. I. Reds. Edited by D. E. Hale, judge and breeder. Color plate of feathers by F. L. Sewell, 88 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

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Contains valuable information for breeders of any variety. Suitable for amateur and fancier. Articles by best breeders and judges. Color

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The egg consumer cheerfully pays a higher price at the grocery for eggs in a neat, attractive sealed package, and the grocer, in turn, pays more to you.

See page 782 of our big catalog, "Your Bargain Book," for cartons that increase your profits. There are other poultrymen's supplies listed here that you will be interested in.

If you haven't "Your Bargain Book" write for one today. It's FREE.

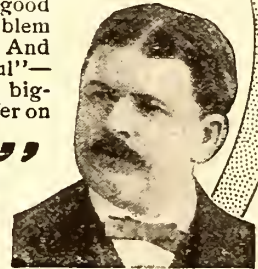
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193 Stores Building, New York City

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**Hatch Two Chicks, Where You Produced Only One Before**

Successful Incubators will do it, and the country needs every chick you can raise. Never have poultry raisers had a bigger chance to help the country and make good profits themselves. Help answer the food problem—raise more chickens—got more eggs—sell more meat. And this year of all the years you need the time-tried "Successful"—backed with 26 years of experience—the machine used by the biggest money makers in the poultry business. Write for my 1919 offer on

**"SUCCESSFUL" Incubators and Brooders**



**J. S. GILCREST, President**  
Life Member American Poultry Association

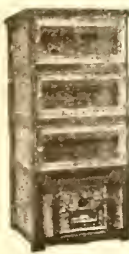
The only incubator I know of guaranteed to be cabinet made. The only hatcher that heats around the colder edges of the body first. Guaranteed to vary not over a fraction of one degree throughout the entire hatch—because of the fact that our own patented lamp and water thermostat regulator are 99.9-10 per cent perfect.

**Sold Under the Strongest, Most Liberal Guarantee to Hatch a Chick from Every Hatchable Egg**

"Successful" Incubators have been built and sold for twenty-two years. "Successful" Brooders, too, are built too good to compare with others. Raised floor, glass drop top, real hot water heating plant, rain and cold proof. Write for catalog and prices.

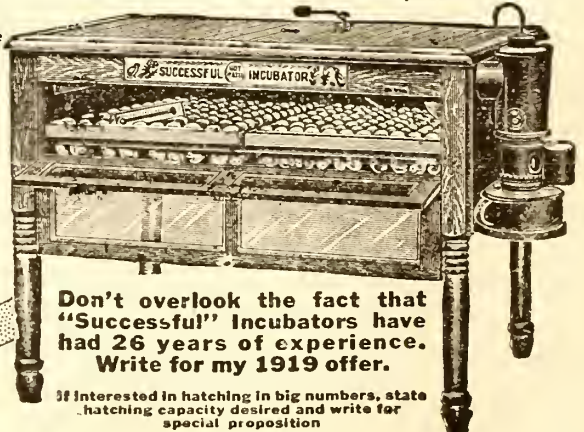
**Get 50 Per Cent More Eggs**

Feed sprouted oats. Change 1 bushel oats into 3 bushels green, tempting, egg making food with a "SUCCESSFUL" Grain Sprouter. Made in all-steel sections, fire-proof—double steel walls, separate sections. Save one-third on feed cost. Write now for circular and prices.



**Poultry Lessons FREE** to every buyer of a "Successful" Incubator or Brooder. Famous little booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," sent for 10 cents. Big catalog is free. Send for it.

J. S. Gilcrest, Pres. and Gen'l Mgr.  
**Des Moines Incubator Co.**  
47 Second St.  
Des Moines, Iowa



**Don't overlook the fact that "Successful" Incubators have had 26 years of experience. Write for my 1919 offer.**

If interested in hatching in big numbers, state hatching capacity desired and write for special proposition

**STANDARD POULTRY VS. UTILITY**

Editor Poultry Keeper:—

Since the organization of the American Poultry Association in 1874, most wonderful strides have been made in the development of more and better poultry. The industry at that time had no value that the Government recognized as worthy of consideration. There were then seventy-nine breeds and varieties given recognition in the then formulated standard of excellence. The "Fancy Poultry" exhibitions rapidly developed, and poultry culture has become a factor that today ranks only second in commercial value, exceeding all live stock and farm productions. When we get our census in 1920, I am confident that poultry and eggs will show up ranking first.

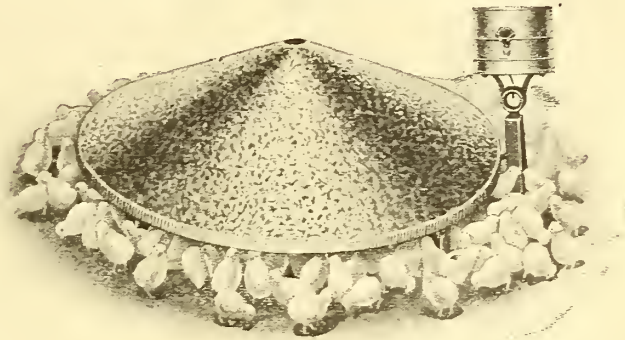
To the city, town, village and progressive farmer fancier and breeder is due the present day development. This industry is only in its infancy. We have today more than one hundred and fifty standard recognized breeds and varieties from which selections are made to please the fancy in form or plumage. These many breeds have points of merit, if properly cared for and developed into objects of practical use as egg and meat producers. The fancier or breeder who up to a few years ago considered only the ideal form of a breed and the most perfect plumage to cover that form, to gladden his eye, and win for him ribbons in the show room, has awakened to the fact that we are living in the most practical age the world has known, and the demand is for producers of eggs. As this industry has kept pace with other up to date progressive movements, science has stepped in and enlightened thousands through the seventy odd Poultry Journals and hundreds of Farm Journals. All flocks in towns or farms, have star boarders that are not worthy of their keep as egg producers. To eliminate these meat developers and poor egg producers is the present call to all poultry producers. It has been learned that all breeds have these poor layers among them, whether they are Leghorns, Cochins or Brahmas.

Therefore the hen that is two years old, that has thick pelvic bones covered with fat or gristly hardness and no abdominal capacity of more than two or three finger widths between these pelvic bones and the rear end of keel bone, should be sold for meat. Those with thin pelvic bones, deep abdominal capacity should be retained as egg producers.

Ninety-four per cent of the farms in the U. S. keep poultry. On a very large per cent. on these farms none but standard males are used.

Through the experimentations by the discoverers of this pelvic test we have also learned that the males to be used as producers should also measure to at least one inch between the pelvic bones, and not less than two finger widths when placing the fingers across the abdomen to the end of keel bone. It has been proven that the more capacity in these measurements the greater the

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## A Reliable Blue Flame Wickless Oil Heated Colony Heater

With an 18 in. canopy for 100 chickens or less. This hover is the same as the cut shown here with the exception the ventilator in the top is a little different and it has a metal oil fount. Something that can take care of a small lot of chickens just as easily as you can with the large hovers. It burns the gas generated from coal oil, steady blue flame, comfortable and easy to operate, no wick to trim, abundance of heat, no oil fumes, visible oil feed convenient and safe.

The flow of the oil is regulated by a needle valve.

Price Only **\$7.50** F. O. B. Quincy

Can be sent by parcel post, weight 12 lbs. If sent by parcel post add postage. Address,

**RELIABLE INCUBATOR & BROODER CO.**  
Box A15 Quincy, Ill.

likelihood of proving breeders of pullets that have possibilities as great egg producers. By the acquiring of this information millions of laying hens can be saved as layers that now are and have been in the past put in market to be killed.

In the past year and a half we have been called on to conserve in any and all departments. Then why should it not be a crime to kill a laying hen? We appeal to all poultry raisers, get all the up to date information. It is yours for the asking.

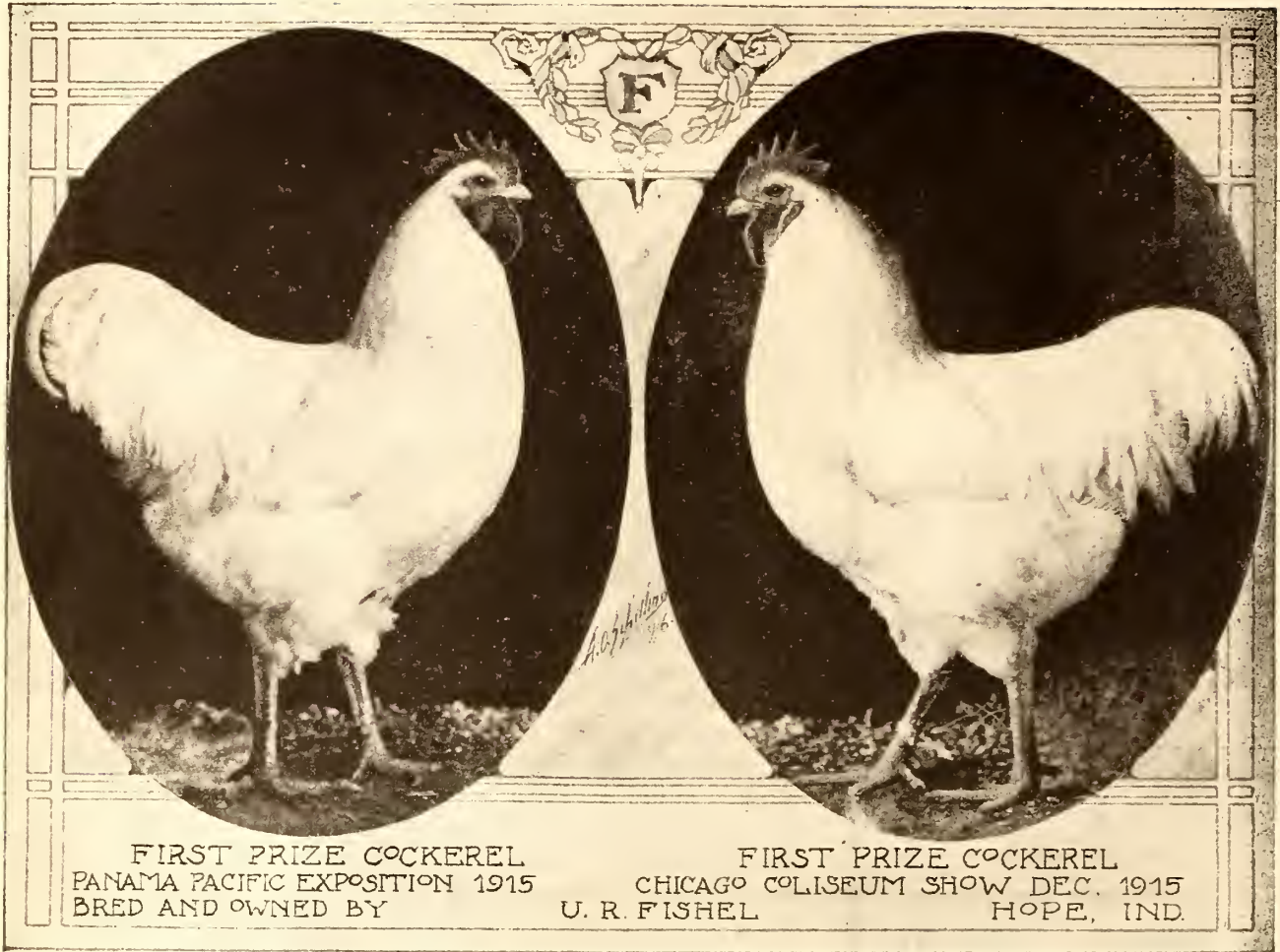
Save the layers. Don't crossbreed and mongrelize your flocks. A uniform flock of standard fowls adds beauty and attractiveness to your

home. Teaches young people to cultivate a greater love for all that is beautiful and that adds to human happiness. D. T. Heimlich.

### EGGS AND EGG FARMS

Is made up of articles by experienced breeders, giving methods of housing, breeding and feeding to increase egg production and make egg farming profitable. Article on pedigree breeding. 96 pages, illustrated. 9x12. Price, 50c. Address Poultry Keeper, Quincy, Ill.

The wire nest is all right, if you keep it well filled with hay or straw and also have a rail before it for the inquiring hen to alight on.



**POULTRYMEN WHO HELD ON.**  
 Editor Poultry Keeper:—

From a financial point of view, it might have been good policy for the majority of poultrymen to dispose of their flocks in the Fall of 1917 when the feeding problem was about at its worst, and take chances on getting a start again after the war, but it would hardly have been patriotic.

A good many did lose courage and sell out. Some of the large commercial poultrymen gave it up and went into other business, but some of us held on.

It was a serious question with us at Hillcrest. Not only were prices high but the feed could not easily be secured even at high prices, and we had to depart from our regular feeding rations time and again during the winter, and our flocks were thrown "off their feed" many times by the "substitutes" we had to offer them, but we held on. We adopted a "We shall not stop" slogan, and while our neighbors reduced their flocks to the lowest notch, one man keeping twenty fowls in place of his usual 200 layers; another keeping 50 of his best birds in place of 600,

while others sold everything on the place and advised us to do likewise. We filled every house and then built an addition to take care of the surplus pullets which we could not sell except as broilers, there being no call for mature pullets in our section. It was a hard struggle but we won out. Our flocks paid their way in spite of the high prices and the "substitutes" and the egg baskets were well filled during the winter when prices were high. Last winter (1917-18) was a severe one too. Zero weather almost constantly, some times 20 below and we had no serious trouble with our flocks. Had to melt snow sometimes for drinking water when all the pipes froze, but such work kept us busy and help-

ed keep us warm by making us hustle around.

The hatching season last spring was backward because Kink Winter lingered too long, and the fuel administration did not take kindly to furnishing coal for brooder stoves and incubators, so we had to use "substitutes" even there. We still "held on" and had a good season although behind the schedule, which brought our pullets a month late this season.

With the amount of cash invested, and the amount of hard work we put into our plant during the war, invested otherwise, we could have made more money on the investment, but we are in the poultry business to stay, and it is what we can ac-

**SINGLE COMB REDS**

Winners at Davenport, Streator, and Amboy. Eggs from pens, \$5.00 and \$3.00 per setting. Farm range, \$1.25 per setting; \$7.00 per 100. Satisfaction guaranteed. Mating List Free.

**SETH ANDERSON,**

**Ohio, Ill.**

**BABY CHICKS FROM SELECTED BREEDERS**

In the following varieties: BARRED ROCKS, SILVER WYANDOTTES, S. C. BLACK MINORCAS, MOTTLED ANCONAS, ROSE COMB R. I. REDS, SINGLE COMB R. I. REDS, S. C. WHITE LEGHORNS.

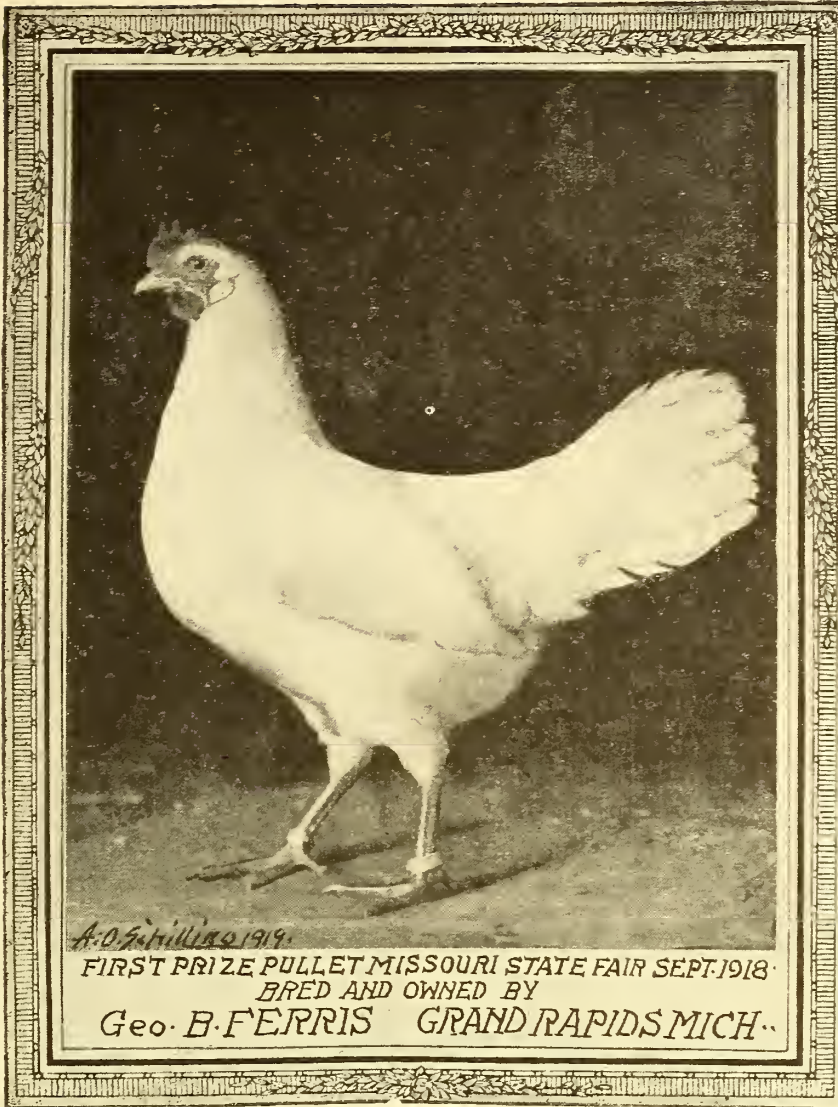
**Chicks That Live**

Our chicks are hatched from selected, strongly fertilized eggs laid by good Standard Pure Bred Fowls in these varieties that are fed right and housed right. That's why they live and grow up true to variety and type and prove profitable to our customers. PRICES range from \$15 per 100 to \$22 per 100. Orders filled in any quantity from 25 chicks to 1,000. SEND AT ONCE for Catalog, complete price list. Special Discounts, etc. ALSO INCUBATORS, BROODERS, AND ALL SUPPLIES.

**RHODES HATCHERY,**

**Box P. K.,**

**DAKOTA, ILLINOIS.**



There is no better poultry grain grown than kaffir. It has been a light crop the last two years and we miss it. Five acres again will be planted this year in the hope of having a good crop this time. Three hundred fowls will eat it during the year if it is a good crop.

With proper housing, one can start chickens off early with good success; in fact, we usually have our best success with the earlier hatched. If running with hens, it is our plan to coop the chicks at night and not release them until the dew has dried on chilly mornings. The early spring chicken wins every time over the late summer arrival.

**WHY CHICKS DIE IN THE SHELL**

You can prevent it. Right methods as outlined in a new 16-page bulletin issued by Prof. T. E. Quisenberry, Box 401, Leavenworth, Kan., tells you how to avoid this great loss. Also how to successfully raise baby chicks and what to feed them. This bulletin will be sent to all our readers who ask for it. Suggest you write today before supply of bulletins are all gone.—Adv.

**PROBST'S TRAP NEST**

Traps the layer. Releases the hen into the yard and resets itself as the hen slips out of nest. Absolutely sure. Separates the layers from loafers and no trouble to the attendant. Make your own nests from my full sized plans.

G. L. PROBST,

721 Quebec Place, Washington, D. C.

**YOU WANT THE BEST**

Eggs from Barred Plymouths, Single Comb Rhode Island Reds, \$3.00 per 15. Size, vigor, form and plumage and good layers.

D. T. HEIMLICH,

Jacksonville, - - - - Illinois.

**LAYBILT S. C. W. LEGHORNS**

Large, great layers, pure white and proved egg type from like ancestry. Not the "Best in the World," but none better for beauty and laying ability—Laybilt Leghorns mean either better quality for the same price, or the same quality at a less price. Selected hatching eggs, \$2.00 per 15; parcel post paid, \$7.00 per 100. 90 per cent fertility guaranteed. Strong day old chicks, 15c each. Parcel Post paid. Guaranteed delivery alive and lively.

V. A. MORSE,

Box K,

Ionia, Mich.

comply in the long run that really counts.

When the final peace papers are signed, and the nations begin to stock their poultry farms there will be a big demand for poultry and eggs, and the poultrymen who "held on" are the men who will reap the benefit for they will be best prepared to meet the demand.

Hugh Ballantyne.

A 200-egg strain is not made in a year, but it does not take so long as to make it a discouragingly tedious operation. Every year improvement will be noticed and every year the breeder who is working along this line will better understand just what is necessary for him to do in order to reach the high mark at which he is aiming.

M. R. Jacobus has just ordered his ad to run for another year in our classified department. He writes that he is getting splendid returns from his advertising. This means that **POULTRY KEEPER** not only pays advertisers, but it also indicates that Mr. Jacobus has a feed hopper that has merit, and is of real value to poultry raisers. Look up his ad in our classified department and get full particulars on his waste-not feed hoppers.

**S. C. WHITE LEGHORN**

**BABY CHICKS**

**HEAVY LAYING STRAIN**

Bred for years for special merit as layers. Many of the females too are descendants Madison Square First Prize winner. My Leghorns have my full personal care and are properly cared for. In fact they lack nothing that is necessary for them to have to produce great quantities of **WONDERFUL, BIG, WHITE EGGS** which in turn hatch out into fine, big, strong chicks. All chicks carefully selected and packed to go safely by Parcel Post or express. Prices: Eggs, \$10.50 per 100. Baby Chicks, extra fine, \$20.00 per 100 or \$10.50 per 50. Also Select Eggs for hatching by the setting or 100.

MRS. LILLIE M. PUFFER,

Box T.

CHATSWORTH, ILL.

**McCormick Heavy - Laying S. C. White Leghorn Eggs**

From heavy-laying range-raised hens. No hen is used in our breeding that has not laid 200 eggs a year in her pullet year. For twelve years on our farm we have been breeding for production alone. Every hen and cockerel used in this year's mating has been bred on our farm. Every hen mated for this spring's business is each three years old, every one of them a 200-egg-a-year hen in her pullet year, every one mated to cockerels of our own breeding, which possess heavy-laying ancestry. Eggs, \$7.00 per 1,000, \$7.50 per 100, \$3.00 per 30, \$2.00 per 15, f. o. b. our station. Our sales of table eggs from our farm during the year 1918 in the city of St. Louis alone exceeded 25,000 dozen.

McCormick Poultry Yards

Dept. 10

Bourbon, Missouri

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**ANCONAS**

**SPLENDID LAYING STRAIN** Rose Comb Anconas. Eggs, \$1.75 and \$4.00 per 15; \$4.75 per 50; \$8.50 per 100. Infertiles replaced at half price. No circulars. Order from adv. Mrs. E. J. Crawford, Owatonna, Minn. 2-12

**SINGLE COMB ANCONAS**, Sheppard Strain; heavy winter layers; will win, lay and pay. Eggs, \$1.50 per 15; \$4.50 per 50; \$8.00 per 100. Fred D. Porter, 126 Randall Ave., Janesville, Wis. 2-4

**S. C. ANCONAS**, Sheppard's Strain. Bred to win and lay. Eggs and baby chicks in season. Write your wants. Mrs. Chas. P. McBroom, Fortuna, Mo. 2-4

**ANCONAS**—Chicks, \$15.00 per 100, Eggs, \$10.00 per 100. Stock for sale. John Reihler, Box K, Strasburg, Illinois. 1-7

**MY WINTER LAYING ANCONAS** cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write. Geo. Becker, Earlville, Iowa. 2-12

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**S. C. ANCONA COCKERELS**, prize winning stock. Eggs and baby chicks. Write for prices. Floyd Davis, McCombsville, Ohio. 2-4

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**KULP'S BIG ROSE COMB** (260) and Single Brown, 266 records. Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

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**BROWN LEGHORNS**—Famous Everlay Strain, America's greatest winning laying strain. Winter layers. Eggs reasonable. Circular. Everlay Farm, Box 44, Portland Ind. 3-4

**S. C. BROWN LEGHORN EGGS** at \$1.50 per 15, or \$3.50 per 50. Eggs from special mated pens, \$5.00 per 16. Baby chicks, \$15.00 per 100. Ernest Barr, Alherton, Iowa. 3-3

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**WARNOCK'S S. C. BROWNS** are heavy layers. 142 winners at Chicago National. 50 choice cockerels. Eggs, \$8.00 100. W. G. Warnock, Geneseo, Ill. 2-4

**KULP'S 242 to 260 egg line** Rose Comb Brown Leghorn Chicks, 100, \$20.00; 100 eggs, \$6.50; 15, \$1.25. 242 cockerels, \$2.00, \$3.00, \$4.00, \$5.00. Mrs. M. N. Smith, Packwood, Ia. 2-9

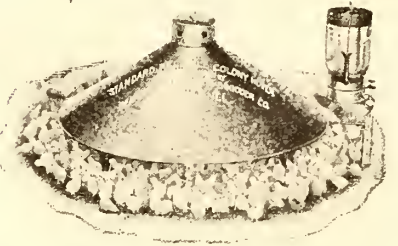
**OIL HEATED BLUE FLAME COLONY HOVER**

This is the most popular and most efficient hover we have ever manufactured, as proven by the many testimonials received.

You can always get coal oil, but it is hard to get hard coal. You can get any amount of heat with these hovers that is needed at all times and our automatic regulator will take care of all surplus heat by regulating the flow of oil, thus saving fuel.

It will do better work than the coal burning brooder, with less trouble, less risk of fire going out and with equal success of comfort of chicks entrusted to its care and with less cost.

There is no dirt from coal, no ashes to remove, no noise pouring coal in stove to disturb or scare the chicks.



By using the Reliable Blue Flame Wickless Oil Heated Colony Hover, you save time, money and trouble and your chickens will grow faster, get heavier and thrive because our hover will take the very best care of them and keep them comfortable, happy and healthy.

These hovers are made of galvanized steel, have double galvanized steel legs and have a capacity with our 30 inch hover, 350 chickens or less; with our 42 inch hover of 500 chicks or less; with our 52 inch hover, 1,000 chicks or less.

There is nothing to wear out or break in this hover. You can fill the hover to full capacity or you can brood as few as you like, with equal success, and with less work and trouble. Our heater does not take up any floor space under hover as is the case with the coal stove.

This hover is way ahead of former inventions on artificial brooding of chicks. No corners, no crowding, no piling up of chicks; they are as lively and more comfortable than the old hen can make them. When using this hover your profits will increase for you will raise more, healthier and stronger chicks.

The workmanship on these hovers is perfect and special attention is paid to make them a grand success. We have had 37 years of experience in artificial hatching and brooding chicks and know what is necessary for success.

The cost of these hovers is very low considering the value of them compared with the success you have with them. The hover is made cone shape so that it radiates the heat over the chicks' backs evenly with plenty of room for the chicks to move around.

We furnish a one-gallon self-feeder oil container so that you need have no fear of light going out for it is simple and requires very little at-

**BREEDER'S CARDS**

**BUFF LEGHORNS**

**SINGLE COMB BUFF LEGHORNS**, prize winners; bred to lay; full egg basket strata of winter layers. Eggs, 15 for \$1.50; baby chicks 15c each. H. E. Hancock, Marengo, Ind. 2-3

**EGGBRED BUFF LEGHORNS**, (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill. 2-3

**WHITE LEGHORNS**

**S. C. W. LEGHORN EGGS**—Barron strain. Hogan tested. From stock of 250 to 283 egg breeding. Guarantee 90 per cent fertility. Per setting, \$1.25; 50, \$4.50; 100, \$8.00. Thos. M. Keller, Dougala, Ill. 2-3

**WINTERLAY SINGLE COMB** White Leghorns. Standard bred and genuine egg type. 200 eggs and better. Day old chicks and eggs. Safe delivery guaranteed. Catalog free. Barlow & Sons, Kinsley, Kansas. 2-3

**DANDESLAYER POULTRY YARDS**—The home of the largest Barron White Leghorns in America. Eggs, \$3.50 per 15. Mrs. C. E. Elliott, Zion City, Ill. 2-3

**BARRON S. C. WHITE LEGHORN** Chicks and hatching eggs from selected large best laying hens mated to big April hatched cockerels from trapnested 250 to 284 egg hens. Foundation stock imported direct. Breeders farm raised, large and vigorous. Safe arrival, etc., guaranteed. Prices low. Write R. T. Ewing, Atlantic, Pa. 2-3

**S. C. WHITE LEGHORNS**, bred to lay and win. Three firsts Illinois State Show. Roy Coyner, Route 1, Merom, Ind. 2-3

**FOR SALE**—S. C. W. Leghorns. Eggs and chicks. Wyckoff strain. Best on earth. W. Beers, Cameron Mills, N. Y. 2-3

**SINGLE COMB WHITE LEGHORN** Baby Chicks, \$18.00 per 100, via Parcel Post charges prepaid. Safe delivery guaranteed. English and American strains. Bred on separate farms. Catalog free. K. I. Miller, Route 33, Lancaster, Mo. 2-4

**EGGS FROM OUR PURE BRED**, heavy laying strain White Leghorns, \$1.50 per setting. Special matings. Grafton Poultry Farms, Grafton, Wis. 2-3

**LOCUST VALLEY WHITE LEGHORNS**. Hatching eggs from sweepstake winners. Locust Valley Farm, Brookfield, Mo. 2-4

**BARRON'S ENGLISH** S. C. White Leghorn eggs, from heavy winter layers. 200 egg strain. Choice eggs, \$2.00 per setting. Good hatches guaranteed. Write your wants. Harry Liebing, Milbank, So. Dak. 2-3

**ROSE COMB WHITE LEGHORN** eggs for hatching. \$2.00 per 15. Earl W. Lowell, R. 2, Sharon, Wis. 2-3

**THORNBURG'S FERRIS STRAIN** White Leghorns, as good as the best. Better than the rest. Eggs, 15, \$1.00; 50, \$3.00; 100 \$5.50. Wm. Thornburg, R. 1, Caanpbell, Mo. 3-3

**BARRON'S WHITE LEGHORNS**, 248-282 egg lines. Circular. Miss Austin Rosser, Butler, Missouri. 2-3

**SINGLE COMB WHITE LEGHORN** eggs for sale at \$2.00 per 15. Selected for large egg production. College View Poultry Yards. L. A. Todd, Ottawa, Ill. 2-4

**SINGLE COMB WHITE LEGHORN EGGS**, \$6.50 per 100; \$12.00 per 200. A. F. Tate, Toledo, Ill. 3-2

**S. C. WHITE LEGHORNS**—Eggs from choice pens, \$1.50 per 15. Range \$5.00 per 100. Edw. Schoepel, Ellisgrove, Ill. 2-3

**SINGLE COMB WHITE LEGHORNS** exclusively. Trapnested 250 egg strain. Chicks, \$7.50 for 25; 100, \$25.00; 1000, \$200. Eggs, \$2.00 for 15; \$10.00 per 100; \$5.00 per 1000, prepaid Express or Parcel Post. Safe delivery guaranteed. They are large white birds, in them you should invest. A. E. Rollins, Indiana Springs, Ind. 3-3

**JANUARY MOULTERS**—Eggs, \$10.00 per 100. Two and three year hens lay 50 per cent in November and December. 12 years selection for late moulting. A. J. Rosemund, Woodcliff Lake, N. J. 3-2

**SINGLE COMB WHITE LEGHORNS**—Free range. Producers headed by cockerels from pen winning in American Laying Contest, 1917. Eggs, 15, \$1.50; 100, \$6.50; chicks, 20c. Edward Conroy, Ellsworth, Wisconsin. 2-3



**BREEDER'S CARDS****WHITE LEGHORNS**

**EGG BRED SINGLE COMB Buff Leghorns.** 15 eggs, \$2.50. Illinois State Show winners. H. Wolfe, Marissa, Ill. 3-3

**SINGLE COMB BUFF LEGHORN EGGS** from solid golden buff, egg bred stock, \$1.25 per 15; \$6.00 per 100. Arthur Worthington, R. 3, Two Rivers, Wis. 1-12

**SINGLE COMB BUFF LEGHORNS**—Special matings, \$10.00 100; utility, \$7.00 100. Free circular. Eli Rosenberg, Tiffin, Ohio. 2-9

**BENEDICT'S "BUSINESS BEAUTY" BUFFS** combine six winning lines. Hen-hatched from model eggs, from mature, robust, extra layers. Both combs. Outbred, pedigreed. Folder. Joseph Benedict, Chevy Chase, Maryland.

**HATCHING EGGS**—Tom Barron S. C. White Leghorns, vigorous stock, heavy layers, \$2.00 setting. Satisfaction guaranteed. Avery Crawford, Lexington, Ill. 3-4

**FIRST PRIZE SINGLE COMB White Leghorns,** Pittsburg, Pa., January, 1919. Free catalog telling all about these egg-bred prize winners and my methods. Alba Farm, Jamestown, Pa., Box 43. 3-3

**ROSE COMB WHITE LEGHORNS,** Elephant strain. Winners, layers, 18 years breeder. Big white low tailed males, \$3.00 up. Eggs, 15, \$3.00. 144 \$8.00. Circular. Testimonials. Guarantee. Rogers Ranch, Pleasanton, Iowa. 3-3

**SINGLE COMB WHITE LEGHORNS.** 230 egg strain, \$1.50, 15; \$7.00, 100 eggs. High Mitchell, Weldon, Iowa. 3-3

**KULP'S 288 BIG White,** large egg line. Single and Rose Combs. Grass range. Eggs, \$2. Catalog. W. W. Kulp, Box 30, Pottstown, Pa. 1-4

**S. C. WHITE LEGHORN EGGS** from select stock with good range, 15, \$1.75; 100, \$7.50; 300, \$21.00. W. E. West "Sunset Ranch," Mount Morris, Ill. 3-3

**YOUNG'S STRAIN SINGLE COMB White Leghorns** that I have bred for years for just one thing, more eggs, no heavier laying strain in America. Eggs for hatching, \$8.00 per 100. Rockefeller Poultry Farm, Holton, Ind. 2-3

**EGGS FROM S. C. W. LEGHORNS,** heavy winter layers, high fertility, 15, \$1.50; 30, \$2.50; 50, \$4.00. P. Rasmussen, Logcabin Poultry Farm, Lambertville, Mich. 2-3

**GAUSE'S S. C. W. LEGHORNS**—(Bred to lay most every day). Eggs, stock, baby chicks. Write for prices. Satisfaction guaranteed. Sunflower Poultry Farm. E. G. Gause, Prop., Elkhart, Ind. 2-3

**SINGLE COMB WHITE LEGHORNS**—Eggs at \$2.00 per 15 from "Dan Young's" best. Very high class exhibition matings of superb snow white, low-tailed birds. Theo. W. Collins, Ripley, Ohio. 2-3

**S. C. WHITE LEGHORN CHICKS,** \$15.00, 100; \$70.00, 500. Eggs, \$6.00, 100. Large lop comb layers. E. H. Burcham, Medora, Ind. 3-4

**EGGS AND CHICKS FOR SALE** from trapped nest S. C. W. Leghorns. Eggs, \$8.00 to \$20.00 per 100. Chicks, \$15.00 to \$32.00 per 100. Calvin Ginner, Pinckneyville, Ill. 3-2

**NALL'S FAVORITES**—Single Comb White Leghorns that lay both winter and summer. Eggs, \$1.50 per 15; \$7.00 per 100. Baby chicks, 20c each. Order early. Mrs. E. E. Nall, Lewistown, Mo. 3-4

**S. C. W. LEGHORN EGGS,** Barron Strain, \$1.00 setting; \$5.00 100. Mrs. A. L. Stuckey, Udell, Iowa. 3-2

**BLACK LEGHORNS**

**BLACK LEGHORN EGGS**—\$1.75 for setting; two setting, \$3.00. Pullets for sale. Excellent stock, \$2.50 each. Jos. E. Kegel, Freeport, Ill. 3-2

**CAMPINES**

**SILVER CAMPINE** hatching eggs from selected fancy and utility birds, \$1.50 and \$2.00 per 15. W. D. H. Bedell, Clinton Corners, New York. 4-2

**BEAUTIFUL SILVER CAMPINES**—240 egg strain, \$8.00 for 100; \$5.00-50; \$2.00-15. Mrs. Francis Culver, Culverdale Farm, Red Oak, Iowa. 4-2

**SPECIAL SALE**—Silver Campines, best egg-producing and exhibition blood in America. Surplus stock at half their value. Extra fine pens, \$20.00 and \$15.00. Eggs and booklet. McGehee Bros., Wilmington, Va.

It is equipped with a safety valve to which our Automatic Regulator is attached so oil is dropped to heater as needed. After the regulator attached to valve is once properly adjusted according to directions you need not pay any more attention, only to feed and water the chicks, for it is impossible to chill them, for they are always happy and comfortable with plenty of pure, fresh, warm air at all times.

Our ventilator in top of cone of hover leaves out all foul air made by the chicks. This is all done automatically without any bother to the operator and which insures steady and healthy growth of the chicks placed in its care.

Our guarantee is that this hover will do all we claim for it, and if not, if the hover is returned by purchaser within 30 days, we will refund your money. What more can we do to convince you of the superior quality of our hover.

These hovers are shipped crated compact with everything complete, ready to operate and with full instructions without extra cost. We carry a large stock of all sizes, and will give your order our prompt attention. Order early, as there is a heavy demand for this hover.

If you have a coal burning brooder and desire to change to our oil burning hover it will only be necessary for you to purchase our Blue Flame Oil Heater Complete, to be used instead of stove, price of which is \$10.50. Complete instructions for making change sent with each outfit. Send orders direct or write for further particulars to Reliable Incubator and Brooder Co., Box A15, Quincy, Ill.

**SOME THINGS NECESSARY TO SUCCESS IN INCUBATION**

To have a really good incubator hatch is not usually planned for by the average person using the incubator. Most of them are too easily satisfied, thinking if they get a sixty per cent hatch they are doing very well. They should realize that if they have a poor hatch, they will usually have poor chicks—often too weak to live.

The same thing that caused the poor hatch caused the weak chicks. You might just as well have a ninety per cent hatch, or even better, as to care for a lot of soiled, untested eggs for three weeks, in a careless way, only to have a few chicks to show for your labor and expense. It would be much better to take off two well cared for hatches and then quit, than to run your incubator all summer, tending it in an off-hand way, with a loss of more eggs than chickens hatched, often losing all that do hatch in the first two weeks from bowel trouble, caused by allowing impure eggs to remain in the incubator throughout the entire period of incubation.

I wish to tell you how I operate my incubator, as I have had extra good success; after having had some dearly bought experience, I keep my trays full of hatchable eggs all the time. I test the eggs before putting them in the machine, to be sure no

**BREEDER'S CARDS****WYANDOTTES**

**COLUMBIAN WYANDOTTES**—Eggs and baby chicks. Circular free. Mrs. C. H. Tordy, Morton, Ill., Box A. 3-2

**GOLDEN WYANDOTTE EGGS,** special mating from Des Moines Show winners, \$2.25 setting. Farm flock, \$1.25. Earl Hays, Winterset, Ia. 3-2

**GOLDEN WYANDOTTES**—Prize winners, hatching eggs, \$2.50 up. Circular free. Sunflower Poultry Farm, Cuss C. Goeddel, Waterloo, Ill. 3-3

**BUFF WYANDOTTES**

**EGGBRED BUFF WYANDOTTES.** Winners last National Club Show. Records to 246 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Illinois.

**BUFF WYANDOTTES,** bred to lay. Pure Sanborn stock. Breeders for sale. Eggs in season, \$3.00 and \$5.00 per 15. Oscar Smith, Fulton, Ill. 2-9

**WHITE WYANDOTTES.**

**WHITE WYANDOTTE** hatching eggs, \$6.50 per 100; \$1.50 per 15; special pens, \$2.00. William Remmert, St. Peter, Ill., Route 2. 2-12

**WHITE WYANDOTTE EGGS,** \$1.50 per 15; \$7.00 per 100. Good layers. Regal and Fishel Strains. Mrs. Frank Hastings, Cooksville, Ill.

**WHITE WYANDOTTES**—Fine stock, bred 15 years exclusively. 15 eggs, \$3.00; \$10.00 per 100. Mrs. C. C. Calhoun, Grafton, Ill. 3-2

**WHITE WYANDOTTE BEAUTIES,** winter layers—over 200 egg strain. \$1.50 per 15. Ernest E. Smith, Hardin, Ky. 3-2

**WHITE WYANDOTTES** a specialty sixteen years. Eggs, \$1.50 per 15; \$7.00 per 100. Elmer Hatton, Cooksville, Ill. 3-3

**R. C. WHITE WYANDOTTE EGGS.** Imported Martin strain. \$1.50 setting; \$8.00 100. Mrs. A. L. Stuckey, Udell, Iowa. 2-3

**WHITE WYANDOTTE EGGS.** (Fishel Strain). Direct descendants from Panama-Pacific Exhibition first prize winners. Address Fairview Poultry Yards, Jefferson, Iowa. 3-4

**WHITE WYANDOTTES,** very best. Eggs and stock reasonable. Nick Fleck, Plymouth, Ind. 3-3

**WHITE WYANDOTTES**—Bred-to-lay, extra good pure bred stock; carefully mated. Hatching eggs, \$2.50 for 15; \$10.00 for 100. Satisfaction guaranteed. St. Clair's Wyandotte Farm, Box 644, Downing, Mo. 2-3

**WHITE WYANDOTTES**—Heavy winter layers. Eggs, \$2.00 per 15. Special prices on large orders. Satisfaction guaranteed. L. O. Hasenstab, 514 E. Elm St., New Albany, Ind. 2-3

**SILVER WYANDOTTES**

**SILVER WYANDOTTES.** Hundreds of choice breeders and exhibition birds for sale. Also eggs from trapped nest bred-to-lay hens. Write for circular. Satisfaction guaranteed. C. F. Schroeder, St. Peter, Ill. 2-12

**SILVER WYANDOTTE EGGS.** Chicago, Milwaukee, and State Fair winners. Mating list free. Few choice cockerels. R. J. Porter, Box K, Mukwonago, Wis. 2-4

**CHOICE SILVER WYANDOTTE** cockerels, \$2.00 each. Red Sussex hens, pullets, cockerels. Excellent winter layers. Fine birds. Eggs for hatching. Mrs. M. T. Weatherly, Poseyville, Ind. 1-4

**FOR FINE SILVER LACED WYANDOTTES** address Helfrich Bros., Hammond, Ill. 2-3

**PARTRIDGE WYANDOTTES**

**FOR SALE**—Premier Partridge Wyandottes. Both young and old stock. Eggs for hatching priced reasonable. Everything sold with a money back guarantee. Edith Haxby, Jacksonville, Ill. 1-4

**OSBURN'S BRED-TO-LAY** Partridge Wyandottes. Eggs and baby chicks. Mating list free. Von Osburn, Reading, Mich. 3-2

**FAVEROLLES**

**WHITE FAVOROLLES.** Caney, Kansas—Eggs and Stock.

**DOMINIQUES**

**DOMINIQUES**—Eggs \$2.00 setting. D. Baker, Preston, Md. 3-4

## BREEDER'S CARDS

## BARRED ROCKS

PARK'S BRED-TO-LAY BARRED ROCKS, exclusively direct from Park's best pedigreed stock. Large, beautiful, vigorous, prolific winter layers. Selected eggs, 15, \$2.50; 30, \$4.50; 50, \$6.00; 100, \$10.00. W. G. Meradith, Danvers, Illinois. 4-4

BARRED ROCK EGGS, finest stock. Free catalog. \$7.50 per 100. G. W. Sword, Lanark, Ill. 4-3

BARRED ROCKS, Parks-Bradley Strain. Extra quality Utility stock. Large, good layers. Eggs, 15, \$1.50. Mrs. James L. Young, Kenneth, Kan.

BARRED ROCK EGGS from selected layers. \$1.50 per 15; \$4.50 per 50; \$8.00 per 100. Special matings, \$5.00 per 15. Ralph E. Little, Fairmount, Indiana.

PARKS' BARRED ROCKS—Prize-winning, trap-nested 219 egg-bred for beauty, size egg-laying power. To grow hardy, healthy, handsome breeders, persistent layers and be satisfied as an army of old customers, order my hatchable eggs, 15, \$2.00; 100, \$10.00. Circular. Elizabeth Woodmansee, Highland, Ohio.

IMPERIAL RINGLET BARRED ROCK EGGS for hatching. Winning at Iowa State Fair, Coliseum Des Moines and Newton. Pullet mating per setting from flock, \$1.50; \$3.00, \$4.00 and \$5.00 from pens. Adolph Ruchti, Newton, Iowa. 2-4

BRADLEY BARRED ROCK COCKERELS, from prize winning stock, \$3.00, \$5.00, \$10.00 each. Satisfaction guaranteed. R. O. Hazen, What Cheer, Iowa. 2-12

PARKS STRAIN bred to lay Barred Rocks. Large, vigorous, beautifully barred, regular egg machines. Eggs, 15, \$1.50; 50, \$4.50; 100, \$8.00. B. F. Morgan, Independence, Ind. 2-3

PRAATT'S "CACKLER" STRAIN Barred Plymouth Rocks. Bred for eggs, 200 egg type. Foundation Parks, and contest winners. Eggs and baby chicks reasonable. Geo. W. Pratt, Cropsy, Ill. 1-12

WRITE FOR Elizabeth Woodmansee's circular.

BRED-TO-LAY BARRED PLYMOUTH ROCKS—Large boned, well marked, farm range flock. Eggs, \$1.50 per 15; \$4.00 per 50; \$6.00 per 100. Mrs. R. R. Carpenter, Deep River, Ia. 3-3

BARRED ROCKS—Splendid winnings at Chicago, Indianapolis, Cincinnati, Louisville, Memphis and State Fairs. Prices reasonable. A. C. Brown, Holton, Ind. 2-4

BARRED PLYMOUTH ROCKS, Park's bred-to-lay strain. Good hatches and safe arrival guaranteed. New stock each year direct from Parks. Demand exceeded supply last season. Eggs, 15, \$2.50; 30, \$4.50; 50, \$6.00; 100, \$10.00. Order direct from this ad. Mrs. Harry J. Hamman, Cloverport, Ky. 2-3

BARRED ROCK EGGS for hatching, Park's strain exclusively, from Hogan tested hens, for egg type and capacity. Mated to Park's pedigreed males direct. Write for mating list. H. E. McLaughlin, 1215 Cassopolis, St., Elkhart, Ind.

BARRED ROCKS, Palmer strain. Extra quality, utility stock, large boned, heavy layers. Eggs, 15, \$1.50; 100, \$7.00; cockerels, \$2.50 to \$4.00. W. H. Hasselbrock, St. Peter, Ill. 2-3

BARRED ROCK EGGS from prize winning stock. Good egg laying strain. \$2.00 per 15 and \$10.00 per hundred. Mrs. Clarence Watson, Meadowbrook Farm, Macomb, Ill. 3-3

BARRED PLYMOUTH ROCK EGGS, (E. B. Thompson Strain), Pen \$2.50 per 15. Range, \$6.50 per 100. G. E. Roberts, Jameson, Mo., R. 2, 3-3

EGGS FROM LARGE BARRED ROCKS, bred to lay, narrow clean cut barring to skin yellow legs and beaks, good type and heavy layers. Price reasonable. T. A. Donathen, Rr. 2, Lakeville, Ind. 3-2

EGGS—BARRED PLYMOUTH ROCK—From Bradley stock, direct, \$3.00 to \$5.00 per 15. Satisfaction guaranteed. J. M. Duff, R. 3, Berne, Ind. 3-4

BARRED ROCKS. Heavy bone, well barred, farm raised. Eggs, \$1.50 setting; \$6.00 per 100. R. R. McCracken, Liberty Center, Ind. 3-4

BRED-TO-LAY BARRED ROCKS, from trap-nested winter layers. Best blood obtainable. Hatching eggs and stock at reasonable prices. Lockwood Poultry Plant, R. 7, Westwood, Ohio. 3-3

INVESTIGATE—Elizabeth Woodmansee has Park's the best bred Rocks in America.

imperfect eggs go in. There are many imperfections on the inside of the shells and in the egg itself which it is impossible to detect without the aid of the magnifying lens, with which I am able to detect every defect at a glance. I test again in thirty-six hours, taking out all the infertile eggs, before they are injured.

An infertile egg is not changed the least bit from being exposed to heat of 102 degrees for 36 hours, while life has begun in a fertile egg. Prove this for yourself; cool the infertile egg, then break it by the side of a fresh egg, and see if I am not right. Then break your fertile egg and see how it looks. I try to keep my lamp clean and well trimmed, using the very best oil. Keep the temperature at from 102 to 103 the first two weeks; from 103 to 104 the last week, and never exceed 104 at any time.

I use no moisture except that which the incubator provides, until the hatch is well advanced. Then I sometimes lay a warm wet towel over the eggs, if it seems necessary, which may easily be determined.

I look out for germs all along the way, which, if left in the incubator, will spoil the hatch, by poisoning the chicks that otherwise would have been strong and healthy. A dead chick in the shell will have the same effect on the good eggs in the incu-

## BREEDER'S CARDS

## BARRED ROCKS

EGGS FOR HATCHING from quality Barred Rocks. Select matings, \$2.50 for 15 and \$1.50 for 15. Regular range stock. F. B. Wagner, R. 5, Mt. Sterling, Ill. 3-3

THE FAMOUS "RINGLET" STRAIN Barred Rocks. Both matings. Eggs, \$5.00 setting. Farm range, \$2.00. Mrs. H. V. Elrod, Orleans, Indiana. 3-3

EGGS—BARRED ROCKS—Both matings, prize winners. Mating list free. \$10 per 100. Write today. L. E. Wilson, Eagle Grove, Iowa. 3-4

WYCKOFF'S WINTER LAYING Barred Rocks. Blood from U. S. Champion layers. Mating list free. Elm Ravine Poultry Farm, Jamestown, Missouri. 2-4

BARRED PLYMOUTH ROCK COCKERELS, Thompson's Strain direct, \$3.50 to \$5.00 each. Eggs, \$2.00 for 15. Geo. H. Wagner, R. R. No. 5, Quincy, Ill. 1-4

PARK STRAIN BARRED ROCKS—Farm raised. Eggs, 15, \$1.50; 100, \$7.00. E. E. Scrivner, Dahlgren, Ill. 3-2

## WHITE ROCKS

WHITE ROCKS, best strains, healthy farm raised. Eggs, \$7.00 per 100; 15, \$1.50. P. E. Gregoire, Newton, Illinois. 3-3

WHITE ROCKS—The kind that lays and wins. At three leading shows this winter we won 13 firsts, 7 seconds, 3 thirds, 5 fourths and 4 fifths and grand champion male twice. Eggs, \$3.00 per 15. Bloedel & Schweder, Markesan, Wis. 3-3

WHITE ROCKS—Bred to lay, large, vigorous, snow white, good winter layers. Eggs, \$2.25 per 15. Leola M. Pence, Marline, Ill. 3-2

WHITE ROCKS—Fisher direct, large, free range. Eggs, \$1.25 per 15; \$7.00 per 100. John Brauer, St. Peter, Ill.

HUESSELMANN'S WHITE ROCKS. Winners at best shows. Eggs, \$3.50 and \$5.00 per 15. Louis Hueselmann, Osage, Iowa.

ECKERT'S PRIZE WINNING WHITE ROCK cockerels priced low now. Eggs in season. Write your wants. Erwin Eckert, Markesan, Wis. 2-3

TRAPNESTED WHITE PLYMOUTH ROCKS. Eggs. Catalog. J. Carodiskey, Lewistown, Pa. 2-3

## BREEDER'S CARDS

## BUFF ROCKS

BUFF ROCK COCKERELS, egg strain, hatching eggs in season. Good hatch guaranteed. H. Vitense Poultry Yards, Oakridge Ave., Madison, Wis. 3-4

## PLYMOUTH ROCKS

BECHTEL'S SUPERB RINGLETS—Large, strong, vigorous, farm raised cockerels that will improve your flocks, \$3.50 each. Eggs, \$2.75 per 15, postpaid. Cockerel mating only. Positive satisfaction guaranteed. Rufus Bechtel, Goshen, Ind. 3-3

## ORPINGTONS

S. C. BLACK AND WHITE ORPINGTONS bred to lay. Eggs for hatching, \$2.00 per 15. E. F. Lutz, Monewoc, Wis. 4-4

## BUFF ORPINGTONS

S. C. BUFF ORPINGTONS. Cook strain direct. Eggs and baby chicks for sale. Mrs. J. R. Cummings, Springfield, Ill. R. 1.

ROSE COMB BUFF ORPINGTON EGGS for hatching, \$3.00 per 15; \$5.00 per 30. Mrs. Orren Porter, Clear Lake Iowa. 4-3

S. C. BUFF ORPINGTON EGGS, \$1.50 per 15. Miss Anna E. Overton, Pekin, Ind. 3-2

S. C. BUFF ORPINGTON EGGS, \$2.00 for 15. Extra layers. C. A. Moxley, Taylorville, Ill. 3-3

SINGLE COMB BUFF ORPINGTONS. Winter layers. Eggs, \$1.50 per setting; \$7.50 100. Mrs. J. L. Blacketter, Creek View Aplary, Hull, Ill. 3-2

ETTIE GILLILAND, ten years breeder of high class S. C. Buff Orpingtons, exclusively. Very large, heavy winter layers. Eggs, \$2.50. Orient, Ohio. 3-3

BUFF ORPINGTON EGGS, from special mated pens, \$2.25 per 15 prepaid. Fertility guaranteed. H. Wolfe, Marissa, Ill. 2-3

SINGLE COMB BUFF ORPINGTONS—Eggs and baby chicks for sale. Mrs. David Pope, Forreston, Ill. 2-3

## WHITE ORPINGTONS

ALDRICH WHITE ORPINGTONS—Cockerels for sale. Eggs from Indianapolis show winners, \$2.40. Fred Bilyen, Campbellburg, Ind. 2-4

ALDRICH STRAIN WHITE ORPINGTONS—Eggs, \$3.00, 15; \$4.00 30. The Wlencke Orchards and Poultry Yard, Fieldon, Ill., R. No. 3. 3-3

S. C. WHITE ORPINGTON EGGS, from Aldrich and Morris strain, \$3.00 and \$1.50 per setting. Neal Myers, Queen City, Mo. 3-4

WHITE ORPINGTON eggs and baby chicks. Circular free. Mrs. C. H. Yordy, Morton, Ill., Box A. 3-2

WHITE AND BUFF ORPINGTONS—Eggs, \$1.50 per 15. White Leghorn eggs, \$1.50 per 15. Arthur J. Freivogel, Mascoutah, Ill. 3-3

S. C. W. ORPINGTONS—Hens and pullets for sale, none better. Also eggs and baby chicks. Satisfaction guaranteed. Sunflower Poultry Farm, E. G. Gause, Prop., Elkhart, Ind. 2-3

S. C. WHITE ORPINGTON COCKERELS—I have an extra fine bunch, \$5.00 and \$10.00 each. Neal Myers, Queen City, Mo. 1-4

## BLUE ORPINGTONS

BLUE ORPINGTONS—Eggs, \$2.00 per setting. John Uungst, Freeport, Ill. 2-4

## LANGSHANS

WHITE LANGSHANS OF QUALITY, stock and eggs for sale. Alonzo Tyner, Greenfield, Ind. 3-3

GOOD QUALITY White Langshan eggs, \$2.00 for 15. Geo. Hosford, Hamilton, Ill. 3-3

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I arrange in some way to fill every vacancy made by testing out unhatchable eggs, by either setting a couple of hens at the same time I set the incubator, to draw from in every time of need, or when I have as many as five hundred eggs set at the same time I like to set a small incubator just to draw from. In this way my trays are full of live chicks at hatching time, and I feel amply rewarded for my trouble in caring for the little lives I have made myself responsible for. I don't leave the chicks in the incubator until the hatch is completed, but take them out every hour or so, putting them in pasteboard boxes on top of the incubator, covering them lightly, but never allowing them to get hot enough to sweat, which is almost always fatal. I am very careful about letting cold air in the incubator, as it dries the moisture and chills the unhatched chicks.

I feed cracker crumbs or bread crumbs in about forty-eight hours, giving them cold water and grits first, last and all the time. They should have a dish of wheat bran before them all the time. Bran, to a chick, is what hay is to a horse. I lose a very small per cent of chickens hatched. Three different times I have hatched every chick but one, in the little No. 1 incubator.

At one time, I hatched eighty brown turkeys from eighty-one eggs, tested out six infertiles, at beginning, which I replaced with fertile eggs. Infertile eggs do not poison the air, but if they are left in they are very misleading, as you are liable to lay the thermometer on one of them (they being cold eggs), thus bringing the mercury down. Then you

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The letter of Judge W. B. McCoy in the last issue of POULTRY KEEPER on this subject has brought us a large number of letters inquiring where dark brahmas can be bought. Practically every letter states that no one is advertising them in POULTRY KEEPER and that if people want to sell them they should advertise them. Perhaps Mr. McCoy or someone else can tell us where to buy dark brahmas. There seems to be a demand for them.

So many of our folks have so much trouble raising ducks and geese while young that we especially want the methods of those who are successful. If you have had good luck tell us the "how" of it.

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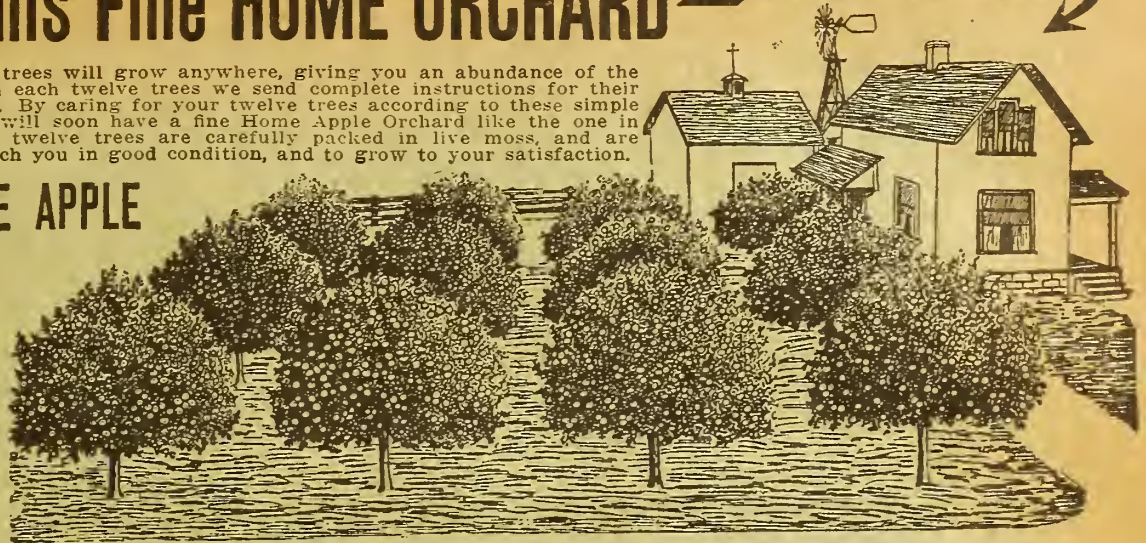
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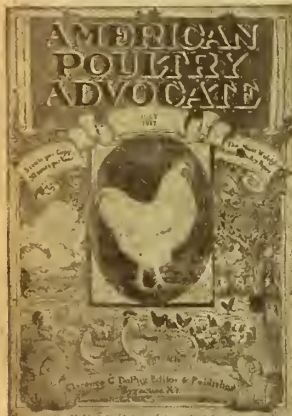
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A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTIC-  
ULARLY TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

MAY, 1919.

No. 2.

For Home and Country



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POULTRY KEEPER PUBLISHING CO.,  
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We have hundreds of cockerels, pullets, and hens to sell now. We guarantee safe arrival. Good utility cockerels, \$5.00; hens, \$2.50. Cockerels from 200 egg strain, \$7.00, and pullets and hens, \$3.50. From 230-264 egg strain cockerels, \$10.00; pullets and hens, \$5.00. Special prices for large numbers. See catalog.

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Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Contains photos showing our 32-acre White Leghorn Farm at Grand Rapids where much of our laying stock is kept, and our 15-acre farm at South Bend, Ind., where our exhibition stock is bred; describes our methods of feed and care; how we improve laying qualities; list of winners at more than 50 big shows; many letters from customers; prices of exhibition, breeding and laying stock, eggs for hatching, and day-old chicks.



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## RICH'S FAMOUS RHODE ISLAND REDS

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Have been attracting public attention for twelve years, and still are winning the Blue. They please my customers, no matter where located; and the best judges have awarded them the highest honors. Consider my latest winnings: At the Mt. Pleasant Poultry Show, in a large class of quality Reds, Nov. 27-Dec. 1, 1918; with an entry of six Single Combs, I won 1st cock and champion Single Comb male; 1st pullet and best pullet in the show, all varieties in the show competing; 3rd and 4th hen, 2nd and 4th cockerel. On Rose Combs I won 1st and 2nd hen; 1st, 2nd and 3rd cockerel; 1st, 2nd and 3rd pullet; 1st and 2nd pen; grand silverware special for best display, both varieties competing. At the Iowa State Show at Burlington, on Jan. 6-11, 1919, I entered five birds, four of them were placed, among them 1st Single Comb pullet and 2nd Rose Comb pullet. I still have a few fine Single Comb cockerels for sale. No pullets or hens for sale.

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Write me for my mating list which I will gladly send you upon receipt of your request. I will give you better value in eggs than you can obtain anywhere else for the money. I have satisfied hundreds of breeders and I can satisfy you. Address

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Just won at Chicago Coliseum first cock, first cockerel, first, second, third pullet. Mating list free. C. G. BATTLES, Box H, WELLINGTON, OHIO.



# THE



# POULTRY



A JOURNAL FOR  
EVERYONE  
INTERESTED

# KEEPER

IN MAKING  
POULTRY  
PAY

VOL. XXXVI.

MAY, 1919.

No. 2

## Poultry House Construction

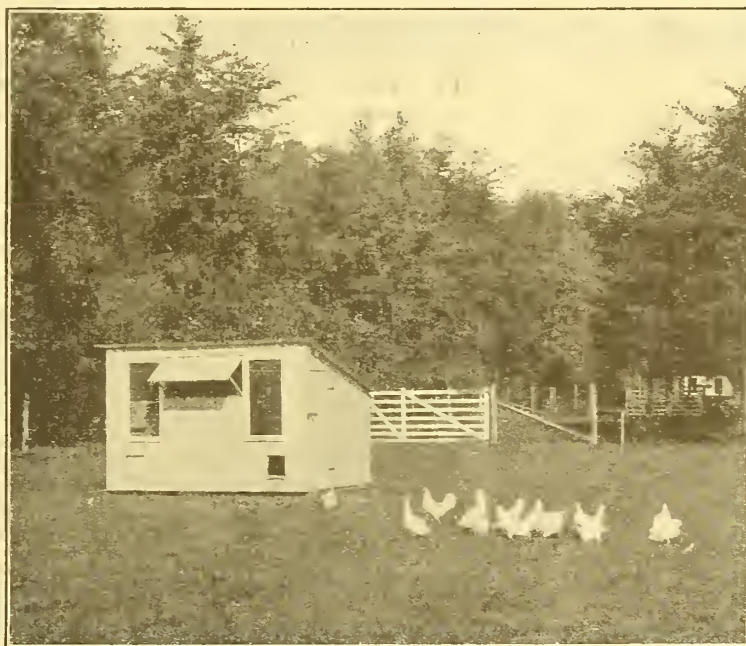
The prime essentials in poultry houses are fresh air, dryness, sunlight, and space enough to keep the birds comfortable. No particular style of house is peculiarly adapted to any section of this country. A house which gives satisfaction in Maine will also give good results in Texas or California, but it is preferable to build more open, and consequently less expensive, houses in the South than in the North. The best site for the poultry house depends principally on the local conditions. The location should have good water and air drainage, so that the floor and yards will be dry, while the house should not occupy a low pocket or hollow in which cold air settles, and it should be situated for convenience in management and adapted to the available land. Wherever possible a southern or southeastern exposure should be selected, although this is not essential if there is any good reason for facing the house in a different direction.

Poultry can be raised successfully on any well-drained soil. A light loam which will grow good grass is well adapted for this purpose, while a very light sandy soil through which the water leaches freely will stand more intensive poultry conditions, but most of the green feed for the fowls kept on such a soil will have to be purchased. A heavy clay or adobe soil is not as well adapted to poultry raising, as such land does not drain readily, and it is much more difficult to keep the stock healthy. Long stationary houses, or the intensive system, saves steps, but it is easier to keep the birds healthy

### ALFRED R. LEE

Animal Husbandman in Poultry Investigations

and to reproduce the stock under the colony system, where the birds are allowed free range. Breeding stock, and especially growing chickens, should have an abundance of range, while hens used solely for the production of market eggs may be kept on a very small area with good re-



sults. The colony house system necessitates placing the houses, holding about 100 hens, from 200 to 250 feet apart, so that the stock will not kill the grass. The colony may be adapted to severe winter conditions by drawing the colony houses together in a convenient place at the beginning of winter, thus reducing the labor during these months.

#### Yards and Fences

Fences dividing the land into

yards increase the cost of equipment, labor, and maintenance, and there should be as few fences as possible, as land can be cultivated and kept sweet more easily if not fenced, and the value of fresh, sweet land for poultry can hardly be overestimated. A grass sward can be maintained on good soil by allowing 200 to 250 square feet of land per bird (217 or 174 birds to the acre), while more space is necessary on poor or light land. A larger number

of fowls are usually kept to the acre where double yards are used, and the land is frequently cultivated. Plymouth Rocks and the heavy meat birds in small yards require fences 5 to 6 feet high, while a fence 6 to 7 feet high is necessary for Leghorns. The upper 2 feet of the fence for the latter may be inclined inward at an angle of 30 degrees, or a strand or two of barbed wire may be used on top of the regular wire to help keep them confined, while it is sometimes necessary to clip the flight feathers of one wing of those birds which persist in getting out. It is not advisable to use a board or strip along the top of the fence, as hens will often fly over one

so constructed.

Posts may be set or driven into the ground. They should be set 8 to 10 feet apart for common poultry netting, or 16 to 20 feet for woven wire. Corner posts should be about 8 inches in diameter and be set 4 feet in the ground, while intervening posts may be 4 or 5 inches in diameter and set 3 feet in the ground. Much lighter posts may be used for temporary fences and may

be driven into the ground. That part of the post which is set in the ground may be charred or treated with some wood preservative to advantage, while corner posts should be firmly braced or set in cement.

**Construction of Poultry Houses**

A house constructed for the convenience of the attendant will have enough cubic air space provided 2 to 5 square feet of floor space is allowed per fowl. Fresh air should be secured by ventilation rather than by furnishing a larger amount of cubic air space than is required for the convenience of the attendant. The necessary amount of floor space depends upon the system, on the size of the pens, the weather conditions, and the size of the birds. More birds can be kept on a small floor area under the colony than on the intensive system, where the colony system is used in a mild climate and the hens have free range throughout most of the year. Colony houses holding from

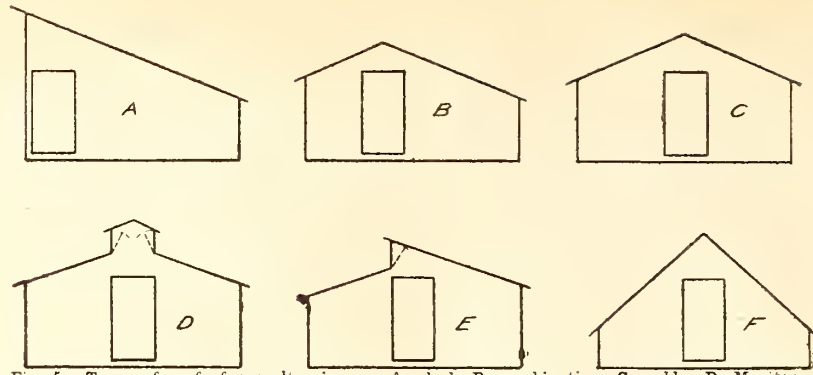
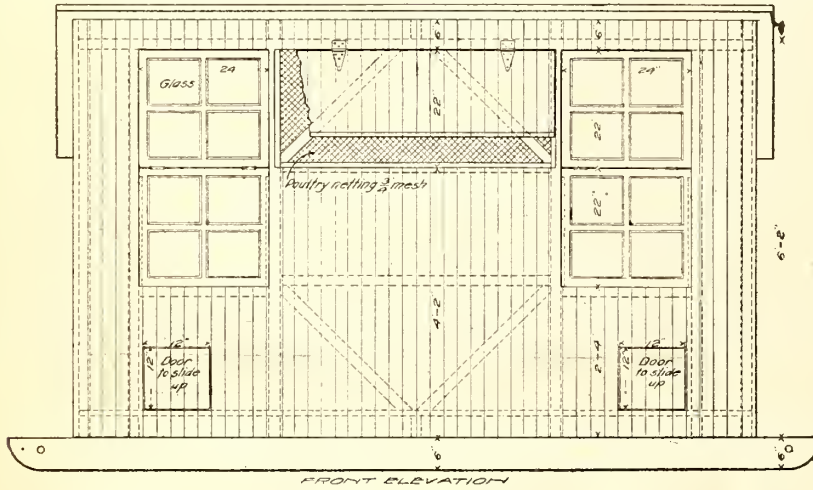


Fig. 5.—Types of roofs for poultry houses. A, shed; B, combination; C, gable; D, Monitor; E, semimonitor; F, A-shaped.

to houses up to 16 feet in width. It is one of the easiest styles to construct. It allows a high front to the house, and furnishes a northern slope for the roof on which roofing paper will last longer than on a roof which faces the south. The combination

and semimonitor roofs are adapted for buildings from 16 to 24 feet wide, while either of these styles, or the monitor and the gable roof, may be used for wider buildings. The combination roof on a house over 16 feet wide gives the best head room at the least cost, reduces the amount of surplus air space, and gives a neat appearance to the buildings, while the semimonitor and monitor types are best for wide houses which have a central alley, particularly brooder houses. The semimonitor house usually faces south, while the monitor type of roofs is frequently used on buildings facing east or west. The gable roof is used extensively for two-story buildings, for brooder houses, and for incubator cellars. This style of roof is usually ceiled at or slightly above the eaves, or the gable may be filled with straw or some kind of absorbent material, which tends to keep such houses dry and warm. The A-shaped roof is used for growing coops and colony houses which, with a wall 18 inches high, provided a large amount of floor space with a minimum amount of lumber, but increases the roof surface, which is the most expensive part of the house.



Note: Sills (runners) 4x6; joists & rafters 2x4; plates studs & braces 2x3; siding & flooring 3/4 tongue & groove material and roof 3/4 material covered with roofing paper.

Fig. 3.—Front elevation of colony house used at Government Poultry Farm, Beltsville, Md. Capacity, 25 hens.

30 to 75 hens are about as large as can be easily moved, but larger numbers may be kept in a long house. Flocks of from 60 to 150 are well adapted to the average conditions for the production of market eggs. Large numbers require less labor, fewer chance for disease and the individual hen receives less attention. The cost of housing poultry depends upon many conditions, such as price of lumber, style of house, amount of floor space allowed per bird, etc. Substantial poultry houses can be built for from \$1.00 to \$1.75 per head, including labor. The cost of material per head will vary from 75 cents to \$1.25.

**Roof and Front**

The roof is the most expensive but a most important part of the poultry house, and should be water-tight. Shingle roofs should have a one-third pitch, while those covered with paper or metal may have a less pitch, or be almost flat; however, the greater the slope the longer the life of the roof. Different types of roofs and the comparative amount of surface to be covered are illustrated in figure 5. The shed or single-slope roof is adapted

A large amount of glass in the

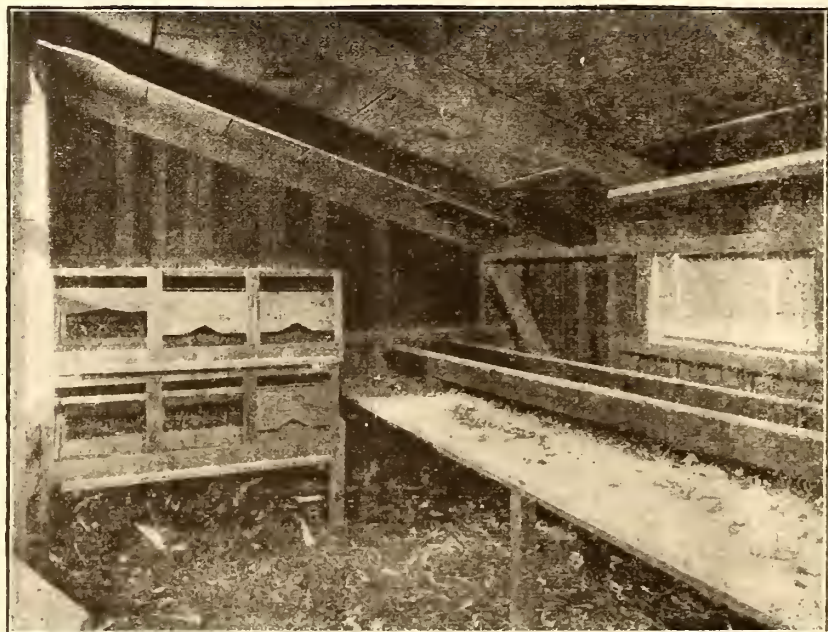


Fig. 1.—Interior of colony house used at Government Poultry Farm, Beltsville, Md.

front of the house makes it warm during the day and cold at night, as glass radiates heat very rapidly. Unbleached muslin, or a light weight of duck cloth, is used for curtains in the fronts of poultry houses. This cloth should be thin enough to allow a slow circulation of air without a draft, which object is defeated by using too heavy a grade of duck or by oiling or painting the cloth. The front of the house should be high enough so that the windows or openings will allow the sun to shine well back into the house during the winter. The depth which the sun's rays shine onto the floor of the house in the vicinity of Washington, D. C., (latitude 40 degrees N.), on January 1, is given in the accompanying table:

| Top of windows<br>Ft. in. | Depth of sun<br>Ft. | Top of windows<br>Ft. in. | Depth of sun<br>Ft. |
|---------------------------|---------------------|---------------------------|---------------------|
| 3 6                       | 8                   | 6 2                       | 14                  |
| 4 5                       | 10                  | 7 1                       | 16                  |
| 5 4                       | 12                  | 7 11                      | 18                  |

**POULTRY ERRORS CAUSE DISEASES.**

By J. E. Dougherty.

A good many years' experience has indicated to the writer that the control and elimination of poultry diseases must be accompanied by prevention rather than cure, and that a good many of the poultry raiser's troubles are due to error in management and can easily be avoided with proper knowledge and experience. A man must always thoroughly know his own business before he can make a success of it. Knowledge and experience are just as fundamental to success in poultry raising as they are in the grocery business, manufacturing or any other line of endeavor.

We are beginning to keenly realize that the fight against disease and weakness, whether in fowls, domestic animals or in man, must be carried on along the lines of prevention and not by means of curatives after each trouble has appeared. This means an intimate knowledge of the cause of such troubles

**Cites Work of Army.**

Would it have been possible for the American military forces to have accomplished their wonderful sanitary rejuvenation of disease-ridden

Cuba and Porto Rico along any other lines but those of prevention? They achieved success by wiping out the primary causes of disease, viz: filth, crowded conditions and lack of action in isolating all those taken down with disease and thorough fumigation of the source of any outbreak, in the case of contagious disease. Nor could they have secured the splendid sanitary results in the canal zone, which have been such vitally important factors in enabling us to build the canal in so short a time and with so small a loss from disease among

the army of workers, without the waging of a thorough campaign against the cause of those dread troubles and thus preventing rather than attempting to cure after such diseases have obtained a foothold. To accomplish this required an intimate knowledge of the causes of diseases and how to combat them successfully.

Constitutional vigor, rational, common sense methods of feeding and caring for the fowls, cleanliness, unremitting watchfulness and constant culling of weak stock are the means which must be employed if a strong, vigorous, profitable flock is to be maintained.

**Vitality Is Needed.**

What is constitutional vigor? Why is it so important? Constitutional vigor is a condition not only of perfect health, but more. It is a condition of strong physical vitality in which the whole body is in such fit condition that the natural disease resistant powers of every organ are strong enough to enable a fowl to repel the attacks of disease even under somewhat unfavorable conditions. A fowl might be apparently in good health under favorable conditions yet become quickly susceptible to disease should less favorable conditions arise. Stamina or strong resistance as well as apparent good health is the thing vitally needed.

Overfeeding, the feeding of insuf-



**Pratt's**

## Start Chicks Right Then Keep Them Growing

During the critical first three weeks after hatching, chicks must have an easily-digested, properly-balanced ration, to prevent loss from digestive troubles and give them a strong, vigorous start. The best and safest is

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the original "baby food for baby chicks." It builds bone, muscle and feather and makes chicks grow like weeds. "The original Pratt's" is slightly higher in first cost than imitations which are inferior, but it is the *cheapest food* as judged by number, size and quality of chicks raised.

When the ration is changed to coarser feeds and the quantity increased

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should be regularly used. It sharpens the appetite, improves digestion, regulates the bowels. The results are perfect health, rapid, economical growth, freedom from common chick disorders, early maturity, *bigger profits*.

The Pratt's Baby Chick Food-Pratt's Poultry Regulator combination removes the uncertainty from chick-growing, insures the greatest success. Our guarantee—"Your money back if YOU are not satisfied."

Make the test at our risk.

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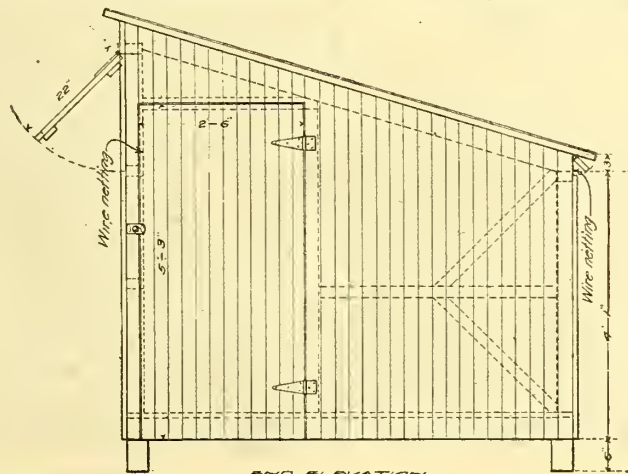


Fig. 4.—End elevation of colony house used at Government Poultry Farm, Beltsville, Md. Capacity, 25 hens.

ficient amounts of greens, the too free and frequent use of condimental foods, the feeding of too much high protein mill feeds, meat scraps, etc., are errors which are altogether too common among poultry raisers and give rise to a large number of the troubles commonly affecting our birds.

**Overfeeding Is Harmful.**

Overfeeding is an extremely common practice which can not be too strongly condemned. It is undoubtedly due to the fact that a good feed-

er must appreciate the construction and operation of the digestive organs, and must keenly realize that a strong feeling of hunger before each feeding stimulates strong and thorough digestive juices, whereas too frequent feeding, the feeding of too rich a ration and permitting birds to gorge themselves, will clog the appetite and derange the digestive organs.

A good feeder instinctively knows by the very action of his fowls when he steps into the pen to feed them

whether they are hungry or simply run to him and want to eat from habit. Fowls will eat more in winter than in summer just exactly as people do. Fowls will eat and relish richer foods in winter than in summer. All of the principles of eating and nutrition as they apply to men will apply to fowls.

**Make Fowls Hustle.**

Intelligent feeding of fowls consists in intelligently applying common sense and sensing the hen's needs just as you sense your own. Feed less grain in the morning than at night, where the fowls are fed in a scratching litter in order to keep them scratching. If fowls are fed a big, full meal in the morning, instead of bustling around, getting exercise and plenty of fresh air, they will sit around in warm spots to "sleep it off." A person that eats a big, hearty meal in the morning is not as fit for a hard day's work as if a more moderate meal were eaten. Feed in such a way that the appetite is just on edge through the day and then give a good full meal of grain at night before the fowls go to rest. During the winter, in climates where it gets very cold, with lots of snow, a warm mash at noon is greatly appreciated.

In feeding wet mashes, provide plenty of troughs so that every fowl gets a fair chance and give only what will be cleaned up quickly. Now that the dry mash system of feeding has proven so successful, the wet mash is only used as a treat such as a warm noon mash in winter to birds that are laying heavily.

**Chickens Need Physic.**

Suppose a bird goes off feed! It indicates that the digestive organs are out of order and need cleaning out. A person under such conditions takes a physic to rid the digestive tract of the foreign material causing the trouble. The same thing should be done for the hen. Give each hen a half teaspoonful of epsom salts dissolved in water and poured down the throat or use the salts solution to mix a wet mash for the whole flock—depending on how many are affected. The use of a physic followed by a very meager diet for a few days will cure practically all digestive troubles. If necessary, repeat the physic in three or four days. As a rule fowls on a strong producing diet should be given salts about every five weeks on general principles. For chicks less than three weeks old, give one pound to 600 and use proportional amounts for growing stock from three weeks to maturity.

A good part of the mortality affecting young chicks may be traced to poor feeding methods. Chicks must be made to exercise, they must not be fed too often or too rich feeds, they must be given all the fresh, tender green stuff, such as lettuce, young barley, rape, chard, etc., that they will consume and they should be allowed out of doors on nice days as much as possible so that they may breathe lots of fresh air, strengthen

(Continued on Page 336)

**Plant a "Victory Vineyard"**

"Let Nature Dress up Our Gardens Every Year with Luscious Grapes in Our National Colors, — Red, White and Blue, — a Permanent Annual Memorial of Our Victory."

The Great War has been brought to a victorious end by the timely aid of American arms, and the principles of free government, for which Our Flag stands, are being universally recognized. Let us commemorate the triumph of the American Flag in manner that is both fitting and useful. Food won the war! And the world still needs food, especially fruits that are rich in sugar. The Grape is the most healthful and valuable fruit, and the three best varieties, — the Red Delaware, the White Niagara and the Blue Concord, — will grow anywhere. Plant a Victory Vineyard of Red, White and Blue grapes, and let Nature honor The Victorious American Flag by dressing up your garden, every year, with loads of

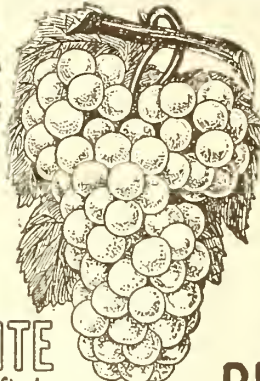
**Luscious Fruit in Our National Colors**

These Fine Grape Vines, if grown according to directions, will yield bushels of choice grapes every year, in the beautiful colors of "OLD GLORY."



**RED**  
The Delaware

Large, well-shouldered, compact bunches of bright red, beautifully flavored grapes. Make wine, jellies and grape-juice of the finest flavors and aroma, and requires little or no added sugar for sweetening.



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The Niagara

Immense clusters of delicious, waxy white grapes. Remarkably sweet and juicy, and unexcelled for wine, preserves or jellies.



**BLUE**  
The Concord

The finest blue or purple grape grown and the favorite everywhere, for every purpose.

**Choice Grape Vines from the World's Finest Vineyards**

The finest grapes in the world are grown in Southern Michigan, where the growers have bred the Grape vine up to the highest point of production. In that section of the country, it is nothing unusual to see single vines, growing in rather thin, sandy soil, each bearing a heaping bushel of choice table grapes. From the best of these vines, the bearing branches are removed, and made into "cuttings" 6 to 9 inches long. These cuttings are buried in moist sand, in dark, cold cellars, there undergoing a process known as "Callousing." After being properly "calloused," these cuttings take root as soon as they are planted in the spring, and rapidly develop into strong, thrifty, heavy-cropping vines, just like the vines from which the cuttings were taken. This "VICTORY VINEYARD" collection is made up of these "Calloused Grape Cuttings," taken from the best vines in the finest Southern Michigan vineyards. Plant them according to directions, (wrapped in each package), and give them the care they deserve, and they will yield loads of delicious Red, White and Blue grapes, every year, as long as you live.

**Six Fine Grape Vines for YOUR Garden  
All Six for 25 Cents**

Address American Supply Co., Quincy, Ill.

**COLD STORAGE EGGS**

Does the placing of cold storage eggs upon the market lower the price of eggs enough to make their production unprofitable to the farmer? There are many farmers who claim that it does injure the egg trade and seemingly they are right until the cold storage is investigated. Then it is found that the price of eggs tends to be more equal throughout the year—lower at certain times while higher at the time when the farmer has the greatest quantity of eggs to market. And this is due mainly to the cold storage system.

The production of eggs on the average farm is very irregular. March and April are the months of greatest production. It falls off greatly during the summer months and reaches its lowest level during the winter. On most farms the keeping of poultry is primarily for supplying the wants of the household, and the sale of eggs more or less incidental. It is possible for the poultryman to control the egg production in such a manner as to secure a much larger proportion of the annual product in the winter months, but the bulk of the egg supply is not produced under these conditions. Taking the United States as a whole there is little concentration in the poultry industry. Facts all show that egg production is a widely disseminated non-specialized industry and that the supply is not likely to be appreciably influenced by the action of a few individuals.

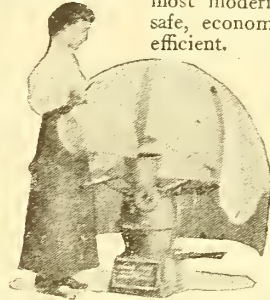
The supply of eggs upon the market

## The Right Brooding System Insures the Season's Profits

Authorities agree that most losses in the poultry business are due to inability to regularly raise good flocks of strong, vigorous chicks. Faulty brooders are a menace to the industry. Avoid this danger, insure success, by using

### PRAIRIE STATE BROODERS "First in Efficiency"

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corresponds to these conditions of production. The supply of eggs reaches the maximum in April and May and gradually falls off until the end of the year. Market quotations show that the price of eggs in Chicago remained about twenty cents during the period of greatest receipts. This calls for some consideration. There is no

doubt that the demand for eggs is very elastic. At a price between 20 and 25 cents eggs become an inexpensive substitute for meat and at the time of year (under consideration) (April and May) weather conditions are such that eggs can be put upon the market in good condition. Under these circumstances the consumption of eggs expands enormously. However the supply greatly exceeds the demand and prices drop. If the farmer had to depend upon the consumer alone for his market the prices would go still lower. It is at this period when the cold storage firms purchase many of their eggs for use during the period of scarcity of fresh eggs. According to the statement of one Chicago firm practically their entire stock is purchased during a few weeks in the spring when prices are usually low as a result of the abundant supply. Without question this speculative buying steadies the price during the spring months of excessive supply, distributes the consumption more evenly throughout the year, and secures for the producer a higher return for their eggs than could be secured without storage.

So it is seen that April is the month when the maximum quantity of eggs is put in cold storage. The stored eggs are drawn upon when the supply of fresh eggs falls below the market demand. Even in August and September stored eggs are used but the greatest demand comes in December and the aim is to dispose of the whole supply by the end of January. The most important thing for both producer and consumer is an understanding of the proper methods of handling eggs. Proper methods on the farms, in the country stores, in transit, in cold storage, in the hands of the retailers, and in the hands of the consumer. It is safe to say that more bad eggs reach the kitchens of America through other causes than from too great a length of time in cold storage.

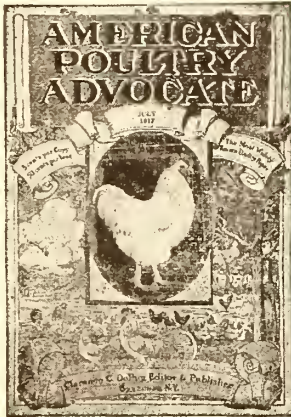
(Continued on Page 329)



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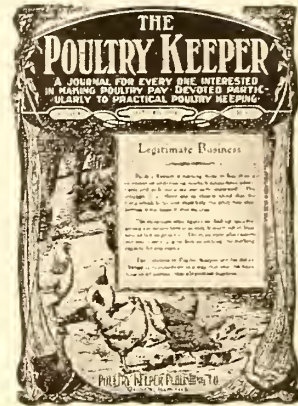
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## I MET A SKUNK

Editor Poultry Keeper:

When I returned from work one day I went out to the hen house to gather the eggs. In one nest I saw a coarse tail and in the next nest was an egg. I took the egg and came away while I stopped to think and wonder who could be the new party that had adopted me to provide for it. I finally decided it must be Jimmie Skunk who had arrived. I did not investigate as I am not at all curious on some subjects. I went to the house and we had our supper. After supper one of the family opens the back door and there came up to us out of the gathering shadows the rankest smell I have run across since Emperor William bit off more than he could chew. I went into the hen house one other evening and there was Jimmie as handsome as ever in a compartment I had supposed he could not get in; he had dug under the partition. He trotted into the next compartment and again I came away. You might have stopped to gather him to your manly bosom or to have patted him on the back but none of that for Horace, I am a little particular as to making acquaintances and prefer to be introduced in proper form rather than propel myself into the company of a party with a perpendicular disposition. Once again I met Jimmie. As I went into another house to gather the water dishes one evening he trotted down about ten feet from me and as I did not bother him he kept his ammunition to himself for which I was thankful as my clothes while not so very valuable are good enough where I work. I arranged things so Jimmie could not get in the hen house any more and I have not seen him since, but he has got my goat and I am expecting to meet him again almost any time and then things may come my way, yes indeed.

I was unable to get all the pullets I wanted last fall without paying out more than I would ever get back so I began the year with about half as many as I usually have and yet I have had more eggs in the last four months than I had last year in the same length of time. It was the mild weather that did it, for we had no snow and not much frost.

From now on I will run behind my record of a year ago for numbers will tell and I cannot expect twenty-eight hens to lay as many as sixty. I have Rhode Island Reds, White Wyandotte and Columbian Wyandottes. They seem to lay equally well on the same feed but the Reds want to sit too much to suit me and it is hard to break them.

As feed is a little lower and eggs some higher than last year, keeping hens pays better and this may encourage more people to go into the business. It is all a matter of managing for I made two dollars each on my hens last year and expect to make more this year. People who go out and throw corn to them and nothing else but water or a few crumbs from the table do not get results and are disappointed but others who take poultry papers and heed the advice

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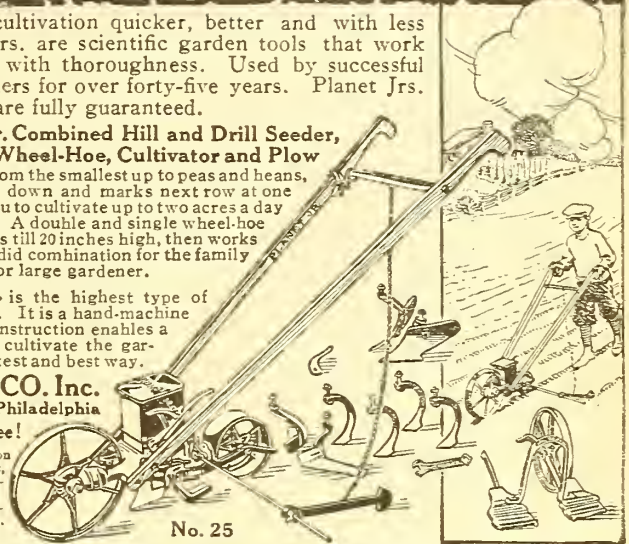
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No. 25

## COLD STORAGE EGGS

(Continued from Page 327)

Many eggs that reach the kitchen in good condition are kept in a warm room and allowed to deteriorate before the cook uses them. There is responsibility all along the line from producer to consumer.

If, however, by proper methods of handling from producer to consumer the eggs can be successfully kept from April to January, such storage will result in a great national economy. It is obvious that the cold storage industry should not be legislated out of existence if proper knowledge and control are all that is needed in order to avail the people of this economy without danger to the health of the consumers. It has been shown that the price to the producer is kept above the minimum cost of production for all seasons. And surely, with the tendency to equalize the annual price of eggs, cold storage does not prevent the consumer even in the poorer classes from enjoying an egg or two for breakfast. Government regulation, requiring that stored eggs be sold for exactly what they are, would be of great benefit both to the producer and consumer. If every egg sold carried a date upon it by the producer this would allow the consumer to discriminate between the city stored eggs and those brought directly from the farm. Also it would be a great help to extend the limits of knowledge regarding the proper handling and preserving of eggs.

The winter egg producers of a certain locality could prevent themselves from the competition of storage eggs if they placed a stamp upon their eggs which would enable the consumer to know just what he was buying.—Farmer's Guide.

Benjamin Franklin said: "It is easier to suppress the first desire than to satisfy all that follow it."

given them will get all that is coming to them and more sometimes.

I like hens and will get along all right if I don't meet Jimmie Skunk again at the wrong time.

Mass.

O. F. Black.

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Contains valuable information for breeders of any variety. Suitable for amateur and fancier. Articles by best breeders and judges. Color plates of S. C. White Leghorn and Brown Leghorns feathers by F. L. Sewell. Edited by J. H. Drevnstedt. 140 pages, 9-12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

## REDUCED PRICES

Mrs. Joe Hartman, Loraine, Ill., is making reduced prices on eggs from her prize winning Orpingtons for May and June. She is also offering for sale several prize winning males and females at a bargain. Her birds have taken first prize at Quincy and the state show in hot competition. Not only are they prize winners but have a great reputation as winter layers. They are the kind that win and lay and pay.

Benjamin Franklin said: "If you would be wealthy, think of saving as well as getting. Buy W. S. S."

## PREVENT CHICK BOWEL TROUBLE

## Raise All You Hatch.

How to avoid loss, how to successfully raise baby chicks and just what to feed them, together with a host of valuable information to poultry raisers, contained in a new 16 page bulletin written by Professor Quisenberry, Box 2401, Leavenworth, Kansas, said to be the best authority on poultry in the country. This bulletin mailed free to readers if you write at once.—Adv.

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give helpful talks to the inexperienced and ask  
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A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## METHODS THAT HAVE BROUGHT SUCCESS.

I am occupied eight hours every week day and frequently extra time, so that only a few hours can be devoted to riding my hobby, which is raising Single Comb Rhode Island Reds. My methods are as follows:

Usually by January first I have disposed of all my surplus stock, keeping about 30 hens and pullets, two cocks and two cockerels for my breeders. Then I separate them into four pens, mating as I see best. After they have been mated for about two weeks, I commence to gather eggs for hatching, gathering twice daily, and place them in a box which I can reverse twice each day, as this will keep the eggs from settling to one side.

When I have collected enough eggs to fill the incubator I start my first hatch, and when the hatch is over, I remove the trays, giving the chicks room in the incubator until they are four days old, reducing the heat to one hundred degrees. When the chicks are thirty-six hours old I place some luke-warm drinking water in the incubator, waiting twelve hours longer before giving them their first feed, which consists of hard boiled eggs, fine charcoal and cayenne pepper. I feed this four times each day, with my wife's assistance, for two days, and by this time I have a brooder heated to 100 degrees and the floor covered with fine sand and cut clover. Then the chicks are removed to the brooder and their diet changed to one of wheat bran, fine charcoal and brown bolted corn meal—this meal is just the ordinary meal browned in the oven—this feed continuing for ten days.

The brooder house floor is kept covered with sand and litter of some kind, and after they have learned the brooder, I commence to add some commercial chick feed to the other feed, throwing it among the litter so

that they will learn to scratch, as nothing will develop young chicks better than to let them work for their living.

When four weeks old I prepare a dry mash for them, which consists of 30 per cent. bran, 10 per cent. corn meal, 10 per cent. shorts, 10 per cent. fine meat scraps and one-fourth per cent. fine salt, feeding it in hoppers so they can eat at any time. As they are at the same time working for the chick feed, about this time I begin to see them grow.

I usually keep them in the brooder house about six weeks, then they are moved to the colony house in the yard, using a heated hover to keep them warm on cold days and nights. After this I begin to feed ground corn, wheat and oats, at the same time giving them all the dry mash, charcoal and grit they want to eat, and by the time they are 10 or 12 weeks old I have friers weighing from one and a fourth to two pounds. They are at this age culled very close, and the culls are marketed at a fancy price. The rest are crowded to make the age of four or five months. When they once get started to laying they will generally keep it up all fall and winter. This method is followed with each hatch, and you would be surprised to see how many you can raise on a small lot.

My experience has been that when pullets are crowded to maturity, and forced to heavy laying, the fertility of the eggs for hatching is greatly impaired. For this reason I am very careful in selecting my breeders. But to make the business profitable you must bring your pullets to early maturity, and when you do this you will have early layers to bring in the profits.

I consider my success is due to one thing largely, and that is this—keeping all of my yards, houses, nests and drinking vessels in a sanitary condition; also keeping plenty of fresh water within reach at all times, as chickens must have plenty of fresh water and pure air to keep them in a healthy condition. In the early spring or at any time when I haven't lawn clippings, I use sprouted oats, which I find to be a very helpful food.—An address by J. W. Gum at the Missouri State Poultry Show, St. Louis.

## SUCCESS WITH POULTRY

A text book for the beginner and for all persons interested in better



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poultry and more of it. Contains the "secrets of success," both for pleasure and profit. New and valuable information on all branches of the poultry business. 176 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

## SWAT THE COCKEREL — MAKE HIM A CAPON

While you are swatting the old "rooster" swat the young one and make him a capon. June is the best time for caponizing the surplus cockerels. If young birds are beginning to develop combs and wattles, they are ready for the operation. The heavy breeds should be caponized at about 2 to 2½ lbs., the light breeds 1½ to 2 lbs. Rocks, Wyandottes, and Reds make the choicest capons.

Many people have hesitated going into this phase of poultry production because of the common opinion that the operation was a difficult one. This is not the case. With very little experience an operator should not have over 5 per cent loss. Since these nearly all result from a severed artery at the time of the operation, such birds can be killed at once, and used for food. One can become familiar with the details of the operation from the directions which accompany each set of instruments, or from Farmers' Bulletin 452, U. S. Department of Agriculture, Washington, D. C.

Practice shows that a 10 lb. capon can be grown on the same amount of feed and in the same time as an 8 lb. cockerel. On the most undeveloped markets capons bring from three to six cents per pound more than cockerels, and when well established seldom sell for less than eighteen to twenty-five cents per pound.

It is not only the greater weight and high selling price that makes capon raising attractive, but their sweet meat of finer flavor wins a place for them on every table.—C. S. Anderson, State Agricultural College, Fort Collins, Colorado.

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# Questions and Answers

By Russell T. Barr

## Cockerels for Breeding.

Would it be all right to use for breeding two young cockerels that I raised from my flock last year? I sold the old rooster and haven't been able to get another one such as I want. Would eggs fertilized by the young cockerels be good for advertising?  
E. P. Michigan.

You are having the same experience many others are having this year in finding just what is wanted for breeding purposes. People who have good breeding birds are holding on to them this year as never before, and you can't blame them for doing so. Under the circumstances you will have to make some shift that will permit you to use the young cockerels, though it would be better policy not to use males that are too young as breeders. In order to insure best results wherever eggs are to be used for setting, you should be sure that the young cockerels are mated to hens that have a good record as producers. Do not mate the cockerels to pullets if the eggs are to be used for setting, as the chances are the fertility might not be satisfactory. With good reliable hens the probability is that the cockerels will be all right, though there is some risk perhaps. The point I am getting at is this, with cockerels which have no record as producers the results may be all right, but you can't be positive of this the first year they are used. If you use good old hens to mate with the cockerels the results should be very satisfactory.

## Quality Not Appreciated

I have been raising the chickens for the past seven years and have been to great expense in building up the flock to the point where it has real quality. My neighbors, however, don't want to pay any more for quality sittings than they do for scrub eggs on the market. I notice that they want my eggs, though, because they watch for them and when I sell the surplus on the market they try to nab them up, if possible. How can one build up a pure bred business in eggs for hatching in a community where such a situation prevails? Would like to know what you can suggest.  
L. M. C., Illinois.

Since I do not know any of your neighbors and they do not know me I won't hurt any feeling when I say that such a bunch of neighbors are a disgrace to any community. With neighbors like this blocking the wheels of progress, it would take the world a long time to get anywhere. I note, however, that there is some hope for these folks, since they will sneak around to the back door of the grocery store and try to buy your eggs in preference to any other eggs. This shows that they have reached the point where they appreciate a good thing and want it, if they can get it without paying for it. In time they will get to be real business men and breeders, so keep up the good work. In the meantime I would encourage them to more progress by not selling any but infertile eggs on the market. Pen up your breeders

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and do not let the male birds run with the rest of the flock at all. The hens without a male bird will lay just as well and your "progressive" neighbors will have a merry time trying to hatch the eggs when they set them. If you have fertile eggs in excess of the demand for setting you could use them yourself, or put a classified advertisement in Poultry Keeper and sell your good eggs at a distance. If you do this I think it will not be long till the folks who have been hiding to see when you took eggs to the store, will be coming up to your front door like gentlemen to buy real egg at right prices. Try it and see.

## Imported Eggs

Is there any danger that eggs imported from other countries are going to interfere seriously with the egg business in this country? It has been intimated that this might be a drawback to engaging in the poultry business.  
S. B. N., Ohio.

As long as the American public keeps the taste which it now has for "strictly fresh" eggs I think there is very little danger that the eggs which may be imported from other countries will interfere very much with the business of producing fresh eggs here at home. Some time ago it was intimated that eggs might be imported in great quantities from China, but in the meantime I understand that importations from China have fallen off, while the home production has increased greatly. Do

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45, Aurora, Colorado.

not let reports like this deter you from engaging in egg production on a sensible business like basis. There will surely be a good market for all the eggs that are produced, especially while the prices of meat remain high. Eggs are the next best meat food available to the American public.

### White Diarrhea

I want some advice as to how it is best to fight against White Diarrhea before ever it gets started in my chicks. I have had a terrible time trying to get along with the disease after it has put in an appearance. Tell me any precautionary measures I can take to prevent the trouble.

T. K. G., Pennsylvania.

This disease may so fix itself on flocks that the hens become carriers of the disease and lay eggs which are infected to begin with. Where this is the case the egg production of the infected hen is cut down somewhat, but of course the eggs that are laid come in the spring and when the eggs are set the chicks hatched become immediately the subjects of this dread disease. It may be necessary to do away entirely with the stock you have been using in order to get rid of the trouble. In buying new stock, either eggs or birds, you must be sure that you buy from flocks that have not had the disease. Never breed from birds which have had white diarrhea, keep everything as clean as possible, and use disinfectants intelligently and often. It is claimed that an examination of the blood of a fowl will show whether the disease is present or not, but of course this method is hardly available for the average poultryman. But in any event it is far wiser to take every pains to prevent the trouble, rather than let it develop and then try to fight it. How to deal with the disease after it has appeared is another question. The above are only preventive measures.

### Fitting Birds for Show

Please tell me how to fit birds for the show room and is the low tail which some Leghorns have a matter of breeding, or is it the result of training alone?

M. P. F., Wisconsin.

The matter of fitting birds to exhibit is a long story—much too long to consider here. Briefly they must be tame, which can only result from frequent handling. They must be clean, must be free from the defects which disqualify, and in many cases they must be taught to pose before the judge. The subject is a big one and is often best learned by visiting the shows and becoming acquainted with those who have been exhibiting and know the ropes. In the future it may be that Poultry Keeper will publish some articles along this line. The carriage of the tail in the Leghorns may be considerably modified by training. But there are strains which have much lower carried tails than other strains, and these are the strains most in demand where a low tail is demanded for exhibition purposes.

### Meat Scrap, Oyster Shell, Etc.

Would like to know if you know of any firm where I could buy my meat scraps, oyster shells and other poultry supplies at rock bottom wholesale prices.

M. P. F., Wisconsin.

A little investigation and inquiry

in Chicago or Milwaukee ought to discover some place where you can make your purchases to good advantage. You no doubt have business connections in both places who could assist you in this matter. Personally we do not know the names of firms in either place with whom you could deal. There are usually firms advertising in the columns of this magazine which are both reliable and reasonable as to prices. Our readers and subscribers are urged to look over the advertising columns always, so that they may not miss anything which might be of special interest in this line. If I were you I would write to some of my friends in the larger cities in my general locality and see if an advantage can be gained by purchasing there, over buying nearer home.

### May Be Rheumatism

Something affects the legs of my Brown Leghorn pullets which makes them stagger and tumble around when they try to walk. They appear to eat well and in every other respect seem to be in good shape, so far as I am able to see. They linger along for two weeks perhaps and then they die. Do not have many affected, only one occasionally.

M. P. F., Wisconsin.

Your letter does not say whether there is any temperature in the birds which have this difficulty. The symptoms which you do name seem to indicate rheumatism and it is probable that a temperature would be found also, if the tests were made. Swollen joints should be found also and indications of pain upon moving of the joints. Exposure to cold or drafts or overfeeding of meat are probable causes. House the afflicted birds in dry, clean quarters where the sun has full chance to shine in. Withhold meat food and feed as largely as possible of vegetables, with clover in the mash feed. Common cooking soda, a level teaspoonful to a quart of water would be good. But above all try to eliminate the conditions which tend to produce the condition, this is especially important if your stock has a tendency that way. Rheumatism is not contagious, but will be developed in other birds by the same conditions which produced it in the birds now suffering.

### Use the Boys

We are farmers and are of course busy with the farm work, but I am sure we could get much better results with our hens, if they could get a little better care than they have had. There are two boys in the family who are not old enough to do farm work and I'm wondering how I could get them interested in helping me with the work.

Mrs. C. H. D., Indiana.

You have put your finger on a point which is of vital importance in farm poultry keeping, and one on which I have been wanting to say something. There is a vast amount of boy-energy going to waste in this land, simply because it has not been properly directed and looked after. This neglect has resulted from various causes, but it has got to be remedied if we are going to do our best. My suggestion would be that you give your boys a financial interest in the chickens, so that they may feel that the results of their work are of some real consequence to themselves. Boys are often as much interested as older people in this phase of the thing and

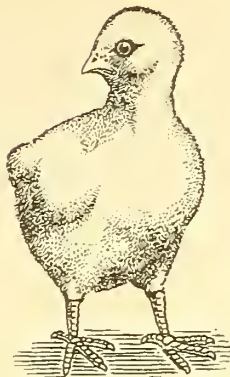
it is never too early to begin to teach them to plan and to look forward to the results of their work. Aside from any actual results in financial gain, which will in this case of course be small, it will give the boys a grasp of the business side of the undertaking which may be valuable to them in the future. It is a common mistake to withhold from boys any knowledge of business management, because they are not thought equal to it. A little care on the part of fathers and mothers in arousing the business instinct in boys and girls would be a move in the right direction and would pay now and in the future in good dollars and cents. There is nothing better for boys on the farm to take an interest in the poultry business for several reasons. With chickens the results are reasonably quick, which the boy demands to keep his interest; much of the work is well within his strength; if guided a little the responsibility is not greater than the boy can assume; the opportunity for nature study and the interesting scientific problems involved in the life and development of the chick, are quite enough to overcome any monotony that may attach to the work, especially where the interest of the juvenile poultryman has been aroused by proper explanations by his elders. Just what the plan will be for giving the boys a financial interest in the chickens will have to be worked out by you, but make it a real interest and have them feel that they are real partners with you in the undertaking for profit and for pleasure

**The Baby Chick**

I have some baby chicks coming in the near future and would like a little advice as to how to take care of them. This is my first experience with day-old-chicks.

S. B. K., Kentucky.

This is a matter to be well figured out in advance of the arrival of the baby chicks, as preparation at the last minute are not satisfactory. The preparations will depend of course on the general facilities you have and upon the number of chicks to be cared for, also upon the kind of weather conditions to be met. At all events they must be protected from all animal enemies; must be kept warm—which means some form of artificial heat—or a good heatless brooder, and they must be protected from dampness and from drafts. A failure to observe any one of the above precautions will mean disappointment, if not disaster in the undertaking. If you will have only a few, a few broody hens if available, will save you many moments of anxiety and will give the chicks which artificial means cannot duplicate. Where the chicks come from a large hatching concern printed advice is often sent with the chicks telling how to care for them, especially with reference to feeding and care during the early days. There is no better place to get advice than from your state college, where they are in position to help you with your particular problem as no one else can.



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**TWO MILLION FOR 1919**

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**FORTY TONS OF EGGS**

Best System of Incubation. Strongest Chicks Produced  
The air in our incubator is completely changed every three minutes and moisture furnished by live steam.

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1973 W. 74th Street, Cleveland, Ohio

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R. D. Swadner, Elmont, Va., has a flock of 2240 chickens. He has been using "Oculum" for several years. He has used over 25 gallons. Here is how he orders it.

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Send the "Oculum" Co. a dime and get a trial bottle of "Oculum." and booklet which will show you how to control disease and get more eggs with less labor.

"Buy what thou has no need of, and ere long thou shalt sell thy necessities."—(Benjamin Franklin.) Intelligent saving means having necessities. Buy W. S. S.

**Cause of White Diarrhea**

White Diarrhea is caused by the bacillus Bacterium Pullorum with which chicks are often infected when hatched. The germs multiply very rapidly and one infected chick may infect the entire brood. Prevention is the best method of combating the disease and should begin as soon as chicks are hatched. Intestinal antiseptics should be given to kill the germ. Mercuric Chloride is one of the most powerful remedies, but, being a rank poison, its use is not to be recommended as long as there are safe, harmless remedies on the market that will do the work.

**How to Prevent White Diarrhea**

Dear Sir: Last spring my first incubator chicks when but a few days old began to die by the dozens with White Diarrhea. I tried different remedies and was about discouraged. Finally, I sent 50c to the Walker Remedy Co., Dept. 93, Waterloo, Iowa, for a box of their Walko White Diarrhea Remedy. It's just the only thing for this terrible disease. We never lost a single chick after the first dose. We raised 700 thrifty, healthy chicks, where before we never raised more than 100 a year. I'd be glad indeed to have others know of this wonderful remedy. Ethel Rhoades, Shenandoah, Ia.

**Don't Wait**

Don't wait until White Diarrhea gets half or two-thirds your chicks. Don't let it get started. Be prepared. Write today. Let us prove to you that Walko will prevent White Diarrhea. Send for 50c box on our guarantee—your money back if not satisfied. After April 30, send 2c extra for War tax. Walker Remedy Co., Dept. 93, Waterloo, Iowa.

**Free** Write today for free circular of plans, prices, valuable information about

**INCUBATORS, BROODERS.**

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**Rheumatism**

**A Home Cure Given by One Who had it**

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case. I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but, understand I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay. Write today.

Mark H. Jackson, No 63-E Gurney Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true—Pub.

# Rabbits and Pet Stock

## WHAT TO FEED RABBITS IN THE SUMMER TIME

J. E. Johnson.

I planted nearly a quarter of an acre of carrots, part are Early Ox-horn and others are Downers-Long Orange. Big yellow Belgian and Big Giant White. The early varieties I begin thinning as soon as they are as large as my little finger and feed tops and all and thus the thinning process goes on all summer and furnishes one good meal each day for 150 to 200 rabbits.

Then I have several rows of Chicory which is excellent rabbit food. I use the Whitlof or French Endive variety of chicory as it has large leaves and is a perennial, coming from the root the second year and stands considerable frost without injury. I have a patch of orchard grass which is the earliest of all grasses and furnishes fine food early in spring before clover is well started. I also feed a little plantain, dandelion, etc., but will continue to feed just a little oats and dry clover hay all summer.

One of my boys who enlisted in the army at 18 came home last week so we killed the fatted calf—a nice Belgian Hare and it made a fine feast.

Our other son who is in the navy hauling our soldier boys home from France hopes to be home soon and a big fat New Zealand will furnish our roast. We had several does of New Zealands with their young in the show windows of two stores in town and they drew a big crowd and won lots of flattering praise and comment from old folks as well as children. I had calls on the phone from three who wanted to buy a pair of those pretty New Zealands. The New Zealand wins the admiration of all for its pretty clean reddish buff color. A doe with her young about four weeks old arranged properly in a store window on Saturday will draw trade for the store and sell a lot of rabbits. Try it out and have some circulars laying near at hand with prices and information so the merchant can hand them one and save answering so many questions. It will surprise you at the way people go wild over them.

Use a space 3 to 4 feet square and have a trough of oats and some clover hay and the little fellows will nibble away and romp and play and win their way to the hearts of the people.

## PRESERVATION OF EGGS

Since egg production reaches its highest point in the spring when the price is consequently low and since the reverse is true during the winter months it becomes necessary that some method be found for equalizing the market at different seasons of the year. Eggs form a very import-

ant part of our food supply and it is, therefore, important that they should be available to the public at a reasonable price at all times. One writer has stated that eggs are included in over 80 per cent. of our baking and cooking receipts, not including those recipes for preparing fish or other flesh. Eggs are used in more recipes than is milk. Eggs often form the entire diet in the case of invalids. There are over thirty ways in which they may be served, thus giving them a place in nearly every person's diet.

The price of eggs varies over a wide range during the year, wider probably than that of any other stock product. Poultrymen have been trying for many years to develop winter laying strains even as the dairymen have developed winter dairies. The great majority of hens, however, still continue to furnish their maximum output during the months of March, April and May.

The placing of eggs in cold storage has developed only in comparatively recent years and has helped toward the equalizing of prices to some extent. It is the most economical way of preserving large quantities of eggs for any considerable length of time and it is the method that is used commercially. Commercial cold storage enables the poultryman to dispose of his eggs at a profit the year round, the price being held a little higher during the spring months when eggs are cheapest. During the winter it enables the consumer to get eggs of good quality at a moderate price. The cold storage plants are, of course, in the hands of capitalists because of the necessarily heavy investment in machinery and suitable buildings.

Although this method is undoubtedly the best and practically the only method used commercially, it is far too expensive to be practiced in a small way. Fortunately, there are other methods which may be successfully used on a small scale. Many different methods of preservation have been tried some of which are: packing eggs in dry table salt, bran, oats or sawdust; preserving in dry wood ashes, powdered sulphur, powdered gypsum, salt brine, slaked lime and salt brine, salicylic acid, po-

tassium permanganate, lime water, solutions of water-glass, gum arabic and formalin, or gum arabic and salicylic acid; dipping in sulfuric acid and sealing up in glass cans, covering with vaseline, paraffine, butter or lard. Of all these methods, the lime water and salt brine and the water-glass solution have given the best results, and of these two the latter is the better. Eggs that have been preserved in the lime water and salt brine have a peculiar chalky taste.

## LIME WATER AND SALT BRINE PRESERVATIVE


Slake four pounds of good quick lime in a small amount of water, then mix with four gallons of pure water and add two pounds of salt. Stir this thoroughly several times, then allow it to settle and pour off the clear liquid in which the eggs are to

## NEW ZEALAND, RED RABBITS AND RUFUS RED BELGIAN HARES


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before you set them under hens or put them in the incubator. Whether you buy or sell eggs for hatching discard every one that does not pass the Magic Egg Tester. Don't try to hatch weak eggs—it kills the profits. Regulates moisture in the egg chamber perfectly. Demonstrated at poultry shows everywhere. This is positively the only way to tell which eggs won't hatch before you begin to incubate them at all. Read on:  
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**MAGIC EGG TESTER WORKS, Dept. E, Buffalo, N. Y.,** also Bridgeburg, Can.



be preserved. This formula will make enough liquid for 30 dozen eggs.

**Water-Glass Solution**

The commercial water-glass solution sodium silicate may be obtained from any drug store at a cost of about 20 cents per quart. Mix 1½ quarts of this solution with 18 quarts of pure water; water that has been boiled is preferable. Stir these until they are thoroughly mixed. A stone jar is the most suitable receptacle and it should be scalded thoroughly two or three times to make sure that it is perfectly clean. Two five gallon jars are sufficient for thirty dozen eggs, using the amount of solution prescribed above. Place the eggs in the water-glass, see that the top eggs are covered by at least two inches of the liquid, and cover the jars to prevent evaporation. Place them in a cellar or room where they will be undisturbed during the year.

**Suggestions.**

Keep the whole flock in as near a perfect state of health as possible as eggs are often infected from a diseased condition of the hen and will not then keep as well.

Give enough shell forming food to the hens so that the shells will be strong and uniform in thickness. Thin shelled eggs do not keep well.

Make proper nesting places and keep them clean so that the eggs may not be infected while in the nests.

Gather the eggs each day.

Keep the gathered eggs in a dry cool room or cellar where the sun's rays do not fall directly upon them.

Preserve only absolutely fresh eggs. Stale eggs will not keep in any preservative. Place eggs in the preservative within twenty-four hours after the time they are laid. If in doubt as to their freshness, candle them, or see if they sink when placed in a dish of pure water. If an egg sinks it is reasonably fresh.

Do not preserve dirty eggs nor eggs that have been washed. The washed egg will not keep because the shell has been moistened, and the dirty eggs will become tainted in flavor.

Do not try to keep eggs longer than one year.

Do not use the same liquid more than once. A new lot is cheaper than a case of spoiled eggs.

Spring eggs will keep better than summer or fall eggs. April eggs best.

Infertile eggs keep better than fertile eggs.

Rinse the eggs in water after removing from the preservative. If in good condition when removed from water-glass solution they will usually remain good for at least two weeks.

Water-glass eggs are practically as good as fresh eggs for all cooking purposes. If it is desired to boil them, prick a small hole through the large end of the shell before placing them in the water. The pores of the shell have been sealed by the water-glass solution and without this



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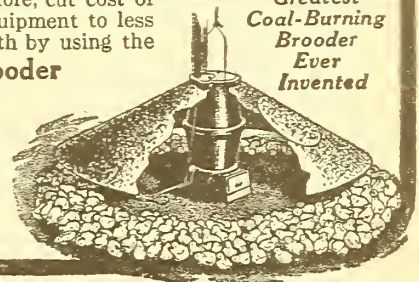
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I offer Baby chicks and hatching eggs from the five most popular breeds in America, viz: S. C. W. Leghorns (200 egg strain, Greater Chicago Show winners, St. Louis, Mo. winners) S. C. Rhode Island Reds, White Rocks, Barred Rocks and White Wyandottes. All parent stock have the farm range—nature's way—and baby chicks hatched from this stock have the "Pep" and vitality to grow, lay, and prove a profitable investment for you. All baby chicks are hatched in our modern incubators—into which fresh air is constantly flowing and foul air is removed.



- WHITE LEGHORNS**
- WHITE ROCKS**
- WHITE WYANDOTTES**
- BARRED ROCKS**
- RHODE ISLAND REDS**

Prices on Baby Chicks Parcel Post paid and delivery guaranteed: Grade A, White Leghorns, \$20.00-100; \$12.00-50; \$7.50-25. Grade B, \$15.00-100; \$8.50-50; \$5.00-25. Hatching eggs that hatch one-half the price of chicks.

Prices on Rhode Island Reds, Barred Rocks, White Rocks, White Wyandottes are as follows: \$18.00-100; \$10.00-50; \$6.25-25. Hatching eggs that hatch, \$2.25-15; \$5.00-50; \$9.00-100.

I prepay postage on all chicks and eggs. A catalog telling all about our methods awaits your inquiry. As the demand for our chicks is greater than the supply you had better order chicks as early as possible.

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**SPLENDID LAYING STRAIN** Rose Comb Anconas. Eggs, \$1.75 and \$4.00 per 15; \$4.75 per 50; \$8.50 per 100. Infertiles replaced at half price. No circulars. Order from adv. Mrs. E. J. Crawford, Owatonna, Minn. 2-12

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**ROSE COMB BUFF ORPINGTON EGGS** for hatching, \$3.00 per 15; \$5.00 per 30. Mrs. Orren Porter, Clear Lake Iowa. 4-3

**S. C. BUFF ORPINGTON EGGS**, \$2.00 for 15. Extra layers. C. A. Moxley, Taylorville, Ill. 3-3

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**ALDRICH WHITE ORPINGTONS**—Cockerels for sale. Eggs from Indianapolis show winners. \$2.40. Fred Bilyen, Campbellsburg, Ind. 2-4

**ALDRICH STRAIN WHITE ORPINGTONS**—Eggs, \$3.00, 15; \$4.00 30. The Wleneke Orchards and Poultry Yard, Fleidon, Ill., R. No. 3. 3-3

**S. C. WHITE ORPINGTON EGGS**, from Aldrich and Morris strain, \$3.00 and \$1.50 per setting. Neal Myers, Queen City, Mo. 3-4

**ORPINGTONS**

**S. C. BLACK AND WHITE ORPINGTONS**. Bred to lay. Eggs for hatching, \$2.00 per 15. E. F. Lutz, Monewoc, Wis. 4-4

**WHITE AND BUFF ORPINGTONS**—Eggs, \$1.50 per 15. White Leghorn eggs, \$1.50 per 15. Arthur J. Frelvoegel, Mascoutah, Ill. 3-3

pin hole the expanding air within the shell would burst it.

Leslie E. Card,  
Connecticut Agricultural College,  
Storrs, Con.

**Poultry Errors Cause Disease**  
(Continued from Page 326)

their growing muscles and work in the dirt.

A fairly deep scratching litter should be provided in the brooder after the first few days and outside the hover so that the grain may be buried and the chicks have to scratch vigorously. During the day when the chicks are scratching in the litter and running out of doors the temperature under the hover may be kept high to warm a chick quickly when it gets chilled outside, but at night when they are all under the hover so much is not necessary because their own bodies radiate a lot of heat. Too high a hover temperature at night enervates and saps the chick's vitality.

Benjamin Franklin said: "Money can beget money, and its offspring can beget more." Buy W. S. S.

**BREEDER'S CARDS**

**BLUE ORPINGTONS**

**BLUE ORPINGTONS**—Eggs, \$2.00 per setting. John Unangst, Freeport, Ill. 2-4

**BROWN LEGHORNS**

**KULP'S BIG ROSE COMB** (260) and Single Brown, 266 records. Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

**S. C. BROWN LEGHORN EGGS**, from world's best stock, \$1.50 per 15; \$7.00 per 100. R. Watson, Villa Ridge, Ill. 3-3

**S. C. B. LEGHORN EGGS**, from heavy laying strain farm range. 15, \$1.25; 100, \$6.00. Chas. Sabin, Princeton, Ill. 3-4

**S. C. BROWN LEGHORNS**—Eggs, \$1.25 per setting. Hattie Likes, Beverly, Ill. 3-3

**BROWN LEGHORNS**—Famous Everlay Strain, America's greatest winning laying strain. Winter layers. Eggs reasonable. Circular. Everlay Farm, Box 44, Portland Ind. 8-4

**S. C. BROWN LEGHORN EGGS** at \$1.50 per 15, or \$3.50 per 50. Eggs from apical mated pens, \$5.00 per 16. Baby chicks, \$15.00 per 100. Ernest Barr, Allerton, Iowa. 8-3

**KULP'S LINE R. C. Brown Leghorns**. Eggs, 100 for \$8.00; 15 for \$1.50. W. G. Yearly, Granite Falls, Minn. 3-3

**WARNOCK'S S. C. BROWNS** are heavy layers, big winners at Chicago National. 50 choice cockerels. Eggs, \$8.00 100. W. G. Warnock, Geneseo, Ill. 2-4

**BUFF LEGHORNS**

**PEDIGREED BREEDERS**—Half price. "Business Beauty" strain. Outbred, large. Extra layers, big white eggs. Catalog. Joseph Benedict, Chevy Chase, Maryland.

**SINGLE COMB BUFF LEGHORNS**, prize winners; bred to lay; full egg basket strain of winter layers. Eggs, 15 for \$1.50; baby chicks, 15c each. H. E. Hancock, Marengo, Ind. 2-8

**EGGBRED BUFF LEGHORNS**, (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

**SINGLE COMB BUFF LEGHORNS**—Special matings, \$10.00 100; utility, \$7.00 100. Free circular. Eli Rosenberg, Tiffin, Ohio. 2-4

**EGG BRED SINGLE COMB Buff Leghorns**. 15 eggs, \$2.50. Illinois State Show winners. H. Wolfe, Marissa, Ill. 3-3

**SINGLE COMB BUFF LEGHORN EGGS** from solid golden buff, egg bred stock, \$1.25 per 15; \$6.00 per 100. Arthur Worthington, R. 3, Two Rivers, Wis. 1-12

**BREEDER'S CARDS**

**WHITE LEGHORNS**

**THORNBURG'S FERRIS STRAIN** White Leghorns, as good as the best. Better than the rest. Eggs, 15, \$1.00; 50, \$3.00; 100 \$6.50. Win. Thornburg, R. 1, Campbell, Mo. 3-3

**HATCHING EGGS**—Tom Barron S. C. White Leghorns, vigorous stock, heavy layers, \$2.00 setting. Satisfaction guaranteed. Avery Crawford, Lexington, Ill. 3-4

**FIRST PRIZE SINGLE COMB** White Leghorns, Pittsburg, Pa., January, 1919. Free catalog telling all about these egg-bred prize winners and my methods. Alba Farm, Jamestown, Pa., Box 43. 3-3

**ROSE COMB WHITE LEGHORNS**, Elephant strain. Winners, layers. 18 years breeder. Big white low tailed males, \$3.00 up. Eggs, 15, \$3.00. 144 \$8.00. Circular. Testimonials. Guarantee. Rogera Ranch, Pleasanton, Iowa. 3-3

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**S. C. WHITE LEGHORN CHICKS**, \$15.00, 100; \$70.00, 500. Eggs, \$6.00, 100. Large lop comb layers. E. H. Burcham, Medora, Ind. 3-4

**YOUNG'S STRAIN DIRECT** S. C. White Leghorns, \$25.00. Highest Hogan testing male heads best pen. All select hens. Eggs, \$2.00-\$3.00 per 15. 30 pullets and one year old hens, \$2.50 and \$2.00 each. Edward Hayden, Green View, Ill. 3-4

**SINGLE COMB WHITE LEGHORN**—236 egg winter, laying bred, healthy, thrifty, laying built, two months old pullets 80 cents. Lay 4 to 5 months old. Lay 40 per cent more eggs than hens. B. J. Woodmansee, Highland, Ohio.

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**SINGLE COMB WHITE LEGHORN** Baby Chicks, \$18.00 per 100, via Parcel Post charges prepaid. Safe delivery guaranteed. English and American strains. Bred on separate farms. Catalog free. K. I. Miller, Route 33, Lancaster, Mo. 2-4

**EGGS FROM OUR PURE BRED**, heavy laying strain White Leghorns, \$1.50 per setting. Special matings. Grafton Poultry Farms, Grafton, Wis. 2-4

**LOCUST VALLEY WHITE LEGHORNS**. Hatching eggs from sweepstake winners. Locust Valley Farm, Brookfield, Mo. 2-4

**ROSE COMB WHITE LEGHORN** eggs for hatching. \$2.00 per 15. Earl W. Lowell, R. 2, Sharon, Wis. 4-3

**BARRON'S WHITE LEGHORNS**, 248-282 egg lines. Circular. Miss Austlin Rosser, Butler, Missouri. 2-3

**SINGLE COMB WHITE LEGHORNS** exclusively. Trapnested 250 egg strain. Chicks, \$7.50 for 25; 100, \$25.00; 1000, \$200. Eggs, \$2.00 for 15; \$10.00 per 100; \$8.00 per 1000, prepaid Express or Parcel Post. Safe delivery guaranteed. They are large white birds, in them you should invest. A. E. Rollins, Indian Springs, Ind. 3-3

**SINGLE COMB WHITE LEGHORN** eggs for sale at \$2.00 per 15. Selected for large egg production. College View Poultry Yards. L. A. Todd, Ottawa, Ill. 2-4

**BREEDER'S CARDS****BARRED ROCKS**

**PARK'S BRED-TO-LAY BARRED ROCKS**, exclusively, direct from Park's best pedigreed stock. Large, beautiful, vigorous, prolific winter layers. Selected eggs, 15, \$2.50; 30, \$4.50; 50, \$6.00; 100, \$10.00. W. G. Meradith, Danvers, Illinois. 4-4

**BARRED ROCK EGGS**, finest stock. Free catalog, \$7.50 per 100. G. W. Sword, Lanark, Ill. 4-3

**BARRED ROCK EGGS** from selected layers, \$1.50 per 15; \$4.50 per 50; \$8.00 per 100. Special matings, \$5.00 per 15. Ralph B. Little, Fairmount, Indiana. 2-4

**IMPERIAL RINGLET BARRED ROCK EGGS** for hatching. Winning at Iowa State Fair, Coliseum Des Moines and Newton. Pullet mating per setting from flock, \$1.50; \$3.00, \$4.00 and \$5.00 from pens. Adolph Ruchtli, Newton, Iowa. 2-4

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**BARRED ROCK EGGS**—From hardy, vigorous stock, farm range, hock headed by males from Mittendorf's bred-to-lay, trap-nested, pedigreed stock. \$1.50 per 15; \$7.00 per 100, prepaid. Mrs. Harry Dillon, Waynesville, Ill.

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**THE FAMOUS "RINGLET" STRAIN** Barred Rocks. Both matings. Eggs, \$5.00 setting. Farm range, \$2.00. Mrs. H. V. Elrod, Orleans, Indiana. 3-3

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**EGGS** 13 for \$1.00; 30 for \$2.00, thoroughbred Rocks, Wyandottes, Reds, Hamburgs, Leghorns. Thirteen varieties, thirty-sixth year. Houdans, 13 for \$1.50. Catalogue. S. K. Mohr, Coopersburg, Pa. 2-4

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**BREEDER'S CARDS**

**GUINEAS**

**PEARL GUINEAS**—Eggs, \$1.00 per 15; \$2.00 per 36; \$5.50 per 100. Hoaks Poultry Yards, Spencerville, Ohio. 5-3

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**EGGS FROM TOULOUSE AND EMDEN GEESE**, \$3.00 per 7. Pekin Duck eggs, \$3.00 per 15. U. R. Fishel, Box K, Hope, Indiana. 4-2

**MAMMOTH TOULOUSE GEESE**, good size and color. Eggs, 25 cents each. Henry Tobias, Viroqua, Wis. 3-3

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**BANTAM, EGGS**, Black Tall Japs, Golden Seabright, White Cochin. Also Rose Comb Brown Leghorns. 15 eggs, \$1.25, postpaid. Fertility guaranteed. Geo. F. Terry, Palmyra, Mo. 3-3

**CAMPINES**

**SILVER CAMPINE** hatching eggs from selected fancy and utility birds, \$1.50 and \$2.00 per 15. W. D. H. Bedell, Clinton Corners, New York. 4-2

**BEAUTIFUL SILVER CAMPINES**—240 egg strain, \$8.00 for 100; \$5.00-50; \$2.00-15. Mrs. Francis Cuiver, Culverdale Farm, Red Oak, Iowa. 4-2

**BREEDER'S CARDS**

**DARK BRAHMAS**

**DARK BRAHMAS** of the best blood in the U. S. Dr. W. H. McCoy, Gentryville, Mo.

**LIGHT BRAHMAS**

**LIGHT BRAHMA EGGS** from large boned, healthy flock. 100 eggs, \$7.50; 50, \$4.00; 15, \$1.50. Mrs. Sadie Deuser, Hedrick, Iowa. 3-4

**LIGHT BRAHMA EGGS**, 15, \$2.00. Colored Muscovy duck eggs, 12, \$2.00, prepaid. Safe delivery guaranteed. W. H. Hankins, Stratford, Mo. 3-3

**HATCHING EGGS**, from large well marked Light Brahmata at \$2.00 per 15. Cockerels, \$3.00 each. Henry Tobias, Viroqua, Wis. 3-3

**ANDALUSIANS**

**TUTHILL'S BLUE ANDALUSIANS**. Three entries, three ribbons Madison Square Garden, 1919. Third in Storr's laying contest. Stock and eggs for sale. Tuthill's Poultry Farm, Waverly, N. Y. 2-4

**SINGLE COMB BLUE ANDALUSIANS** exclusively. Eggs, \$1.50 per 15; \$4.50 per 50, delivered. W. W. Garvey, Chilhowee, Mo. 3-4

**BLACK POLISH**

**WHITE CRESTED BLACK POLISH** (exclusively). Home of quality and beauty. Eggs, \$2.00 15; \$3.50 30. Mark Cutts, Dunce, Minn. 4-4

**RABBITS**

**FLEMISH GIANTS** with pedigree. James Foytall, Swartz Creek, Mich. 2-12

**BELGIAN HARES**—Full grown breeding stock, \$2.00 each. Philip Condon, Westchester, Ohio. 3-12

**THOROUGHBRED BELGIAN HARES**; Utility stock, \$3.00 per pair. J. T. Alexander, 1814 Darrow, Evanston, Ill. 3-3

**HAMBURGS**

**GOLDEN SPANGLED HAMBURGS**. The pheasants of poultrydom. Eggs. Coopers Hamburg Ranch, Bainbridge, N. Y. 4-2

**TURKEYS—DUCKS**

**BUFF ORPINGTON DUCK EGGS**—Welday Strain, \$2.00 per setting. John W. Fagan, Browning, Ill.

**BOURBON RED TURKEY EGGS**, \$3.50 per 12 postpaid. Eagle Farm, Sparta, Ky. 4-2

**BOURBON RED TURKEYS**—Extra large, dark red, excellent layers. Eggs, 60c each; \$5.00 per 10; \$9.00 per 20. Pekin Duck eggs, \$3.00 per 9. Mrs. Frank Spurling, Forest Park, Ill. 3-4

**BUFF ORPINGTON DUCK EGGS**, \$1.00 per setting. Ranch's Poultry Yards, Jenera, Ohio. 3-3

**WHITE RUNNERS**, pure white eggs, \$1.50 per 15, postpaid. No stock. J. C. Laughton, Plattville, Wis. 3-3

**MISCELLANEOUS**

**AN OLD POULTRYMAN** now offers formula for making the best laying food you ever saw. This formula and four valuable recipes sent for \$1.00. C. W. Harris, Fitzgerald, Ga., 509 W. Pine.

**HOW DO JACOBUS WASTE-NOT** Feed Hoppers save feed? Circular tells. M. R. Jacobus, Box 5-K, Ridgefield, N. J. 8-12

**EVERY HEN BEGINS WITH 1000**, or more egg germs in them. "Henrizer" grows the eggs, at less than one cent each. Full directions, with 400 tablets, \$1.00. Satisfaction guaranteed. Send today. Henrizer Co., Unadilla, N. Y. 3-3

**CABBAGE CUTTER**, Six Knives. Slices all kinds vegetables rapidly. Prepaid \$1.00. 3 for \$2.00. Agents wanted. Lusher Bros., Elkhart, Ind. 2-4

**DORAN'S GAPE REMEDY**—A guaranteed cure for gapes. Thousands testify to its marvelous cures. Money back if it fails. 25c postpaid. Circular free. Agents wanted. W. H. Doran, Brandenburg, Ky. 2-5

**PRINTING**

**POULTRYMEN'S PRINTING** Prepaid. Note-heads, envelopes, cards, tags, labels, 100 either, 60c; 250, \$1.00; 500, \$1.50; 1,000, 2.50. Postcards, catalogues, circulars, linen letter heads, everything. Finest cuts furnished. Stamp brings elegant samples. Model Printing Company, Manchester, Iowa. 9-12



"REGAL PRINCESS"



FIRST PRIZE PULLET BOSTON JAN. 1913.  
BRED AND OWNED BY  
JOHN S. MARTIN, PORT DOVER, ONT.

## THE LAYERS WIN AND THE WINNERS LAY May for Regal-Dorcas Chicks

Of all the months in the year May is the best month to hatch out the winners for the big Winter Shows. Weather conditions are ideal, vegetation springing up, fertility at its best and the chicks make the rapid, vigorous growth necessary to win the final triumph. Out of twenty-one winning cockerels and pullets at the recent Madison Square Garden Show nineteen were hatched after the first of May. Why not choose this month to become acquainted with REGAL-DORCAS WHITE WYANDOTTES.

### I GUARANTEE A GOOD HATCH

Hatches are averaging good and have received some wonderful reports. One customer reports a 100 per cent hatch.

Racine, Wis., April 7, 1919.  
"About March 1st I received a setting of your Special Mating Eggs. Am pleased to say that every egg hatched and I am proud of my fine looking Canadians. Many thanks for such splendid eggs."

Yours truly,

D. PALLUDAN.

### EGGS FOR HATCHING

Exhibition and Dorcas Matings, \$5 per 15, \$15 per 50, \$27 per 100.  
Special Matings (Exhibition or Dorcas) \$10 per 15, \$18 per 30, \$25 per 45, \$50 per 100.  
Utility Matings, \$12 per 100, \$110.00 per 1,000.  
Special Utility Matings, \$18 per 100, \$35 per 200.

20 Special Value Breeding Pens—Male and 4 females, \$25, \$40, \$50 and \$100.00.

FREE: Send for twenty-page Catalogue and Mating List, also Summer Sale List, which will be sent out May 15th.

JOHN S. MARTIN,

Box 408,

Port Dover, Ont.

## BABY CHICKS

S. C. W. LEGHORNS EXCLUSIVELY  
Health and Vigor Guaranteed

**Deckas** HIGH LAYING STRAIN

20 and 25c each—Discount in Quantities.

1200 BRED TO LAY BREEDERS

7600 INCUBATOR CAPACITY

EGGS FOR HATCHING

Send for Catalog.

**Deckas White Poultry Farm**

R. 1. Box C. Des Moines, Iowa.



My Victory Strain of Barred Rocks Continue to Win.

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

Eggs From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices. Write for what you want.

J. T. FRENCH, 838 West Grove Place, Toledo, Ohio

## McKees Blue and White Orpingtons and Bronze Turkeys

Matings of finest birds. Do not overlook the one important point, QUALITY. Our Blue Orpingtons have won every time entered at N. Y. Our White Orpingtons have won at best shows. All imported foundation. Our turkeys are heavy bone, rich golden bronze. Place your order with us, and build your efforts upon a rock bottom foundation. Our catalogue free. Book on turkey feeding and mating and Orpington mating, 15c in stamps.

McKEES ORPINGTON FARM,

Garvey McKee, Prop.,

Box K.

Watertown, Tenn.

## SINGLE COMB REDS

Winners at Davenport, Streator, and Amboy. Eggs from pens, \$5.00 and \$3.00 per setting. Farm range, \$1.25 per setting; \$7.00 per 100. Satisfaction guaranteed. Mating List Free.

SETH ANDERSON,

Ohio, Ill.



THE "BEST YET"  
Aluminum Leg Bands  
Cannot come off. Five sizes,  
pigeon to turkey: State  
breed, 12-15c; 25-25c; 50-40c;  
100-75c.

COLORED LEG BANDS  
Red, Green, Amber, Pink,  
Black, White, Yellow, Light  
Blue, Dark Blue; Pigeon and  
Baby Chick sizes, 12-10c;  
25-20c; 50-35c; 100-60c. Poul-  
try sizes, 12-20c; 25-35c;

50-60c; 100-\$1.00. Circular free.

ALUMINUM MARKER WORKS,

Dept. N. Beaver Falls, Pa.

## BABY CHICKS FROM SELECTED BREEOERS

In the following varieties: BARRED ROCKS, SILVER WYANDOTTES, S. C. BLACK CHICKS, MINORCAS, MOTTLED ANCONAS, ROSE COMB R. I. REDS, SINGLE COMB R. I. REDS, S. C. WHITE LEGHORNS. That Live

Our chicks are hatched from selected, strongly fertilized eggs laid by good Standard Pure Bred Fowls in these varieties that are fed right and housed right. That's why they live and grow up true to variety and type and prove profitable to our customers. PRICES range from \$15 per 100 to \$22 per 100. Orders filled in any quantity from 25 chicks to 1,000. SEND AT ONCE for Catalog, complete price list. Special Discounts, etc. ALSO INCUBATORS, BROODERS, AND ALL SUPPLIES.

RHODES HATCHERY,

Box P. K.,

DAKOTA, ILLINOIS.

## McCormick Heavy - Laying S. C. White Leghorn Eggs

From heavy-laying range-raised hens. No hen is used in our breeding that has not laid 200 eggs a year in her pullet year. For twelve years on our farm we have been breeding for production alone. Every hen and cockerel used in this year's mating has been bred on our farm. Every hen mated for this spring's business is each three years old, every one of them a 200-egg-a-year hen in her pullet year, every one mated to cockerels of our own breeding, which possess heavy-laying ancestry. Eggs, \$70.00 per 1,000, \$7.50 per 100, \$3.00 per 30, \$2.00 per 15, f. o. b. our station. Our sales of table eggs from our farm during the year 1918 in the city of St. Louis alone exceeded 25,000 dozen.

McCormick Poultry Yards

Dept. 10

Bourbon, Missouri

# TRY THE NEW WAY TO KILL LICE

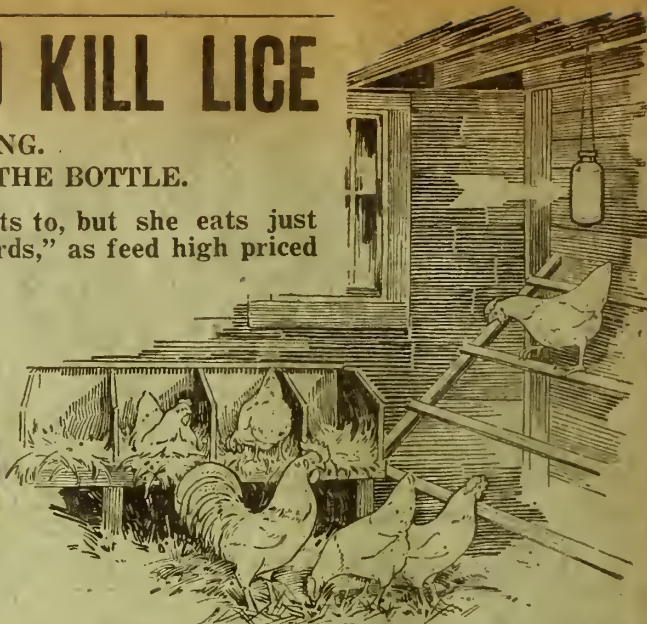
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

# Licecil

**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

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## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

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Bottle, 75c; 3 Bottles for \$2.00, Prepaid.

AMERICAN SUPPLY COMPANY Dept. P. K. Quincy, Illinois

Issued on the first of  
Every Month.

Price, 50 Cents  
a Year.

# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTIC-  
ULARLY TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

JUNE, 1919.

No. 3

## Poultry Advertising Pays

WE ARE GETTING a large number of letters from poultrymen who are advertising in our Classified Department. They report splendid returns. It pays to advertise and the live, up-to-date breeder should keep his name before the public. Raise birds you are proud of and they will bring you a good price. Keep them up to standard. Then keep your name before the public the year round.

POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.

# TRY THE NEW WAY TO KILL LICE

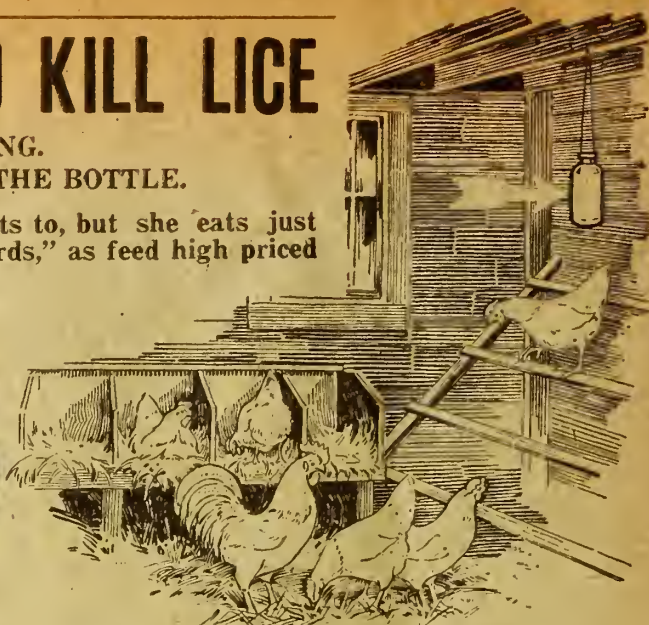
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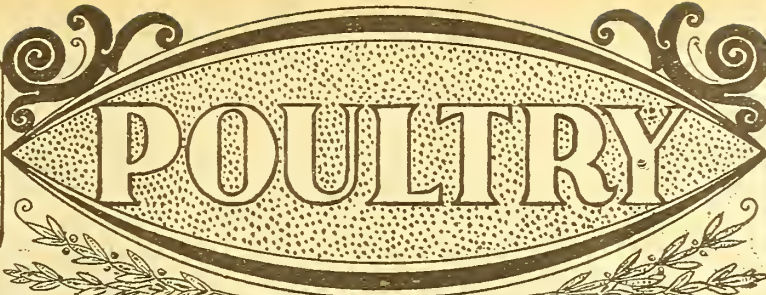
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POULTRY  
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VOL. XXXVI.

JUNE, 1919.

No. 3.

## Poultry House Construction

Floor.

ALFRED R. LEE

Animal Husbandman in Poultry Investigations

The best kind of a floor depends upon the soil and the use of the house. On light, sandy, well-drained soils a dirt floor is satisfactory, especially for small or colony henhouses. Such floors should be from 2 to 6 inches higher than the outside ground surface, and it is advisable to renew them each year by removing the contaminated surface down to clean soil, and to refill with fresh sand or fine gravel and earth. A board floor is generally used where the level of the floor in the house is from 1 to 3 feet above the ground surface and in portable houses on land which is not well drained. Board floors harbor rats and rot quickly, and should be raised some distance off the ground so that cats or dogs can get under them, which also allows a free circulation of air to prevent the wood from rotting. Cement floors are adapted to long permanent buildings, brooder houses, incubator cellars, and to all permanent houses where an artificial floor is required and can be built on the ground level. These floors are easy to clean, very sanitary, rat proof, and comparatively inexpensive, if one has a cheap supply of gravel or sharp sand.

### Partitions

The lower 3 feet of all partitions may be solid, entirely across the pen, or solid partitions across the houses

may be made every 40 or 50 feet, depending upon the length of the house. Solid partitions closer than this are unnecessary and interfere with free circulation of air in warm

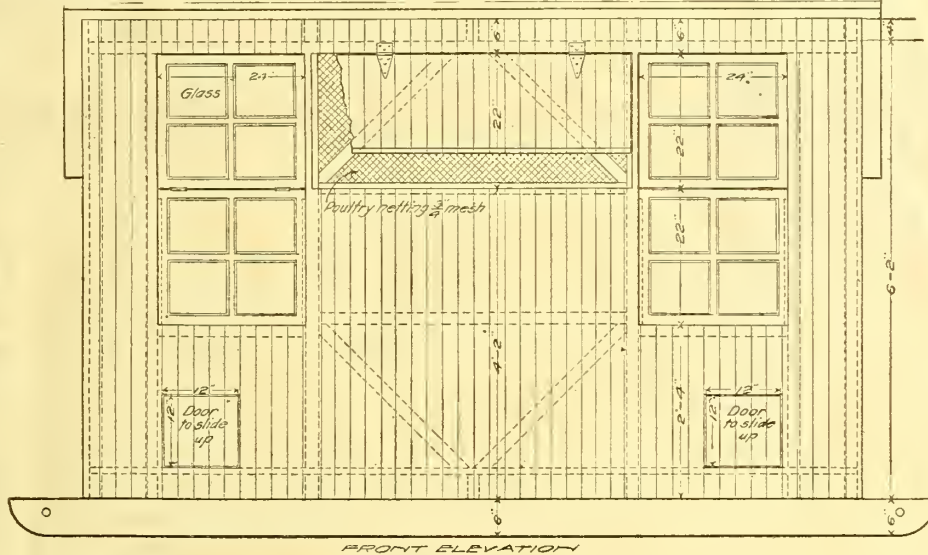
the wide or narrow surface up. Allow 7 to 10 inches of roost space per fowl, according to the size of the birds.

Roosts should be placed about 15 inches apart, but the outside ones may be within 10 inches of the edge of the dropping boards.

Nests may be placed under the

dropping boards, on the partition walls, or in any convenient place where they do not take up floor space, and should be arranged so that the birds can get into them easily. They should be 12 to 14 inches square and 12 to 16 inches high, with a strip about 4 inches high on the open side to retain the nesting material. Provide one nest for every four or five hens. Trap nests are essentials in any careful breeding work, such as pedigree breeding, or the breeding of exhibition poultry. For information about trap nests see Farmers' Bulletin 682. A Simple Trap Nest for Poultry.

**Kinds of Material Used for Building**  
Houses made entirely of solid concrete are cold and damp, but concrete blocks may be used with good results. Hollow tile makes a very good poultry house, and it can be bought in some sections at a price which compares favorably, considering its durability, with wood. This construction is well adapted to incubator cellars and brooder houses, or to any buildings requiring double walls and good insulation.



Note: Sills (runners) 4x6; joists & rafters 2x4; plates studs & braces 2x3; siding & flooring 1/2\"/>

Fig. 3.—Front elevation of colony house used at Government Poultry Farm, Beltsville, Md. Capacity, 25 hens.

weather.

### Roosts and Dropping Boards

The interior fixtures of the pens should be simple, inexpensive, and easy to clean. Roosts are usually placed next to the end or back walls, 6 to 10 inches above the dropping boards, while the latter are from 2 to 2 1/2 feet above the floor. They should all be on the same level, otherwise the birds will crowd and fight to get on the highest roost. Scantling 2 by 3 inches or 2 by 4 inches, with the upper edges rounded off, makes good roosts with either

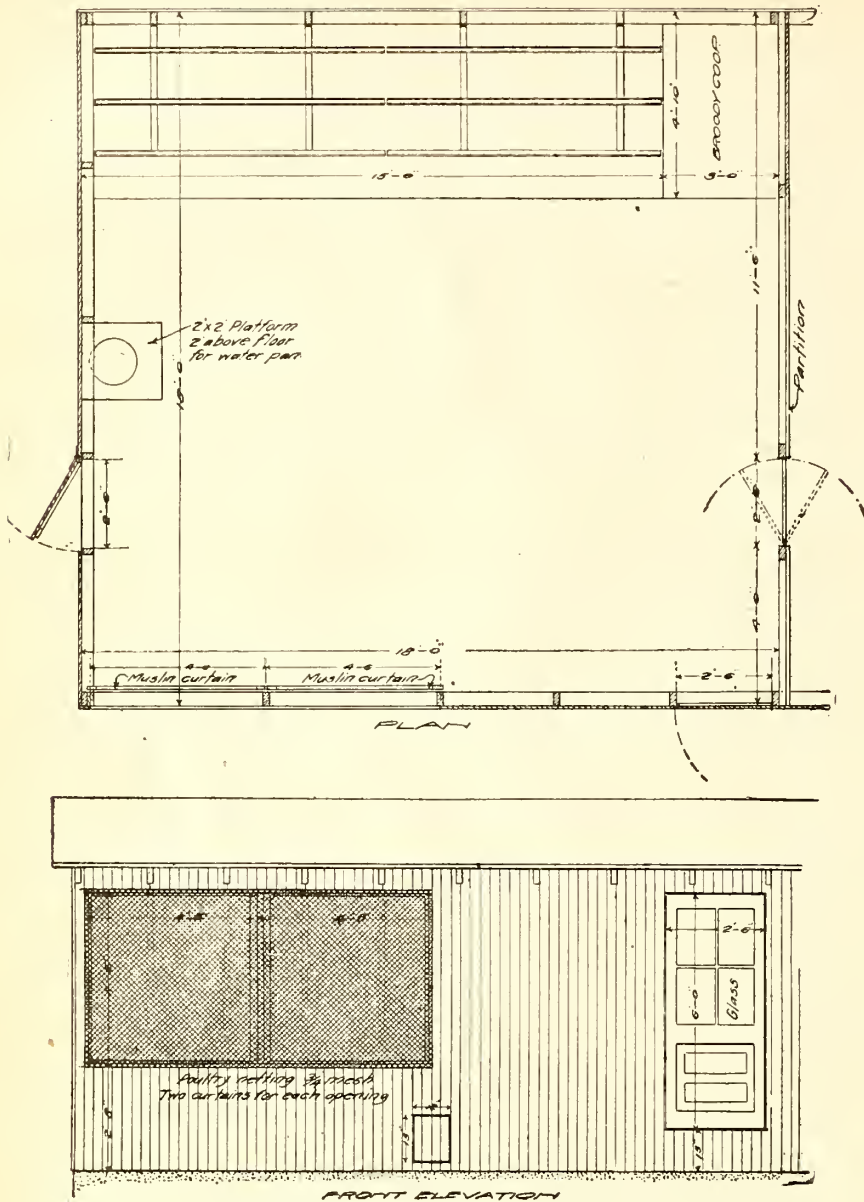


Fig. 6.—Floor plan and front elevation of laying house used at Government Poultry Farm, Beltsville, Md. Capacity, 500 hens. (See figure 8).

**BILL OF MATERIAL FOR LAYING HOUSE 18 BY 108 FEET**

| Use   | Size Inches | Number of pieces. | Length Feet. | Board measure Feet |
|---|-------------|-------------------|--------------|--------------------|
| Sills   | 2 by 4      | 36                | 12           | 240                |
| Plates  | 2 by 4      | 44                | 12           | 352                |
| Ties for rafters  | 1 by 5      | 30                | 16           | 220                |
| Rafters   | 2 by 6      | 56                | 14           | 784                |
| Do  | 2 by 6      | 56                | 10           | 560                |
| Studs   | 2 by 4      | 38                | 12           | 304                |
| Studs (front)   | 2 by 4      | 28                | 8            | 150                |
| Roosts  | 2 by 3      | 36                | 8            | 144                |
| <b>Total</b>  |             |                   |              | <b>2,754</b>       |
| Sheathing surfaced one side for roof                        |             |                   |              | 2,860              |
| Matched flooring for walls, partitions, and droppings board |             |                   |              | 3,200              |
| Boards planed both sides for nests                          |             |                   |              | 500                |

1 Doubled.

340 running feet of 1 by 3 inch furring for curtain frames. 300 square feet of 3/4-inch mesh wire for front. 300 square feet of 2-inch mesh wire for partitions. 350 square feet of muslin cloth for curtains. Prepared roofing paper to cover 2,700 square feet. 8 outside doors. Hardware (hinges, nails, staples, etc.) Cement wall or posts (either cement or wood) for foundation. If posts are used the sill should be 4 by 1 inches instead of 2 by 4 inches, thus doubling the number of feet (board measure) required for sills.

All kinds of wood are used in building poultry houses, and any durable lumber which is available for that purpose may be used. The lumber which is to be used for the outside construction should be well seasoned, otherwise the shrinkage will leave cracks in the walls. Hem-

lock, spruce, western white pine, and Virginia pine are commonly used for sheathing in the North, hard pine in the Gulf States, and redwood or Oregon pine on the Pacific Coast. Clear spruce, Oregon, Georgia, North Carolina, and Virginia pine are used for siding. Chestnut is used locally

for sheathing and siding in some parts of New England and the Alleghenies, while local pines of different species are available for rough lumber in many sections. Northern yellow pine, Georgia, Virginia, and North Carolina pine are used for light framing (studs, rafters, sills, plates, purlins, etc.) Oregon and Georgia pine are used for sills and runners. The best shingles are made of cypress and cedar, and white pine is also used. Asbestos shingles are quite durable, but more expensive than wooden ones. Cedar, chestnut, redwood, cypress and locust make the best posts. Second-hand lumber or lumber from large packing or piano boxes can be used in building small poultry houses. Lumber comes in even lengths, usually 10, 12, 14 and 16 feet long, and if second-hand lumber is to be utilized, it may be advisable to plan the house according to the length of the lumber. Care should be taken in ordering a bill of lumber to secure lengths which will cut to the best advantage in building.

**DUCKS FOR MARKET.**

The number of commercial duck farms in the country is increasing somewhat, it is said, but the production of ducks on general farms is decreasing, especially in the Middle West. The last census reports show that ducks were kept on only 7.9 per cent of the farms in the country. The demand for ducks' eggs is more limited than for hens' eggs, and the demand for table ducks at good prices is, to a great extent, confined to the large cities and is not nearly as general as the demand for chickens or fowls. For this reason it is advisable to study the market conditions before making any large investment in ducks.

On the other hand, it is said that intensive duck farming on a large scale has been more successful than intensive chicken raising. The Pekin ducks kept extensively by commercial growers are less subject to disease than chickens, and artificial methods of hatching and rearing have been used very successfully with them. On general farms ducks can be raised with success and at a profit, though as a source of income they do not appear to be as well adapted to average farm conditions as fowls. Hitherto farmers have rarely given the necessary care to the feeding and marketing of their ducklings to secure any large share of the trade in fancy green ducks.

It is this trade which attracts the commercial duck farmer. A green duck is a duckling which is grown rapidly and marketed when from 8 to 12 weeks old, weighing at that time from 4 1/2 to 6 pounds. This rapid growth is made possible by an abundance of care and good feeding. The highest prices are paid early in the spring, but, as has already been said, the demand is chiefly from the Pacific coast. As a matter of fact, many farmers market their ducks in the fall at a lower price per bird than green ducks bring in the spring.

The Pekin breed of duck is kept

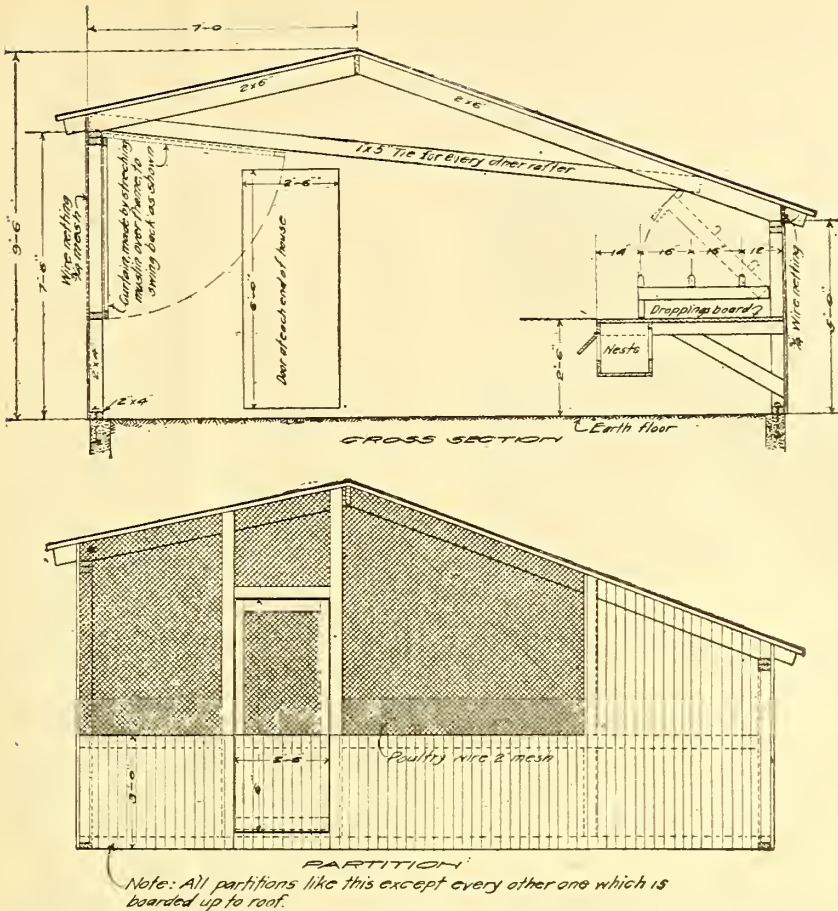


Fig. 7.—Partition and cross section of laying house used at Government Poultry Farm, Beltsville, Md. Capacity, 500 hens. (See figure 10.)

**BILL OF MATERIAL FOR COLONY GROWING COOP.**

| Use  | Size Inches | Number of pieces. | Length Feet. | Board measure Feet. |
|--|-------------|-------------------|--------------|---------------------|
| Sills (runners)                                | 3 by 4      | 2                 | 8            | 16                  |
| Joists   | 2 by 4      | 2                 | 10           | 14                  |
| Ties for rafters                               | 2 by 4-1    | 44                | 12           | 352                 |
| Rafters  | 2 by 4      | 3                 | 12           | 24                  |
| <b>Total</b>                                   |             |                   |              | <b>102</b>          |
| 3/4-inch matched flooring (sides and floor)    |             |                   |              | 175                 |
| 3/4-inch sheathing surfaced on one side (roof) |             |                   |              | 36                  |
| Roofing paper, one-half roll.                  |             |                   |              |                     |
| Hinges and hardware.                           |             |                   |              |                     |

almost exclusively by producers of green ducks. It is estimated that the cost of raising a 10-weeks-old Pekin duck is from 5 to 6 cents a pound. In the wholesale market, when marketed from April to November, they bring between 12 and 30 cents a pound. The cost of picking them is placed at from 5 to 6 cents each, but it is practically covered by the value of the feathers, which bring from 40 to 50 cents a pound when cured. Each duck yields about 2 ounces of marketable feathers.

Ducks may be fed on the rations recommended for fowl and chickens, but better results are usually secured by feeding more green and vegetable feeds and larger proportion of mash. Ducklings do not need feed until they are from 24 to 36 hours old. After this they should be fed for the first week five times a day; after that, four times a day until they are 2 or 3 weeks old, and thereafter three times daily until they are marketed. The first ration should consist of a

mixture which contains equal parts by measure of rolled oats and bread crumbs, with 3 per cent of sharp sand mixed in the feed. When about 3 days old, this feed is changed to equal parts of bread, rolled oats, bran, and corn meal. After the first week the ration should be changed again to three parts of bran, one part each of low-grade wheat flour and corn meal, 10 per cent of green feed, and 5 per cent of beef scrap, with about 3 per cent of sand or grit. The amount of beef scrap is gradually increased until it reaches 15 per cent by the end of the third week. The proportion of corn meal is increased

for the ducklings to be marketed and the bran decreased as the time for marketing the ducklings approaches.

The fattening ration, which should be used for two weeks before killing, consists of 3 parts, by weight, of corn meal, 2 parts of low-grade flour or middlings, 1 part of bran, 1/2 part of beef scrap, 10 per cent green feed, and 3 per cent grit. This mash is fed three times daily. The green feed is sometimes left out of the ration during the last week of fattening, as it tends to color the meat, but it is easier to keep the ducklings in good feeding condition if it is included. Boiled fish is sometimes used in place of the beef scrap, but this should be discontinued two weeks before the ducklings are killed, in order not to impart a fishy taste. Where milk is available at a sufficiently low price the rations recommended for milk-fattened chickens would produce a well-bleached milk-fed green duck. Celery seed is also used, as this is said to flavor the flesh.

For the general farmer who is more interested in obtaining eggs than in producing green ducks for the market, the Indian Runner is a good breed. This duck holds the same relative position in the duck family that the Leghorn does in the chicken family. It lays a good-sized egg, and is declared to be a smaller eater, a good forager, and hardy.

At the present time the keeping of ducks for eggs is an industry which appears to be growing more rapidly in the South than elsewhere. A good demand for these eggs exists at Easter time, when the prices are usually several cents a dozen higher than for hens' eggs, but during the balance of the year the average price for the two has been about the same. Recently, however, the introduction of the Indian Runner has helped in building up a trade in first-class ducks' eggs. These eggs should be marketed frequently, as they depreciate in quality more rapidly than hens' eggs. The possibilities of securing a market, moreover, should be carefully investigated, for it is only in certain places that good prices can be secured for fancy duck' eggs.

On commercial duck farms most of the hatching is done in incubators, for the Pekin and Indian Runner rarely sit. On farms where no incubator is available, the eggs are usually hatched under hens. The period of incubation is a week longer than that of hens' eggs, and, for this reason, the hen must be well cared for. While ducks are easier to brood artificially than chickens, they may also be raised successfully under hens. In the latter case, it is better to confine the hens and to allow the ducklings free range. Birds that are intended for sale as green ducks,

**TABLE OF BOARD MEASURE.**

| Length. | Area of cross section. |         |           |         |           |         |            |         |            |         |            |         |
|---------|------------------------|---------|-----------|---------|-----------|---------|------------|---------|------------|---------|------------|---------|
|         | 4 inches.              |         | 6 inches. |         | 8 inches. |         | 10 inches. |         | 12 inches. |         | 16 inches. |         |
|         | Ft.                    | Ft. in. | Ft.       | Ft. in. | Ft.       | Ft. in. | Ft.        | Ft. in. | Ft.        | Ft. in. | Ft.        | Ft. in. |
| 6       | 2 0                    | 3 0     | 4 0       | 5 0     | 6 0       | 7 0     | 8 0        | 9 0     | 10 0       | 11 0    | 12 0       | 13 0    |
| 8       | 2 8                    | 3 8     | 4 8       | 5 8     | 6 8       | 7 8     | 8 8        | 9 8     | 10 8       | 11 8    | 12 8       | 13 8    |
| 10      | 3 4                    | 4 4     | 5 4       | 6 4     | 7 4       | 8 4     | 9 4        | 10 4    | 11 4       | 12 4    | 13 4       | 14 4    |
| 12      | 4 0                    | 5 0     | 6 0       | 7 0     | 8 0       | 9 0     | 10 0       | 11 0    | 12 0       | 13 0    | 14 0       | 15 0    |
| 14      | 4 8                    | 5 8     | 6 8       | 7 8     | 8 8       | 9 8     | 10 8       | 11 8    | 12 8       | 13 8    | 14 8       | 15 8    |
| 16      | 5 4                    | 6 4     | 7 4       | 8 4     | 9 4       | 10 4    | 11 4       | 12 4    | 13 4       | 14 4    | 15 4       | 16 4    |

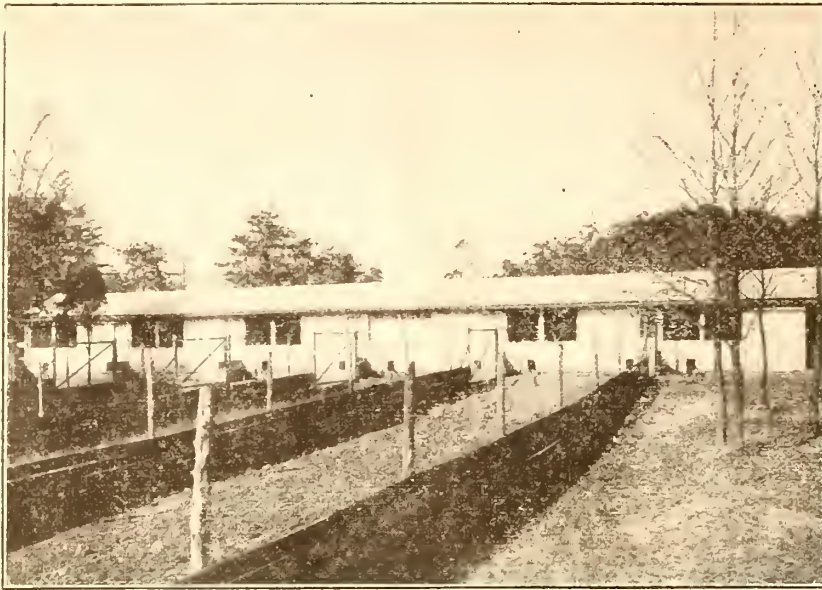


Fig. 8.—Laying house used at Government Poultry Farm, Beltsville, Md. Capacity, 500 hens.

keys are found. Little has ever been done in the way of raising turkeys in confinement, and where it has been tried the results have been discouraging. Plenty of range is essential to success in turkey raising.

**Breeding.**

In selecting turkeys for breeding, the most important factors to be considered are vigor, size, shape, bone, early maturity, and color of plumage. The body should be deep and wide, the back broad, and the breast round and full. The head should be of good size and of a clean, healthy appearance. A strong, well-made skeleton is shown by thick, sturdy shanks and straight, strong toes. It should be the aim of every turkey raiser to have a flock of pure-bred turkeys, even though they are sold at market prices. The male at the head of the flock should by all means be a pure-bred of the best type obtainable. The male is one-half the entire flock, and by continually selecting the best females of similar type and mating these with a pure-bred male, one can soon have a flock of uniformly large, early-maturing, strong-boned, long and deep bodied turkeys of the same color.

Fifteen turkey hens can safely be mated to a vigorous tom. If 25 or 30 hens are kept, two toms should not be allowed to run with them at the same time, but one should be confined one day and the other the next. When two toms are allowed to run together during the mating sea-

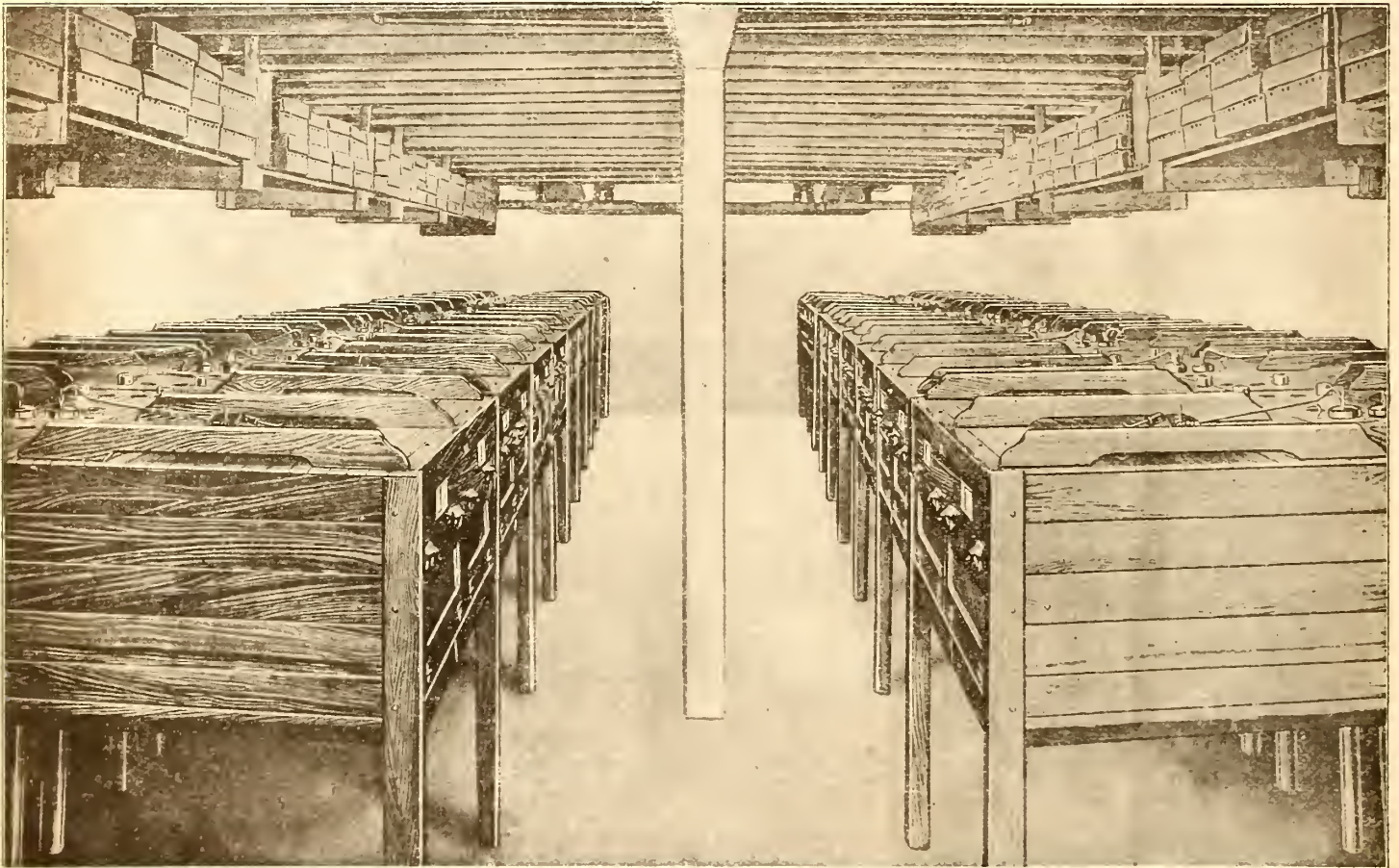
however, are not usually allowed much range, but are fed heavily and forced for rapid growth. The brooders and brooding systems used for

chickens give good results in rearing ducklings, although the latter do not require as high a temperature.

**MONEY IN TURKEYS**

For those who are favorably situated for raising turkeys, a more profitable side line can hardly be found. Given plenty of range where the turkeys can find grasshoppers and other insects, green vegetation,

the seeds of weeds and grasses, waste grain, acorns, and nuts of various kinds, the cost of raising them is very small and the profits large. Grain and stock farms are particularly well adapted to turkey raising, and it is on such farms that most of the tur-



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son, they fight badly and the stronger does practically all of the mating.

**Laying.**

Turkey hens are wont to "steal" their nests in hidden places, such as a patch of weeds, tall grass, or thick brush, and often wander a half mile or more from home before they find locations that suit them. To find these stolen nests often proves to be a long and tedious task, the usual method being to follow each turkey hen as she separates from the flock and starts toward her nest, care being taken that she does not know she is being followed. A much easier and quicker method than this is to confine the hens early some morning soon after they have come down from roost and let them out late in the afternoon. Those that are laying will then head for their nests in order to lay the eggs they have been holding.

If many turkeys are kept, the use of a breeding pen will be found a great convenience. This pen should cover a sufficient area to allow the turkeys some exercise, an acre for 15 birds being none too large. A hog-tight wire fence 3 feet high will hold most turkeys, and if any persist in flying out, the flight feathers of one wing should be clipped. Nests should be scattered about the pen, those which hens take to most readily being barrels turned on their sides and nests shaped in them with straw.

**Incubation.**

Turkey hens, chicken hens, and incubators are comonly used to incubate turkey eggs. During the early part of the laying season it often happens that one has on hand a number of eggs that should be incubated before any of the turkey hens are through laying their first litter and become "broody." In such case, and also when it is desired that the turkey hens lay more than one litter, some of the eggs have to be incubated under chicken hens or in an incubator. About a week before the poults are due to hatch turkey hens enough should be allowed to sit to take all the poults hatched. They can be given a few eggs from the incubator or from under the chicken hens and allowed to hatch the poults themselves, or at night a newly hatched poult can be slipped under each turkey hen that is to be given a brood of poults and by morning she will be glad to take them.

**Lice.**

Lice are a great annoyance to sitting hens and are one of the worst enemies of young poults. To prevent their getting a foothold, dust the hen thoroughly with some good lice powder before she is placed on the nest and once a week thereafter while she is sitting. The nesting material should be kept clean, and if the eggs become dirty they should be washed with lukewarm water.

**Brooding.**

If the weather is warm and dry no shelter is required, as the poults do better in the open. Should it be rainy, however, they need to be protected, for nothing is more injurious than for them to become wet and chilled. The most satisfactory plan

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is to confine the mother turkey hen to a coop and allow the poults to run in and out whenever rain does not prevent. This coop should be placed in a field where they can run out and find grasshoppers, green vegetation, and other feed. The coop should be moved to fresh ground every day.

Improper feeding combined with close confinement, has been the cause of many failures in turkey raising. Given free range on the average farm, the poults can easily pick up their own living, and one light feed a day for the purpose of inducing them to come in at night is sufficient. If the mother hen is confined to a coop and the poults allowed to run in and out, three times a day is often enough to feed, and very little should be given at a time. The poults should always be ready to eat; if given all they will clean up several times a day, indigestion will be the result. If there is little or no feed outside the coop for the poults to pick up, then they should be fed about five times a day, feeding only a small quantity at a time. A good feed for the first few days is stale bread soaked in milk and squeezed dry. Corn-bread crumbs and clabbered milk or cottage cheese is also quite often fed and with excellent results. Green feed and grit should be on hand at all times. As the poults grow older the rations should gradually be changed to grain.—U. S. Department of Agriculture.

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**THE RAT AND MICE PESTS**

Loses from depreciations of rats and mice throughout the country amount to millions of dollars yearly. Indeed, the damage they do exceeds that caused by all other injurious mammals combined. The mouse and brown rat are pests in nearly every state. Excepting the mouse, the brown rat is the most destructive and numerous. Much has been done for its extermination, yet it has steadily widened its domain, and increased in numbers. It bears young when only three or four months old, and its period of gestation is about twenty-one days. It often breeds more than six times a year, and has from six to twenty young in a litter. A pair of rats, therefore, breeding without any deaths, and getting the average number of ten in a litter, could produce a posterity of 17,000 individuals in a year.

Rats and mice feed on almost anything, and live wherever they find quarters. The brown rat makes its home in stone piles, under old board walks, in river banks, dense bushes, grain stacks and all kinds of buildings. It destroys grain while in the ground, while growing, and while in shock, stack, crib and granary. It attacks fruit, vegetables and meats, and spoils by pollution much more than it actually consumes. It eats eggs and young poultry, sometimes half grown. It pillages all the nests it can find, eating the eggs and young of song and game birds. It ruins ditches, embankments, foundation and furniture, and cuts and rends dwellings, inside and outside. It carries disease germs, and is said to be one of the chief causes for the spread and perpetuation of bubonic plague. It is a parasite, a menace to the health of man, and should be exterminated wherever possible.

An effective method of keeping away rats, is denying them food. They like to stick around where there are eatables and safe hiding places. Negligence helps to provide them with both. Many modern rat-proof buildings become, after a few years' neglected care, infected with the pests. Drain pipes and basement windows are left unscreened, outer doors are permitted to stand open, and holes in the foundations are not closed up.

When a new dwelling is erected, it can be made rat-proof at a small additional cost. The cellar walls should be laid in cement mortar, and should have concrete footings. The cellar floor should also be constructed of concrete. Even old cellars can be made rat-proof at little expense compared with the advantage gained. Rat holes may be closed up with a mixture of cement, sand and broken glass, or sharp bits of crockery or stone. On a foundation like the one described, a wooden dwelling can also be made rat-proof by filling the space between the sheathing and lath with concrete to a height of 12 or 13 inches. Rats can then enter only through doors and windows.

Barns, cornercribs and poultry houses may likewise be made rat-proof by a liberal use of cement in the foundations and floors. But as concrete is a great conductor of heat, many farmers and stockmen object to its use as floors for poultry, cattle and horses. In chicken houses, however, the concrete can be covered with dry sand or soil, which makes life pleasant for the biddies. Barn floors can be made of wood resting on concrete, and there will be no injurious accumulation of heat.

A rodent proof cornercrib is perhaps one of the farm buildings most difficult to construct, because it requires much open space for ventilation. Lay the outer walls of the foundation in cement, sunk at least 20 inches into the ground. Carefully fill up with cement and broken stone the space inside the walls, and lay a floor of rich concrete on top. On this foundation build the crib. Its walls, if desired, may be made of concrete; corn in contact with such walls will not mold, if there is good ventilation and a water-tight roof. A cheaper way however, to make a rodent and sparrow-proof crib, is to cover a wooden frame with galvanized wire-netting on a fine mesh. Wire-netting common for cellar windows can be employed.

It should be remembered that well fed rats mature quickly, breed often and produce large litters. Poorly-fed rats grow more slowly, and never bear so many young. Therefore all food in cellars and elsewhere should be protected. Holes in basements and walls of buildings should be filled with cement. Much of the rat food is garbage. Consequently this must

(Continued on page 349)

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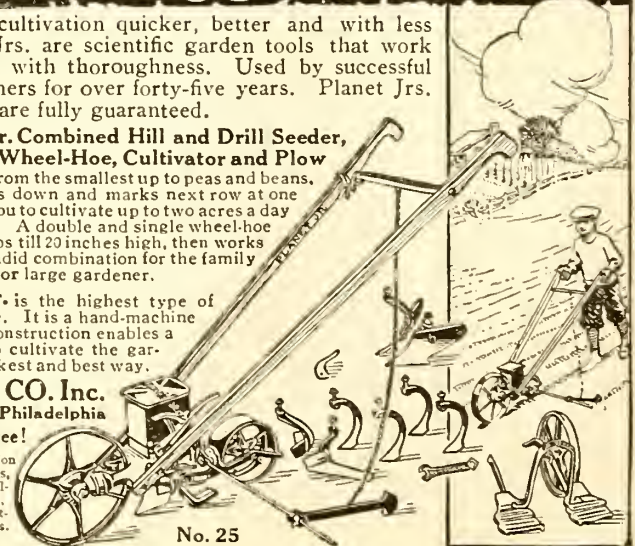
sows all garden seeds from the smallest up to peas and beans, in hills or in drills, rolls down and marks next row at one passage, and enables you to cultivate up to two acres a day all through the season. A double and single wheel-hoe in one. Straddles crops till 20 inches high, then works between them. A splendid combination for the family garden, onion grower, or large gardener.

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Mr. Jones attended every poultry meeting held in his section last fall. He is now trying to organize a poultry club for blind people, and the home demonstrator agent in the country has volunteered to read to the members the publications on poultry sent from the United States Department of Agriculture.

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**BIG PROFITS FROM TWO FOWLS**

In Caddo Parish, La., one of the members of a poultry club organized by the United States Department of Agriculture and the State college is

a rural school teacher. A talk early in 1918 by the home demonstration agent of the county on the superior value of pure-bred fowls so impressed the teacher that soon she purchased a pair of Rhode Island Reds. During the spring and summer of last year the hen laid 121 eggs. All of these eggs were set under brooder hens of the "common garden variety," and the hatching percentage was high. In January their owner sold for \$150 the pullets and cockerels this one pure-bred pair had produced. The small size of the enterprise and the consequent individual care which could be given the chickens were the reasons for the unusual profits.

**THE RAT AND MICE PESTS**

(Continued from page 348)

be disposed of so the rodents cannot get it.

But, try as one may, it is not easy to get rid of the rats when they have once entrenched themselves on the farm or elsewhere. Trapping, if persistently followed, is perhaps the most effective way of destroying them. But they are cunning, and some old rats will not approach the most innocent looking trap. The traps, well concealed and baited, should be set out in holes, run-ways, feed troughs and wherever the rodents go. Twelve or fifteen traps will not be too many for a farm. Mice are easy to catch, and a few cheap guillotine traps, baited with cheese or oatmeal, will soon rid an ordinary building of these small pests.

A reliable way to kill the rats is by poisoning. This, however, is impracticable in occupied buildings, where the stench from the dead bodies becomes unbearable and a menace to health. But in barns, sheds, cribs, and other outbuildings, poison can readily be used. It can even be used in chicken houses, if the bait is placed under a box turned upside down. Make holes in one side of the box for the rats to enter, and nail a board like a veranda roof over the holes about 3 or 4 inches from the ground. The chickens cannot then get their heads in. Never should poisoned bait be put in open places where domestic animals or children can get it.

Another way to kill rats with the use of dogs, cats and ferrets. Dogs, when trained, are valuable as ratters. Small Irish, Scotch and fox terriers are best breeds for the purpose, and one or two of them, with the right training, will often keep a farm reasonably free from rats. Cats are good mousers, but seldom learn to take rats. A few, though, can be trained to do it, and are then very useful. They should be fed chiefly milk, as a corrective. Rats are poisonous, and many cats die from eating them. Ferrets and weasels are rat foes, and will follow the rodents into their holes. The ferrets are used only to bolt the rats, however, and trained dogs must be on hand to kill them as they come out. The ferrets should be muzzled, or they are apt to make a kill, and lie up after sucking the blood.—C. O., in Farmers' Guide.



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**Ferris White Leghorns For Eggs**

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|                        |                 |               |
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| 1 cockerel, 10 pullets | .....           | 35.00         |
| 50 pullets             | .....           | 135.00        |
| 100 pullets            | .....           | 250.00        |
|                        |                 | 111.00        |
|                        |                 | 25.00         |
|                        |                 | 110.00        |
|                        |                 | 200.00        |
|                        |                 | 89.50         |
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|                 |                 |               |
|-----------------|-----------------|---------------|
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| 15 eggs         | .....           | \$3.50        |
| 30 eggs         | .....           | 6.00          |
| 50 eggs         | .....           | 8.50          |
| 100 eggs        | .....           | 16.50         |
| 500 eggs        | .....           | 75.00         |
| 1000 eggs       | .....           | 140.00        |
|                 |                 | 4.50          |
|                 |                 | 3.50          |
|                 |                 | 5.00          |
|                 |                 | 9.50          |
|                 |                 | 45.00         |
|                 |                 | 85.00         |

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|-----------------|-----------------|---------------|
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| Egg Strain      | Egg Strain      | Utility Stock |
| 10 chicks       | .....           | \$4.50        |
| 25 chicks       | .....           | 9.50          |
| 50 chicks       | .....           | 18.00         |
| 100 chicks      | .....           | 35.00         |
| 500 chicks      | .....           | 150.00        |
| 1000 chicks     | .....           | 285.00        |
|                 |                 | \$2.50        |
|                 |                 | 7.00          |
|                 |                 | 13.00         |
|                 |                 | 25.00         |
|                 |                 | 115.00        |
|                 |                 | 165.00        |

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Poultry Keepers readers are cordially invited to express their opinions on any subject of poultry that will be of interest to our readers, give helpful talks to the inexperienced and ask questions in any department.

A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## ILLINOIS STATE POULTRY ASS'N.

At the directors' meeting of the Illinois Poultry Association held in Peoria, Ill., on April 24th, all bids for the 1920 State show were opened and read and the directors voted unanimously to hold the next state show at Galesburg, Ill., on Jan. 6th to 10th, 1920. Galesburg is ideally situated, being on the main lines of both the Burlington and Santa Fe railroads. Fast trains run direct to Chicago, Peoria, St. Louis, Quincy Springfield, Burlington, Iowa, Ft. Madison, Iowa, Rock Island, Davenport, Joliet and Streator. In fact, the directors could not have picked out a town that exhibitors can ship to as easy as Galesburg.

The directors desire to have all the Specialty clubs possible to meet with us. Besides the regular cash prizes which will be as high as it is possible to make them, we will give all specialty clubs meeting there in the event of there being over 100 specimens, pens counting as 2 specimens, 20 per cent of all entree fees back to the club to be awarded as the club sees fit.

The directors announce that the State association commencing with the fall shows will give every local association that has 10 members belonging to the state association, a handsome medal in the form of a watch fob to be given for best display in the show.

Get busy, local associations, line up ten members and not only have something extra good to offer your exhibitors, but you will also be helping the state association.

Secretaries of specialty clubs are requested to write the Sec'y A. D. Smith at Quincy for further information.

The State association desires every poultry breeder that can possibly attend the coming Illinois State Fair,

Aug. 15th to 22nd, to be there.

On Aug 20th will be held the summer meeting of the State association and committees will be named and work started on our plans for an experimental poultry farm in Illinois. It will take lots of time to get the necessary data to present in proper form, so we want every poultry breeder there and suggestions will be gladly received.

Illinois State Poultry Association.  
C. P. Scott, Pres. A. D. Smith, Sec'y.

## AMERICAN EGG LAYING CONTEST

By Russl F. Palmer.

During April the Standard Bred Pullets in the American Egg Laying Contest made consistent and desirable records with the exception of some individuals of the heavier breeds which developed stubborn desires to go broody.

The Single Comb White and Brown Leghorns, Mottled Anconas and Buff Minorcas made the best records as a whole. Among the all purpose or meat varieties the Barred Plymouth Rocks were represented by one pen of live females, which produced 121 eggs, taking second place for the month. One pen each of Buff Plymouth Rocks, Silver Wyandottes, S. C. R. I. Reds, and White Plymouth Rocks also proved consistent performers, producing 109, 119, 106, and 108 eggs respectively.

Considering the first six months of the contest, we find a pen of S. C. White Leghorns in the lead with a record of 603 eggs, second place is held by a pen of 5 Barred Rock pullets, which have produced 541 eggs up to May 1st.

The average production of individuals from all pullets of any one variety is 98.9 eggs. This is held by the White Leghorns and is certainly a very fine average, considering there are 95 White Leghorn pullets in the contest, owned by breeders in 8 different states. It is of interest to note that by far the greater portion of these are truly fine specimens as judged by the American Standard of perfection for exhibition points.

The variety holding second place

at the end of six months for high average performance of all pullets is the White Orpingtons. These splendid Standard quality exhibition pullets have an average production of 89 1-2 eggs. Every single one of these pullets are remarkable in quality. They have size, truly fine shape, correctly proportioned, wonderful color and neat standard head points. This bunch will stand watching till the end of the year in more ways than one.

Four pullets have passed the 130 egg mark in the first six months. They follow: A White Orpington pullet, leg band No. 594, from Ohio produced 138 eggs; a Silver Wyandotte pullet, band No. 344, from Iowa, produced 134 eggs; a S. C. White Leghorn pullet, band No. 53 from Pennsylvania has produced 132 eggs; also a S. C. White Leghorn pullet, band No. 183 from Kentucky has produced 132 eggs.

There are several fine pullets with a record of 120 eggs or better from the first six months. Most any of these should produce around 250 eggs for the year, while the chances of three or four pullets from this contest reaching or passing the 300 egg mark are excellent. This showing is indeed very pleasing to Professor Quisenberry who has given his very best thought to fixing the proportions of the different kinds of grain and food stuff which is given these fowls.

## THE CHICK BOOK

Guide to success in rearing chicks. Experienced poultry raisers furnish information on all problems connected with the breeding, rearing, developing and fattening of chicks. Articles and chart on line breeding. The day-old chick business, etc. 80 pages, 9x12, illustrated. Price 50c. Address Poultry Keeper, Quincy, Ill.

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White Leghorns, White Rocks, Barred Rocks, White Wyandottes, Rhode Island Reds.

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Prices on Rhode Island Reds, Barred Rocks, White Rocks, White Wyandottes are as follows: \$18.00-100; \$10.00-50; \$6.25-25. Hatching eggs that hatch, \$2.25-15; \$5.00-50; \$3.00-100.

I prepay postage on all chicks and eggs. A catalog telling all about our methods awaits your inquiry. As the demand for our chicks is greater than the supply, you had better order chicks as early as possible.

DAVID T. FARROW

Peoria, Illinois



# Questions and Answers

By Russell T. Barr

## About Onions.

They say onions are good for my hens but I am afraid to feed them for fear they will make the eggs taste. Are they safe to use?

C. K. H., Indiana.

Raw onions chopped fine and fed twice or three times a week make a most excellent tonic for fowls of any age from small chicks to old hens. The high price of onions at the present time is limiting their use by many who would otherwise be glad to use them regularly. It is a fact that onions fed to laying hens will taint the eggs, so that you must withhold the onions from hens whose eggs are to go onto the market. The onion taint would be most objectionable, especially to an exclusive trade. They may be fed regularly and with the best results to other fowls of all ages.

## Characteristics of Layers.

What are the physical characteristics which are usually taken into account in judging layers? I suppose that different systems may put the emphasis on different things but you can give me just a general idea as to what points are kept in mind.

T. S. A., Pennsylvania.

There are several systems in vogue for judging layers, but for the most part they all follow the same general lines in the choice of characteristics for judging of laying capacity in hens. The following superficial characteristics might be named as indicating the productiveness of the individual hen:

1. Color of face, comb and wattles.
2. Length of body.
3. Condition of feathers.
4. Condition of pelvic bone.
5. Distance between pelvic bones.
6. Distance between pelvic bones and end of keel.

The detailed discussion of each of the above points or characteristics would take a good deal of space, but they indicate in brief what points should be considered. If you are particularly interested in this subject I would suggest that you get the book entitled "The Call of The Hen" by Walter Hogan. This book goes into the subject very fully and is a well recognized authority on this general

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subject. You will find it interesting and very practical. You will find the book advertised in this issue of Poultry Keeper.

## Late Hatching In Order.

I am thinking of hatching a bunch of chicks in June. If there is no reason why I can't do this with success, I want to try it this year, as I think there should be a demand this fall from many sources.

T. B. O., New York.

You will remember that the supply of breeding stock on farms and in back yards throughout the U. S. was greatly reduced the last year because of the high price of feed. This was especially true of certain sections of the country, take New England, for instance. This fact has made such a demand for breeding stock and for baby chicks as has never been known before in the history of the chicken business. Every bit of capacity in the country has been taxed to the uttermost to meet this great demand. Even with the greatly increased capacity of baby chick plants everywhere, and the extra chicks which have been hatched on farms and poultry plants, it will hardly be possible to meet the demand. This condition is resulting in the resolve of many to hatch as late as possible to help the country to catch up and restock itself. Late hatched chicks with good care and careful feeding, will make layers in November. An important factor in the case of the late hatched chick is an abundance of shade to shield from the hot rays of the summer sun. Don't give too wide range and feed automatically to hasten growth. Automatic feeding means the use of hoppers of suitable size so that all chickens may eat at will in such quantities as may be desired. A mash and one of the commercial chick feeds should be fed for the first three or four weeks and gradually change off to a straight laying mash. If the laying mash is worked in gradually it will reduce the liability to bowel trouble which might otherwise follow an abrupt change. Grit and charcoal should be before the birds always. Don't forget the green food for growing chicks—lawn clippings are good at all times.

## About The Garden.

We have a garden in our back yard for the first time this year and hope to get a lot of stuff out of it. As we have not had much experience in gardening I wish you would give us a little general advice thro the Question and Answer Department. S.H. L., Ohio

There are several things about successful gardening which can't be too often emphasized. One of these is the importance of thorough cultiva-

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tion. It doesn't make much difference how well you may be looking after other things, if you neglect to cultivate the ground thoroughly, you can, to a large extent lose the results of your other work. Thorough preparation of the soil, plenty of fertilizer and good hard plants are essential, but the success of the above combination depends upon keeping the ground well worked from week to week and at such special times as the occasion demands. Never let the soil become baked or even form, a crust over the surface. Constant stirring with hand tools or wheel tool should be kept up between the rows and about the plants, so that the air may penetrate the soil and the weeds be killed before they have had a chance to become well established. This process holds moisture, too, which may save the day for you during a critical dry spell. The backyard gardener will find the wheel cultivator, rake, small hoe and weeder most valuable tools for his use about the garden. Weeds that grow close to tender plants must, of course, be removed by hand, and with care that the plants may not be injured or disturbed in growth. Where it is necessary to water the garden it should be done late in the afternoon if you water at all put on a liberal supply—not just moisten the surface slightly, as the water must reach the roots lower down to be of benefit.

### Hook For Fowls.

Please describe for me a hook such as some use for catching fowls. Have never seen one of these devices. G. U. O., Virginia.

Many poultrymen use a long handled hook for catching chickens and find it very serviceable indeed. If used carefully and quietly it saves much time and can be used without exciting the rest of the flock, as some other methods of catching would. The hook should be made of about three-sixteenth inch wire should be bent in the shape of a deep V with one point somewhat longer than the other and extending straight. This end is attached securely with wire to the end of a fishing pole of the length desired. The other point is bent back so that the point will not scratch or injure the bird when it is caught in the hook. This hook can be thrust quietly into the pen and any bird desired can be caught by the leg without exciting the whole flock, and without the slightest injury to the bird caught. Try the plan and it will be found in every way satisfactory.

### Feeding Pen For Chicks.

I want to feed my chicks so that the old hen does not get at the feed. Please give me simple suggestions for some kind of a feeding pen that will answer my purpose.

T. R. S., Massachusetts.

A cheap pen for the purpose you suggest is a necessity. It should be found on every poultry plant and in every back yard, as it saves feed and enables the chicks to get what is coming to them. A good feeding pen for small chicks can be made from carriage rims. Use two rims nailing a few plastering laths on them, keeping the lowest lath 4 inches above the ground. The upper portion of the pen can be covered with roofing paper to protect from rain and the sun. The food trough is placed in the center of the pen and is kept filled with feed at all times. The chicks enter by going under the lowest lath and have access at all times to the feed, while all larger chickens are excluded. Sides and ends of the pen are covered with 2-inch mesh wire netting. The only exact dimension is the height of the lowest sill (4 in.) from the ground.

### Prevent Flying

How can I prevent flying? We have some trouble with our chickens flying over the fence into the neighbor's yard. Would like to know whether there is any way this can be prevented without too much disfiguring the birds.

D. L. F., New York.

If you trim the wings, that is the main flight feathers, it will stop the flying. But be sure to trim the feathers on only one side, if both wings are clipped the bird will still be able to fly as before. Many prefer pulling out the feathers to clipping them, because if pulled they will grow in again. If clipped the bird is disqualified for exhibition purposes. It is better yet to bend a wire around one wing so that the bird can't straighten out the wing. This will prevent flying as well as clipping and will not disfigure the plumage at all.

### Grit and Lime.

What is the best way to supply hens with grit and lime and in what form should it be given them? Can the two be supplied in one compound or preparation?

L. D. R., New Jersey.

It is necessary that all laying hens

should be supplied with grit and lime. Please notice that we say "grit and lime," not grit or lime. Both elements are necessary and no amount of one will take the place of the other. Grit is some sharp, hard substance used by the fowl to grind the food in the gizzard. The most common form of grit is asilicate, the common flint being used more than any other. This, however, contains no lime, and although the hens may furnish an abundance of grit, would not get lime from it to make the egg shells, or they may be furnished an abundance of lime, yet not have any grit to grind the food. Lime may be supplied by giving the hens crushed lime rock, oyster shell, clam shell or by giving a mortar made of lime and sand such as our ancestors used in the cracks of log houses, or a plaster made of lime and sand.

One mistake often made is to try to supply grit and lime in the same substance. The trouble is if the material is hard enough for grit it is too hard to dissolve fast enough to make enough egg shells for high egg production.

### Origin Of Domestic Fowl

Please tell us through the Question and Answer column something about the beginning of the domestic fowl as we have it today. I have not seen anything about this in Poultry Keeper and am interested.

T. R. E., West Virginia.

We cannot go very deeply into the history of the domestic fowl here, but can give a little information that will answer your question. The chickens as we have them today are the descendants of the jungle fowl of Northern India, called Gallus Bankiva. This was a wild bird which lived in the jungles and looked a good deal like the Black-breasted Indian game, but was not so large as the Indian game as we know it. It is hard to believe that some of our modern breeds could possibly have had such an origin, but when we stop to remember that it has taken centuries of evolution and breeding to bring these remarkable changes to pass, we have to stand in wonder at the skill and patience of man in bringing all this transformation to pass. While the changes in size and color are surprising they are nothing to the changes in egg production. It is said that the wild ancestor of the modern hen only laid from six to ten eggs a year, while there are hens today that lay 250 to 300 eggs in the course of a year, showing how science is able to improve on nature in prac-

tical ways by careful selection, breeding and feeding.

### Color Of Chicks.

We are ordering some Plymouth Rock baby chicks and I want to know what color the chicks should be when they come. I am not much acquainted with this subject and want to know if they should look anything like the full grown Barred Rock.

S. O. L., Pennsylvania.

Plymouth Rock baby chicks when hatched are sooty black on the back and neck, white on the throat and wing tips, and have grayish white patches on the head. It will be seen by this that they have little resemblance to the adult Plymouth Rock. The same is true of the baby chicks of other breeds, they do not necessarily bear any resemblance to the grown fowl of that breed. Chicks of the white breeds may be creamy white, milk white, or yellow white, while chicks of the black varieties are usually black and white with the white often predominating. So you will see that it is rather difficult to determine the breed by the color of the baby chick. Do not be too hasty to conclude that you have mixed chicks because there is a variety in the color of the baby chicks as they come to you, or even if the chicks later show feathers a little off color, as these may disappear after the first molting. If chicks are purchased from a reliable concern you have every reason to expect just what you buy and pay for.

### Likely Dropsy.

My chickens seem to have distended abdomens which I cannot explain. Have supposed my care was the best and the general condition surrounding the birds are good. The distension or swelling is soft as if there was water or some fluid inside the walls of the abdomen. What can it be and what is there to do for it?

R. T. N., Ohio.

From your description it would seem that your birds had dropsy beyond any doubt. You do not mention the age of the birds afflicted, but it is possible for this trouble to attack birds of practically any age, provided the right conditions are present for the development of the disease. It is supposed to follow a condition of low vitality caused by poor surroundings or care. Any condition which interfered with the general circulation, such as diseased internal organs, tumors, or lack of food, or prolonged chill or dampness could bring about a deposit of fluid in the tissues of the abdomen producing the condition you describe. The first measures to take would be the location and elimination of the cause,

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whatever it might be. Usually a careful study of the situation will enable one to locate a probable cause. I believe that cold damp houses often have more to do with this trouble than most people have any idea. It is not usually recognized that a circulatory difficulty may be the provoking cause of a host of diseases usually attributed to other causes to which they may necessarily have no relation whatever. Good food is important in building up the vitality of fowls so afflicted also, do not forget the sunshine. A tonic such as one teaspoonful of nux vomica to two quarts of water is good; or one grain of arsenate of iron to one quart of water, as drinking water for the sick birds. If the amount of fluid is large insert a sterilized needle into the tense skin which will let the fluid out.

**BREAKS EGG RECORD— SAVES FEED. Saves Chicks and Avoids Death in Shell.**

With eggs at 80c to \$1.00 per dozen, how would you like to have a flock of hens that would equal the record of this great hen, 304 egg in twelve months? Or if they would average even 150 to 190 eggs you could make big money. This wonderful hen just made a record of 304 eggs during the past year in the American Egg Laying Contest. The balancing of the feed so that the daily ration could be turned into practically the same number of yolks and whites made it possible for her to make one of the world's greatest records in an Official Egg Laying Contest.

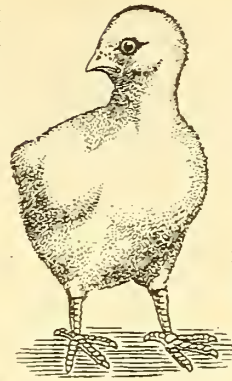
It is possible for you to turn every yolk into an egg and get a 100 per cent egg yield. Every hen must have the proper feed to make as many whites as yolks or it is impossible for her to lay her full number of eggs. Poultry raisers lose Millions



HEN No. 1101, which broke the American Laying contest with 304 eggs in Twelve months.

of Dollars each year by feeding grains which produce more yolks than whites, the hens therefore, become overly fat and egg production is reduced.

This hen was handled according to the methods of Prof. T. E. Quisenberry, Box 401 Leavenworth, Kan., President of the American Poultry School. His new 16 page bulletin



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**TWO MILLION FOR 1919**

Healthy, vigorous, pure bred—unusual utility value—heavy layers—safe arrival and satisfaction guaranteed. Hatched in the World's largest incubator, which holds 666,000, or

**FORTY TONS OF EGGS**

Best System of Incubation. Strongest Chicks Produced The air in our incubator is completely changed every three minutes and moisture furnished by live steam.

**We hatch the following breeds—**

- |                    |                  |                         |
|--------------------|------------------|-------------------------|
| Barred Rocks       | White Leghorns   | Anconas                 |
| White & Buff Rocks | Buff Leghorns    | White Orpingtons        |
| Rhode Island Reds  | White Wyandottes | Buff Orpingtons         |
| Brown Leghorns     | Black Minorcas   | Assorted, for Broilers. |

Twelfth Season—Write Today for Catalog—FREE

**THE SMITH STANDARD COMPANY**

W. 74th Street, Cleveland, Ohio

tells how to balance your feed so the hen does not waste a lot of energy and food. He tells you how to feed so as to double your egg yield; how to save on feed; how to grow winter green feed; how to cheapen your feed; and how this 304 egg hen was fed so as to manufacture nearly her own weight in eggs every month in the year and still stay in good health. Some suggestions are also given for culling out the drones. Thousands pronounce this the best 16 page bulletin or book ever written on the poultry feeding problem. Many poultrymen can double their winter egg yield by following these directions and on less dollars spent for feed.

This bulletin also tells how to feed the breeding stock so as to avoid the chicks dying in the shell. It also tells how to start feeding and brooding chicks so as to avoid loss by White Diarrhea.

If you really need information of this kind you can get a copy of this bulletin absolutely free by writing to Prof. Quisenberry at the above address. Write today while they last. —ADV.

**THE LEGHORNS**

Contains valuable information for breeders of any variety. Suitable for amateur and fancier. Articles by best breeders and judges. Color plates of S. C. White Leghorns and Brown Leghorn feathers by F. L. Sewell. Edited by J.H. Drevenstedt. 140 pages, 9x12, illustrated. Price, \$1.00 Address Poultry Keeper, Quincy, Ill.

**A SPLENDID OFFER**

Every breeder of White and Barred Plymouth Rocks should read the

This is the only magazine in the world devoted exclusively to the Plymouth Rocks. The subscription price with Poultry Keeper, both one year, for only .75 cents. Address Poultry Keeper, Quincy, Ill.

Resolve now to get ahead of the mites and keep ahead of them. Perhaps you have some easy way of doing it. If you have, tell us about it. On the average farm the mite problem becomes a hard one to solve about midsummer, when the weather is hot and the nights moist. Under these conditions mites multiply fast. Have you any method whereby you have no mites to multiply.

**EXTRA MEAT & EGGS FREE**

"OCULUM" is a wonderful medicine and highly recommended," says the Baltimore Sun. It makes fowls and animals GROW BIG without extra feed, and fetches extra milk, butter, and eggs.

Fifteen years ago Science discovered "OCULUM" a harmless Germicide. It is made in two strengths. One named "OCULUM" for fowls, the other "OCULUM" OIL, for animals.

Fed in the feed it practically immunizes from disease. Injected in the rectum it quickly relieves chicken cholera, Roup and W. Diarrhea Pneumonia and intestinal diseases in hogs, sheep, horses and cattle.

Testimonials from every state. Would you believe it, we have testimonials from stockmen who have actually cured hog cholera with it.

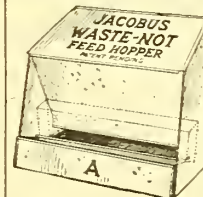
Bottles 50c and \$1.00. Money back if you want it. Stores sell it.

BOOKLET FREE AGENTS WANTED! Which shall we send you, "OCULUM" for fowls, or "OCULUM" for animals?

TRIAL BOTTLE 10c

THE "OCULUM" CO., Box S. Salem, Va.

This Journal O. K.'s us.



**JACOBUS WASTE-NOT FEED HOPPERS**

Are Now Saving Over \$40,000.00 in Food Yearly. Are you receiving any of it?

M. R. JACOBUS, Box 50 Ridgfield, N. J.

**Rheumatism**

A Home Cure Given by One Who had it

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case.

I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but, understand I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay Write today.

Mark H. Jackson, No 63-E Gurney Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true—Pub.

# Rabbits and Pet Stock

## A GOOD WAY TO RAISE AND SELL RABBITS

Editor Poultry Keeper:

Take a box 2 feet wide, 2 feet long and 18 inches high. Cut a hole about 6 by 8 inches in one end. Cover the top with lid 3 feet square so edges will extend out 6 inches on all sides. Cover this with good roofing material, then make a frame say 6 feet long, 2 feet wide and 18 inches high and attach to the end of box that has the hole in it. Cover this frame with 1 inch poultry netting on top end, and sides and 2 inch netting on the bottom. This makes a fine summer hutch and can be moved about on the lawn and a doe and her young will eat the grass that sticks through the bottom of the netting. This can be moved about and the rabbits will mow your lawn and feed themselves and if they are near the street or public highway and are of those pretty reddish buff New Zealands they will advertise and sell themselves as well as a lot of others.

Your boy can easily raise and sell right at home a goodly number this way and the expense is very little. Many women can at small expense and without much trouble raise and sell many rabbits right at home along with her chickens. It is a real pleasure to see them nibble the grass and play and frisk about and people will stop and talk and laugh at them and want to buy some for themselves. Get the best stock to begin with and you will be proud of them.

J. E. Johnson.

### THE PLYMOUTH ROCKS

A complete text book devoted to America's most popular breed of standard fowls. Explain standard requirements, tells how to select the right breeders and how to mate them. Edited by Wm. C. Denny and judges of wide experience. Three color plates by Sewell. 144 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.

## PLEASURE AND PROFIT IN ANCONAS.

Editor Poultry Keeper:

Breeding S. C. Anconas has not only become a pleasure but a source of great profit to me.

When I first began breeding S. C. Anconas I was astonished at the way they shelled out eggs, outlaying anything else on the farm. At that time they had not been brought to the high standard of perfection that they are today and yet they were beautiful to look at. The early fowls which were mostly too much white in wings and tail with light under color, has yielded to the scientific breeding of experts and today they are one of our most favorite show birds.

In mating our birds we choose only high class vigorous well matured birds that can be depended on to do away with weak unhealthy offspring. After mating, careful attention is given to feeding and housing. We use the open front house with curtains to draw in extreme cold or stormy weather. We feed them a well-balanced ration with plenty of green stuff but never try to force egg production.

When the hatching season opens we give most careful attention to gathering the eggs so as to keep them from getting chilled. Before we make one shipment we test all eggs to make sure of the fertility. Should any pen fall below 80 per cent no eggs are shipped from this pen until higher fertility is secured.

Each fall we wash and disinfect all of our incubators, brooders and brooder houses so when the hatching and brooding season opens we are ready for it with very little trouble. We brood from 150 to 500 in each brooder or have sometimes more the first few weeks but never crowd them.

The feeding problem is next. We feed our youngsters buttermilk, starting food with a small quantity of wheat, bran and oat flakes and get fine results. Successful brooding de-

## NEW ZEALAND, RED RABBITS AND RUFUS RED BELGIAN HARES

Eight page pamphlet on rabbits free

J. E. JOHNSON.

Marionville, - - - Missouri.



**RAISE RABBITS** in back-yard hutches. New Zealand Red, Flemish Giant and Belgian Hares Pay five to ten times better than chickens. Breed every month in the year, 6 to 12 to a litter. Easy to raise. We sell high-grade stock and buy all you raise from same at \$7.00 a Pair, 32-page book on housing, breeding and feeding, 4 cents. DAVIS & SON, 128 AVE. 31, LOS ANGELES, CAL.

pends largely on using common sense in feeding and caring for them. Don't expect that chicks will thrive under any conditions but give them the care they should have and you won't be disappointed.

The mating, hatching and brooding season is indeed hard and trying but the pleasure side comes when you see the fine husky youngster developing into hardy vigorous pullets and cockerels. Pullets that lay and pay and win prizes at the shows and fairs. Cockerels that will be winners and who will sire winners themselves and there is the pleasure side.

Do Anconas pay is the question? The following table will give some light on the matter.

A careful record kept of 10 S. C. Anconas for 4 months beginning with February resulted in the following:  
Total eggs laid, 741.  
Total cost of feed, \$13.60.  
Eggs sold at 40c per dozen brought \$24.70.

Manure valued at 95c, bringing the total to \$25.65, clearing \$12.05 on ten pullets for 4 months.

At the rate of the above table you can clear \$3,615.00 on 1000 hens in one year.

Worth M. Lewallen.

N. C.

### THE MISSOURI FARM FLOCK EGG LAYING CONTEST

Something different in the way of an egg laying contest is being carried on in Missouri this year, where instead of having a few selected fowls competing against the selected best of other breeders under the care of an expert, whole flocks of hens on the home farm and under the care of their owners are matched against similar flocks in various parts of the state. This is not only a contest to see which hens can lay the most eggs, but is also a demonstration to show how proper management will increase the egg production and the profitability of the farm poultry flock.

Favorable weather and careful attention combined to give the hens in the contest an unusually high egg production for March. The 14,478 hens in the contest for this month laid a total of 209,457 eggs or an average of 14.5 eggs per hen. The White Rocks with an average production of 17 eggs per bird made the best breed average for the month, but were closely pushed by the White Leghorns with an average of 16.7 eggs and the White Wyandottes with 16.5 eggs.

The highest individual flock record was made by 80 Brown Leghorn hens

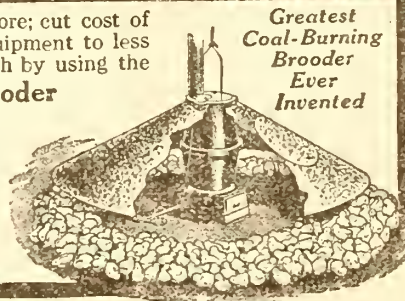
## Turn Your Losses into Profits

Grow three chicks where one grew before; cut cost of operation to less than half; cut cost of equipment to less than half; reduce labor to less than a fourth by using the

### STANDARD Colony Brooder

Guaranteed to raise more and better chicks than any brooder on earth. Broods 100 to 1000 at a guaranteed cost of less than 6 cents a day. Burns hard or soft coal--simple, safe, everlasting. Endorsed by all Agricultural Colleges and Experiment Stations. More than 30,000 satisfied users in U.S. Money back any time in 30 days if not satisfied. Catalog free.

THE BUCKEYE INCUBATOR CO.  
1510 Euclid Avenue - Springfield, Ohio



Greatest Coal-Burning Brooder Ever Invented



in Holt County, with an average of 21.0 eggs per hen. This flock was only a few eggs ahead of 75 White Wyandotte in Cole County with an average production of 20.9 eggs per bird.

The average income from eggs for each farm was 60.70 and the average expense for feed \$19.90, leaving a net return of \$40.80 for each farm. In addition to the eggs listed in the above income, 97 farms set two 145 dozen eggs during the month or an average of 265 eggs per farm. Forty-five of the farms reported 6,192 chicks on April first or an average of 133 chicks per farm.

It is interesting to note that the \$40.80 average profit for March exceeded by a considerable margin the average total profit of \$29.61 for the four winter months. It is also noteworthy that the 33.5 eggs produced by the average hen in this contest between November first and April first is more than half of the 64.5 eggs credited by the 1910 census as the annual production of the average Missouri hen.

#### MERITS OF THE LEGHORNS.

Editor of Poultry Keeper:

The Leghorn is to poultry and egg production what the Jersey cow is to dairy and cream production. The Leghorns produce eggs at a cheaper cost than any other breed.

The Leghorns can be raised quicker and kept cheaper than any of the larger breeds. They are healthier and better foragers and live longer. As a rule the Leghorn eggs are always fertile. The great egg farms all have the Leghorns.

As to Leghorns, some are better than others same as some Jersey cows are better than others.

As to color, I don't believe that there is any difference. Just please your taste same as the color you paint your house.

All breeds have good and poor layers. That is true of the Leghorns and for that reason make an effort to build up your flock. Some claim the rose comb Leghorns are less apt to freeze in winter and there may be some merit to that claim.

Remember the care taken and environment are very important and on them very often depends success or failure. Do your part and the Leghorn will do its.

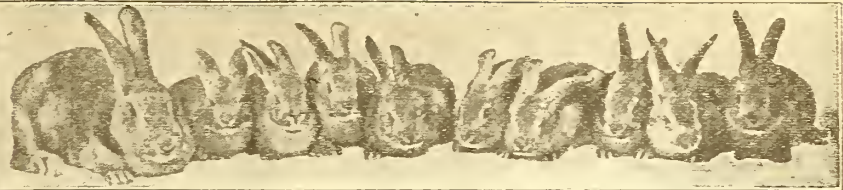
J. E. Coleman.

#### RHODE ISLAND REDS

Origin and history of both the Rose and Single Comb varieties. How to mate for best results, by leading breeders of R. I. Reds. Edited by D. E. Hale, judge and breeder. Color plate and feathers by F. L. Sewell. 88 pages, 9x12, illustrated. Price 75c. Address Poultry Keeper, Quincy, Ill.

#### DUCKS AND GEESE.

A complete guide to profitable Duck and Goose rearing. Articles by foremost breeders. Complete instructions on breeding, rearing, feeding, housing, marketing and exhibiting these profitable fowls. 104 pages, 9x12, illustrated. Price 75c. Address Poultry Keeper, Quincy, Ill.



Mother Rabbit can duplicate this six times a year!

## The New Rabbit Culture and Standard

BY ROTH AND CORNMAN, REVISED BY C. R. DEARDORFF

Third Edition (Revised and Up-to-Date) Now Ready

The best and safest guide for the experienced or amateur breeder. Tells what you must know and do clearly, concisely, and according to approved methods. Contains 132 pages, describing and illustrating all the leading breeds and varieties of Rabbits and Hares; discusses Feeding, Breeding, Housing and Yards, Diseases and Remedies, Selection of Breeders, Judging, Preparation for the Table, etc.; is, in fact, an encyclopedia of the best available knowledge. Among books on Rabbits, it has no superior. It is to the Rabbit Breeder what the "American Standard of Perfection" is to the poultryman. Thirty illustrations of all principal varieties.

One of the many who recommend this book is M. L. Thayer, a rabbit expert of the highest standing. In the California Rural World he advises that the man starting to raise rabbits get some literature before buying stock. He recommends this book.

AN EXPERT'S OPINION OF THE BOOK—What the Ex-President of The National Pet Stock Association of America Has to Say About It.

Dear sir:—The copy of "The Rabbit Culture and Standard" has been received and read entirely through. I wish to compliment the Editors on producing the first real good work on Rabbits in the United States, which should be a great help to all those seeking accurate knowledge. I was greatly impressed by the Foreword which emphasizes the possibilities of the meat industries which very few seem to realize and which must soon come into favor in this country same as it has in all of those on the other side. This book explains it in a much clearer way than it has ever before been my privilege to read. It will prove that rabbit meat is worth per pound just as much as poultry, pork, mutton or beef, in fact, very few realize what a nice delicate meat it is when cooked. The demand has always been greater than the supply, and with this good book explaining the way, it should be more simple for the beginner to see the right path. Yours very truly,

WILLIAM I. LYON.

### A Great Rabbit Boom Is Now On

Americans are thoroughly awake to the wonderful value of Rabbits and Hares as meat food to replace beef and pork. Easily bred and quickly raised, very prolific, requiring little space, easily prepared for the table—no other animals today so thoroughly meet our needs. Europeans have used them for many years and esteem them highly.

#### Breed Hares and Rabbits

The demand is greater than the supply. One breeder recently received 32 inquiries and orders in four days. Most of these he could not fill. WILL YOU? It's Patriotic, Pleasant and Profitable. "Rabbit Culture and Standard" will guide you.

Mailed Postpaid for 50 cents, paper cover; Cloth, \$1.00

POULTRY KEEPER, Quincy, Illinois



### My Victory Strain of Barred Rocks Continue to Win.

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

Eggs From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices.

Write for what you want.

J. T. FRENCH, 838 West Grove Place, Toledo, Ohio

## Reduced Prices

For May and June I will give reduced prices on eggs for setting from my prize winning S. C. Buff Orpingtons. Also some fine prize winning stock for sale at a bargain. Several champions both male and female for sale at special reduced prices. Write at once for particulars.

MRS. JOE HARTMAN,

Loraine, Illinois.

## HORNER'S PEDIGREE REDS

Bred to lay and win. Having trapnested and line bred both combs for eight years. Blue Ribbon Winners at Ill. State Fair, Quincy Show and Iowa State Show.

If you want winners and layers write for mating list.

ERNEST G. HORNER

Residence and Poultry Plant, R. 7.  
Office, 421 Hampsnir St., Quincy, Illinois.

## FOR RESULTS—START RIGHT

You can not get results unless you start right, with Standard Bred Poultry. You want a fowl that will GIVE YOU EGGS AND MEAT and a fowl that CONSUMES VERY LITTLE FEED and a fowl that HAS PROVEN for over a QUARTER OF A CENTURY that they are the BEST.

### U. R. Fishel's White Plymouth Rocks

Are known throughout the world as THE BEST GENERAL PURPOSE FOWL. For over a quarter of a century they have proven their superiority. They have won the most coveted prizes at SIX WORLD'S FAIR EXPOSITIONS and TWELVE STATE FAIR EXPOSITIONS, Chicago, Cincinnati, Memphis, Louisville, New Orleans, Indianapolis, etc. Also in some of the leading egg contests. They have proven to be

#### THE BEST IN STANDARD BRED POULTRY

I can supply you with SELECTED BREEDERS of quality, vigor and BLOOD LINES that you can not secure elsewhere. UTILITY FLOCKS that are egg producers and birds of quality and vitality. You want RESULTS you want FISHEL'S WHITE PLYMOUTH ROCKS. New Catalog and mating List FREE.

EGGS FOR HATCHING U. R. Fishel, Hope, Indiana BOX K  
DAY OLD CHICKS

#### SUMMER CARE OF CHICKS

Growing chicks should be provided with a house that will give them a place to stay in bad weather and at night, says a writer. No particular style of house is recommended, but it should be so built that it will provide the chicks with ample ventilation, dryness, sunlight, freedom from drafts, and be so arranged that it can be cleaned easily and frequently.

The lumber from piano and dry-goods boxes can be used in building such a house, and when covered with ordinary roofing paper so as to keep out the rain, will make desirable quarters. It is suggested that such houses be built on the colony plan, so that they can be moved from place to place, thus providing the chicks with fresh ground to range over. Elevating such a house 6 inches above the ground will assist in keeping the floor dry, by means of the circulation of air, and such space will also provide shade for the chicks.

In placing the chicks in their growing house for the first time, it is best to confine them for several days by erecting a temporary yard wherein they can run for 5 or 6 days, until they learn where to return when the fence is removed and they are allowed their liberty. Care should be taken not to crowd the chicks by placing too many in any one house. When the chickens cover the greater part of the floor at night, it is an indication that they are too crowded. At such a time they should be thinned out and placed in another house.

Feed for growing chicks may be divided into 3 classes, grain feed, dry mash, and green feed. In addition to the grain feed that the chicks are likely to find when on free range, a grain mixture should be given them morning and evening. The following rations should produce good results: Equal parts cracked corn and wheat. As the chicks increase in size, oats may be added. To cheapen this ration, it may be changed to two parts cracked corn and one part wheat. When one part of oats is added to this mixture, as the chicks increase in size, the ration may be changed to 3 parts cracked corn, 1 part wheat, and 1 part oats.

In addition to the above feed, a dry mash should be fed in a hopper to which the chicks have access at all times. Charcoal, grit, and oyster shells should be provided so that the chicks can help themselves whenever

they want to. If a continued supply of sour milk can be obtained it may be fed separately in a pan provided for the purpose. Sour and sweet milk should not be fed alternately as such practice is likely to cause bowel trouble. Whenever it is possible, growing chicks should be allowed free range so they may obtain as much natural green feed as they need in addition to bugs and worms. When green feed can not be obtained on range such as sprouted oats, cut clover, mangel-wurzels, etc., should be fed daily.

The importance of clean, fresh water for chicks can not be over-emphasized. In very hot weather fresh water should be given to them twice a day. Whenever possible the pan of water should be placed in the shade to keep cool. The water pan should be cleaned every day before fresh water is added.

Plenty of shade should be provided for growing chicks. When allowed to range in an orchard or cornfield they will not only find ample shade and green feed but will benefit the trees or corn as well as themselves by destroying bugs and worms. Sometimes sunflowers are grown for shade. Artificial protection against the sun's rays may be obtained by supporting frames covered with burlap a few feet above the ground.

Every effort should be made to keep the coops and houses clean and sanitary. Disease most frequently

starts in unclean, poorly ventilated houses. The house should be cleaned at least once a week. Sand or litter of some kind should be scattered over the floor of the house, so as to assist in keeping it clean. When chicks are confined to a limited range, the ground should be spaded up at frequent intervals, so as to provide fresh ground for them to scratch in. Chicks should be examined frequently to see if they are infested with lice. When lice are found, every effort should be made to get rid of them, by applying a small portion of a mixture of equal parts of vaseline and lard to the top of the head and around the vent.

#### MARKETING DUCKS' EGGS

The demand for ducks' eggs at a good price is limited and not nearly as general as the demand for hens' eggs. The quality of ducks' eggs on the average market was poor until people began to keep Indian Runner ducks and to build up a trade in first-class eggs. A good demand for ducks' eggs exists about Easter time at prices usually several cents a dozen higher than for hens' eggs, but during the balance of the year the average price for ducks' eggs has been about the same as for hens' eggs. Most buyers make no quotations for ducks' eggs except early in the spring. Since three ducks' eggs weigh about the same as four hens' eggs, ducks do not appear to be as profitable for the production of market eggs as fowls. A trade is gradually being established in some markets for fancy near-by ducks' eggs which bring higher prices than hens' eggs, and the demand seems to be increasing. Pure white eggs are preferred and usually bring the highest price. These eggs should be marketed frequently, as they depreciate in quality more rapidly than hens' eggs, especially during hot weather. The market for eggs should be carefully investigated by those who intend to raise breeds of the egg-laying type of ducks, such as the Indian Runner.



## Martin's Regals

### Reduced-Price Egg Sale

After June 1st, the price of Eggs from Exhibition or Dorcas Matings (as they run) will be \$3.00 per 15, \$9.00 per 50, \$17.00 per 100. Special Exhibition or Dorcas Matings, \$5.00 per 15, \$9.00 per 50, \$12.00 per 45, \$24.00 per 100. Utility Matings, \$5.00 per 50, \$9.00 per 100.

This is an excellent chance to become acquainted with

### America's Finest White Wyandottes

at small cost. Many of my winning Cockerels and Pullets at the big Winter Shows are June hatched.

**FREE:** Send for Catalogue and Summer List, giving description of several hundred choice breeding birds I am offering for sale.

John S. Martin Box 113 Port Dover, Ont.

**GET THIS, PLEASE!**

The "OCULUM" Co., Salem, Va., manufactures "OCULUM" for fowls and "OCULUM" OIL for animals. These products are giving genuine satisfaction, as these testimonials prove:

Please send me pint "OCULUM." Have used it 5 years and will continue to use it so long as I raise chickens.

W. C. Does,

Lostant, Ills.

I am satisfied "OCULUM" OIL will cure any case of Pneumonia in hogs if taken in time. We have cured 3 out of 5 cases of hog cholera with "OCULUM" OIL. Do not believe the hogs had the attention they should have had.

R. C. Hunt,

Washington C. H., Ohio.

You can get sample of either one for 10c by writing

"OCULUM" CO., Salem, Va.

**BETTER-POULTRY DRIVE IS ELIMINATING MONGREL FOWL**

It will not be long before the owner of a common mongrel flock will apologize for its existence. This is the opinion of the poultry-extension worker of the United States Department of Agriculture, who is a leader

**RATES:**

Rates for Ads. Classified Under Proper Headings Are as Follows:

|          |              |
|----------|--------------|
| 1 month  | 5c per word  |
| 2 months | 9c per word  |
| 3 months | 12c per word |
| 4 months | 15c per word |
| 1 year   | 36c per word |

**BANTAMS**

WHITE COCHIN BANTAM EGGS, \$2.00 per 13. Cockerels, \$3.00 each. Arthur Worthington, R. 3, Two Rivers, Wis. 4-4

**DOMINIKES**

DOMINIKES—Eggs \$2.00 setting. D. Baker, Preston, Md. 3-4

**ANDALUSIANS**

SINGLE COMB BLUE ANDALUSIANS exclusively. Eggs, \$1.50 per 15; \$4.50 per 50, delivered. W. W. Garvey, Chilhowee, Mo. 3-4

**GUINEAS**

PEARL GUINEAS—Eggs, \$1.00 per 15; \$2.00 per 36; \$5.50 per 100. Hoaks Poultry Yards, Spencerville, Ohio. 5-3

**WHITE LEGHORNS**

HATCHING EGGS—Tom Barron S. C. White Leghorns, vigorous stock, heavy layers, \$2.00 setting. Satisfaction guaranteed. Avery Crawford, Lexington, Ill. 3-4

S. C. WHITE LEGHORN CHICKS, \$15.00, 100; \$70.00, 500. Eggs, \$6.00, 100. Large lop comb layers. E. H. Burcham, Medora, Ind. 3-4

YOUNG'S STRAIN SINGLE COMB White Leghorns. Eggs from my choice pen, \$2.50 per 15. Write for particulars. D. E. Thayer, Third St. So. and 7th Ave, Faribault, Minn.

BARRON S. C. WHITE LEGHORN Chicks and hatching eggs from selected large best laying hens mated to big April hatched cockerels from trapnested 250 to 284 egg hens. Foundation stock imported direct. Breeders farm raised, large and vigorous. Safe arrival, etc., guaranteed. Prices low. Write R. T. Ewing, Atlantic, Pa. 4-3

ROSE COMB WHITE LEGHORN eggs for hatching. \$2.00 per 15. Earl W. Lowell, R. 2, Sharon, Wis. 4-3

SINGLE COMB WHITE LEGHORN—236 egg winter, laying bred, healthy, thrifty, laying built, two months old pullets 60 cents. Lay 4 to 5 months old. Lay 40 per cent more eggs than hens. B. J. Woodmansee, Highland, Ohio.

in the campaign for more and better poultry on farms in southwestern Arkansas. In many parts of Arkansas the importance of better poultry and more efficient management is being recognized by progressive, business men, commercial organizations, bankers, and others, and they are active in their moral and financial support in cooperating with the Government and State extension forces in their efforts to convince the farmer that standard-bred poultry properly managed is a paying industry, and that the old barnyard mongrel hen must get out of the way for standard-bred, uniform flocks.

The country agent of Drew County has placed 50 pens of one male and four females each pure-bred Barred Plymouth Rock and Rhode Island Reds on 50 farms, in charge of a boy and girl poultry-club member. The Monticello Chamber of Commerce and the banks of Monticello have advanced the money to purchase these pure-bred fowls and have assisted in their distribution. In addition to the 50 pens of chickens, over 100 sittings of pure-bred hatching eggs have been secured for the club boys and girls. The farm and home demonstration agents of Ashley, Union, and Desha Counties are busy with poultry-club work on farms and in the organization of poultry clubs. In each of these counties an effort is being made to double last year's poultry-club enrollments.

On March 12 the Southwestern Arkansas Poultry Association was organized at Magnolia with 18 charter members. It is reported that practically every business man in the town will become a member and lend his influence and support for more and better poultry. Plans have been made to hold the State poultry show at Magnolia November 25 to 28, where the finest aristocrats of the barnyard will be on display competing for the coveted American Poultry Association gold medal offered to only one association in each State.

**KEEP BOOKS ON YOUR FOWLS**

The idea of keeping records on our fowls used to give us a scare. Now after a couple of years' trial, we wouldn't think of not doing it, for the records eliminate guess work.

Every breeder will find it to his advantage to keep a record of the eggs laid by his flock, and in some cases where trap-nests are used a record of eggs laid by individual fowls will prove valuable. It is an easy matter to tack up a record sheet in each pen, hanging a lead pencil on a string beside it. Then, whenever the eggs are collected, it is but a moment's task to jot down the proper figures.

On our sheets we have also provided space for the keeping of an account of the food fed and a memorandum of the weather changes. These are apparently small matters, but we have found them very important because we can note at a glance, week after week and month after month, just how our fowls are doing under certain conditions and on certain foods.—R. B. S.

**BREEDER'S CARDS**

**BROWN LEGHORNS**

KULP'S BIG ROSE COMB (260) and Single Brown, 266 records. Large eggs. Stock. Catalog. W. W. Knlp, Pottstown, Pa. Box 30. 1-12

S. C. B. LEGHORN EGGS, from heavy laying strain farm range. 15, \$1.25; 100, \$6.00. Chas. Sabin, Princeton, Ill. 3-4

BROWN LEGHORNS—Famous Everlay Strain, America's greatest winning laying strain. Winter layers. Eggs reasonable. Circular. Everlay Farm, Box 44, Portland Ind. 3-4

**BUFF LEGHORNS**

PEDIGREED BREEDERS—Half price. "Business Beauty" strain. Outbred, large. Extra layers, big white eggs. Catalog. Joseph Benedict, Chevy Chase, Maryland.

EGGBRED BUFF LEGHORNS, (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

SINGLE COMB BUFF LEGHORN EGGS from solid golden buff, egg bred stock, \$1.25 per 15; \$6.00 per 100. Arthur Worthington, R. 3, Two Rivers, Wis. 1-12

**BLACK POLISH**

WHITE CRESTED BLACK POLISH (exclusively). Home of quality and beauty. Eggs, \$2.00 15; \$3.50 30. Mark Cutts, Dundee, Minn. 4-4

**ORPINGTONS**

S. C. BLACK AND WHITE ORPINGTONS. Bred to lay. Eggs for hatching, \$2.00 per 15. E. F. Lutz, Monewoc, Wis. 4-4

**BUFF ORPINGTONS**

ROSE COMB BUFF ORPINGTON EGGS for hatching, \$3.00 per 15; \$3.00 per 30. Mrs. Orren Porter, Clear Lake Iowa. 4-3

**WHITE ORPINGTONS**

WHITE ORPINGTONS. Eggs, half-price, June, July and August. Express prepaid. R. E. Sandy, Stuarts Draft, Va.

S. C. WHITE ORPINGTON EGGS, from Aldrich and Morris strain, \$3.00 and \$1.50 per setting. Neal Myers, Queen City, Mo. 3-4

**BARRED ROCKS**

PARK'S BRED-TO-LAY BARRED ROCKS, exclusively, direct from Park's best pedigreed stock. Large, beautiful, vigorous, prolific winter layers. Selected eggs, 15, \$2.50; 30, \$4.50; 50, \$6.00; 100, \$10.00. W. G. Meradith, Danvers, Illinois. 4-4

BARRED ROCK EGGS, finest stock. Free catalog, \$7.50 per 100. G. W. Sword, Lanark, Ill. 4-3

BARRED ROCK EGGS from selected layers. \$1.50 per 15; \$4.50 per 50; \$8.00 per 100. Special matings, \$5.00 per 15. Ralph B. Little, Fairmount, Indiana.

BRADLEY BARRED ROCK COCKERELS, from prize winning stock, \$3.00, \$5.00, \$10.00 each. Satisfaction guaranteed. R. O. Hazen, What Cheer, Iowa. 2-12

PRATT'S "CACKLER" STRAIN Barred Plymouth Rocks. Bred for eggs. 200 egg type. Foundation Parks, and contest winners. Eggs and baby chicks reasonable. Geo. W. Pratt, Cropsy, Ill. 1-12

BARRED ROCK EGGS for hatching, Park's strain exclusively, from Hogan tested hens, for egg type and capacity. Mated to Park's pedigreed males direct. Write for mating list. H. E. McLaughlin, 1215 Cassopolis, St., Elkhart, Ind.

EGGS—BARRED PLYMOUTH ROCK—From Bradley stock, direct. \$3.00 to \$5.00 per 15. Satisfaction guaranteed. J. M. Duff, R. 3, Berne, Ind. 3-4

BARRED ROCKS. Heavy bone, well barred, farm raised. Eggs, \$1.50 setting; \$6.00 per 100. R. R. McCracken, Liberty Center, Ind. 3-4

EGGS—BARRED ROCKS—Both matings, prize winners. Mating list free. \$10 per 100. Write today. L. E. Wilson, Eagle Grove, Iowa. 3-4

**BUFF ROCKS**

BUFF ROCK COCKERELS, egg strain, hatching eggs in season. Good hatch guaranteed. H. Witense Poultry Yards, Oakridge Ave., Madison, Wis. 3-4

## BREEDER'S CARDS

## BLACK MINORCAS

ROSE COMB BLACK MINORCA EGGS. Great laying strain. Consistent show winners. Mating list free for asking. J. F. Beswick, Berea, Ohio. 3-4

S. C. E. MINORCAS. Bred to lay and win. Eggs for hatching; good hatcheries guaranteed. Write for price list. Grover Deege, 814 Jefferson St., Quincy, Ill. 3-4

## RHODE ISLAND REDS

S. C. REDS, FARM RANGE... Eggs, 15-\$1.25; 50-\$3.00 100-\$5.00. Mrs. Lester Cassill, Drakeville, Iowa, Rt. 1. 4-3

ROSE COMB REDS, large, dark brilliant. Selected pens, \$2.00, \$3.00, \$5.00 for fifteen eggs. Mrs. J. W. Leazenby, Ridgeway, Mo. 3-4

SINGLE COMB REDS, dark even colored red. Choice mature old hens. Eggs \$5.00 per 15; \$12 per 50, prepaid. Mrs. Frank Spurling, Forest Park, Ill. 3-4

FOR BARGAINS in Reds and reliable information on both varieties consult The Red Journal, Box 30, Waverly, Iowa. Six months trial subscription, 10c. 2-4

## RHODE ISLAND WHITES

THE GREAT RHODE ISLAND WHITE FARM. Rose and Single Comb. Eggs, \$1.50 per 15 and up. Also chicks. Catalog free. Hy. Elchelmunn, Waterloo, Ill. 3-4

## TURKEYS-DUCKS

BUFF ORPINGTON DUCK EGGS - Welday Strain, \$2.00 per setting. John W. Fagan, Browning, Ill. 3-4

BOURBON RED TURKEYS—Extra large, dark red, excellent layers. Eggs, 60c each; \$5.00 per 10; \$9.00 per 20. Pekin Duck eggs, \$3.00 per 9. Mrs. Frank Spurling, Forest Park, Ill. 3-4

## BUFF WYANDOTTES

EGGBRED BUFF WYANDOTTES. Winners last National Club Show. Records to 246 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Illinois. 3-4

## WHITE WYANDOTTES.

OUR NEW WAY OF SELLING trapnested White Wyandotte settings is fairest, prices prove it. Elmcroft Yards, 5-89 Ft. Atkinson, Wis. 4-3

WHITE WYANDOTTE hatching eggs, \$6.50 per 100; \$1.50 per 15; special pens, \$2.00. William Remmert, St. Peter, Ill., Route 2. 2-12

WHITE WYANDOTTE EGGS, (Fisher Strain). Direct descendants from Panama-Pacific Exhibition first prize winners. Address Fairview Poultry Yards, Jefferson, Iowa. 3-4

## SILVER WYANDOTTES

SILVER WYANDOTTES... Hundreds of choice breeders and exhibition birds for sale. Also eggs from trapnested bred-to-lay hens. Write for circular. Satisfaction guaranteed. C. F. Schroeder, St. Peter, Ill. 2-12

## ANCONAS

SPLENDID LAYING STRAIN Rose Comb Anconas. Eggs, \$1.75 and \$4.00 per 15; \$4.75 per 50; \$8.50 per 100. Infertiles replaced at half price. No circulars. Order from adv. Mrs. E. J. Crawford, Owatonna, Minn. 2-12

S. C. ANCONAS, Sheppard's Strain. Bred to win and lay. Eggs and baby chicks in season. Write your wants. Mrs. Chas. P. McBroom, Fortuna, Mo. 2-4

ANCONAS—Chicks, \$15.00 per 100. Eggs, \$10.00 per 100. Stock for sale. John Bethler, Box K., Strassburg, Illinois. 1-7

MY WINTER LAYING ANCONAS cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write. Geo. Hecker, Earlville, Iowa. 2-12

ROSE AND SINGLE COMB ANCONAS—Eggs for hatching. (Guaranteed). Circular free. John C. Meyer, Box F, Oconto Falls, Wis. 3-4

HUGHES' ANCONAS are the winter layers. Satisfaction guaranteed. Joseph Hughes, Irving, Ill. 6-12

## DARK BRAHMAS

DARK BRAHMAS of the best blood in the U. S. Dr. W. B. McCoy, Gentryville, Mo. 3-4

## MORE POULTRY PRODUCED

Poultry production increased 5 to 20 per cent during 1917 and 1918 in Missouri, Kansas, Nebraska, Iowa, Minnesota, North Dakota, and South Dakota, which comprise district No. 3 of the emergency extension poultry work being conducted by the United States Department of Agriculture. Efficiency in poultry management through the application of better methods, advocated by poultry specialists of the department and State colleges, has done more to increase production than the keeping of a greater number of fowls, says the department's representative in this district. In the culling campaign in one State enough money was saved to farmers by disposing of 200,000 slacker hens to more than pay the expenses incurred for all of the extension work carried on in that State, and this culling work was only a part of the extension enterprise.

It was the one campaign wherein results were immediate, however, and it also afforded a definite basis upon which to estimate and tabulate the financial saving. The "better poultry" and "early hatch" campaigns were of even greater importance, and the saving and conservation of food through the "preserve eggs" and the "infertile egg" campaign runs well up into the hundreds of thousands of dollars the representatives report. More stress is now being placed upon the educational features of poultry work to insure greater efficiency in management. The farmer or poultry raiser will not be content in the future with an average egg yield of 6 or 7 dozen for each hen when it is known that the average yield should be from 9 to 12 dozen.

## GOOD PROFIT IN SMALL STOCK

Two settings of white Wyandotte eggs, costing \$2, in five years time netted \$379 profit for a woman poultry club member in Madison County, Tenn. She is a member of one of the clubs organized by the United States Department of Agriculture and the State colleges.

The first two settings of eggs were bought in 1914. In 1915, nine hens and six cockerels were sold for \$4; in 1916, 43 hens and two cockerels brought \$10; in 1917, \$100 worth of eggs and birds were sold; in 1918, the value of the flock, both fowls kept and sold, was \$315; a total of \$429. Much of the feed was waste products of the farm, and cost nothing.

The total cost of production was: Original settings, \$2; two breeding pens, \$30; feed, \$10; advertising, 3 years, \$8; a total of \$50. The profit of \$379 was made possible because of the smallness of the enterprise and the fact that most of the feed for the birds had no money value.

Benjamin Franklin said: "It is easier to suppress the first desire than to satisfy all that follow it."

Reinforcing the parts of a new garment which will receive hard wear is locking the stable before the horse is stolen.

## BREEDER'S CARDS

## LIGHT BRAHMAS

LIGHT BRAHMA EGGS from large boned, healthy flock. 100 eggs, \$7.50; 50, \$4.00; 15, \$1.50. Mrs. Sadie Deuser, Hedrick, Iowa. 3-4

## SEVERAL VARIETIES

SILVER LACED WYANDOTTES and White Orpington eggs, \$1.50 per 15. Mrs. Ethel Hitchcock, Indian Springs, Indiana. 4-3

SILVER WYANDOTTES, Barred Rocks, White Crested Polish. Winners at America's leading shows and egg laying contests. Stock and eggs for sale. Also Black Tailed Japanese Bantams. Wm. Neiers, Cascade, Iowa. 3-4

STOCK AND EGGS in Single and Rose Comb Reds, Single Comb White and Buff Orpington, Silver Comb White and Buff, White and Barred Rocks. Single Comb White Leghorn, Pekin and Indian Runner Ducks. A. Schroeder, St. Peter, Ill. 2-12

## BABY CHICKS

BABY CHICKS—Cut prices. Also eggs, Barred Rocks, White Leghorns, Orpingtons, Reds, White Wyandottes. Special sale. Circular free. Goshen Poultry Farms, R. 32, Goshen, Indiana. 3-4

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BABY CHICKS of leading varieties. Prices and catalogue free. East Saugatuck Hatchery, East Saugatuck, Mich. 4-3



BABY CHICKS BY THE MILLIONS—We hatch all the popular breeds and ship them anywhere by parcel post. Satisfaction and safe arrival guaranteed. For prices, see our ad on page 299. Let us send you a catalog—free. The Smith Standard Company, 1973 1/2 W. 74th street, Cleveland, Ohio. 3-4

BABY CHICKS, 15 to 20 cents. Rose and Single Comb Reds, White Orpingtons, Barred and White Rocks, White and Brown Leghorns. Catalog free. G. A. Mitchell, Freeport, Ill. 3-4

DAY OLD CHICKS FOR SALE, 10 varieties. Thousands per week. Strong, healthy chicks. Hatched by one of the oldest hatcheries. Circular free. Old Honesty Hatchery, Dept. K., New Washington, O. 1-4

## PIGEONS

I OFFER GUARANTEED mated Homers in any quantity at \$1.00 per pair. Beautiful White Homers, \$1.50 pair. Squab companies challenged to produce better stock at twice the price. Get my prices on Runts, Carneux, Maltese Hens and save dollars. Squab Manuel, 25c. Charles B. Gilbert, 2210 Almond St., Philadelphia, Pa. 3-4

FLYING AND SQUAB Breeding Homers. Guaranteed mated pairs. Price list free. C. J. Hammer, 1434 Eleventh St., A., Moline, Ill. 3-4

## RABBITS

FLEMISH GIANTS with pedigree. James Foytik, Swartz Creek, Mich. 2-12

BELGIAN HARES—Full grown breeding stock, \$2.00 each. Phillip Condon, Westchester, Ohio. 3-12

THOROUGHbred BELGIAN HARES; Three months old, \$1.50 each. J. T. Alexander, 1814 Darrow, Evanston, Ill. 3-4

## PRINTING

POULTRYMEN'S PRINTING Prepaid. Noteheads, envelopes, cards, tags, labels. 100 either, 60c; 250, \$1.00; 500, \$1.50; 1,000, 2.50. Postcards, catalogues, circulars, linen letter heads, everything. Finest cuts furnished. Stamp brings elegant samples. Model Printing Company, Manchester, Iowa. 9-12

## MISCELLANEOUS

WANTED: Experienced man in the manufacture of various Meat Product Poultry Feeds. Box 365, Louisville, Ky. 3-4

HOW DO JOCOBUS WASTE-NOT Feed Hoppers save feed? Circular tells. M. R. Jacobus, Box 5-K, Ridgefield, N. J. 8-12

DORAN'S GAPE REMEDY—A guaranteed cure for gapes. Thousands testify to its marvelous cures. Money back if it fails. 25c postpaid. Circular free. Agents wanted. W. H. Doran, Brandenburg, Ky. 2-5

# The Hen That Lays Is the Hen That Pays

The Hogan method of scoring hens according to certain bone and body measurements proving a close test to show the number of eggs a hen will lay in a year. It also shows the reproductive powers of the male. Thousands of Poultrymen using this system successfully.

## Selecting Poultry For Egg Production.

By Russell F. Palmer.

Haphazard methods of mating and breeding don't pay, and indiscriminate methods cannot prove successful in building up a flock of laying hens. There never was a time in the history of this country when poultry and eggs were in greater demand; the price at which poultry and eggs sell has increased much more in proportion than has the price of feeds necessary to produce these products.

The opportunity is ours to insure greater profits, if we carefully and systematically solve the problem which is facing us: "How can we insure a reasonably high average egg production?"

In July issue I had an article in which I pointed out that the "Hogan Method" of selection and breeding made possible culling out the non-layers—the drones and slackers—and keeping only those we know will produce eggs in profitable quantities. The writer has received many letters from readers of this paper regarding this method; all requesting more information.

There are exceptions to all rules. You will find some exceptions in selecting, testing, and breeding poultry according to the "Hogan Method" described in the book known as the "Call of the Hen;" but many breeders have tested it for some six or eight years; many of these have doubled their egg yield in that time. The "Hogan Method" does not stop with the mere selection of a good or poor layer of eggs.

It continues and shows the kind of males and females which will breed good layers. It shows the characteristics of males that are sure breeders or failures.

It is important to have males of the right formation to mate with the great layers for breeding purposes. The advantages of this method for one owning even a small flock of birds are so apparent that space need not be given to discuss it. Please read below the advertisement of "The Call of the Hen."  
Leavenworth, Kansas.

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| Hen      | Scored | Layed    |
|----------|--------|----------|
| No. 37   | 235    | 235 eggs |
| No. 39   | 250    | 255 eggs |
| No. 42   | 250    | 254 eggs |
| No. 43-B | 235    | 226 eggs |
| No. 43-G | 220    | 222 eggs |

|        |     |          |
|--------|-----|----------|
| No. 45 | 265 | 282 eggs |
| No. 46 | 250 | 242 eggs |
| No. 1  | 280 | 282 eggs |
| No. 3  | 255 | 258 eggs |
| No. 4  | 220 | 226 eggs |
| No. 70 | 205 | 210 eggs |
| No. 71 | 205 | 201 eggs |

This proves that the Hogan System is a very valuable discovery and should be used by all progressive poultrymen.

"The hen that lays is the hen that pays." There has never been a time that has demanded action more than just now. Drones are being culled out in all lines of business activity, and rightly so, and the same is true with the poultry business. The hen which delivers the goods is the hen which is your salvation, especially now when feed is so high. There is a profit in egg farming at the present price of eggs. If this workable science in the selection of layers is adopted, females can be scored at any time, even several months after they begin to lay, so you can tell how many eggs she will lay in one year. Males can be scored by this method to ascertain which are desirable as breeders to raise egg-laying type of birds.

The Hogan method has been tried out for several years, at experimental stations, large and small poultry plants all over the country, with satisfactory results, increasing the profit in egg production very materially, and has the indorsement of well-known poultry experts.

We would appreciate receiving your order for this book, which you will find advertised for sale below.



## YOU NEED THIS BOOK!

### IT WILL CUT DOWN YOUR FEED BILL

Why feed the hen that never lays or that never lays enough eggs to pay her keep? There is a way to prevent this.

### Learn Which of Your Hens Lay Best

—THIS BOOK WILL TEACH YOU HOW—



**BUT ONCE IN A CENTURY** is a discovery made which revolutionizes an industry, adding to the sum of human knowledge a "missing link" in the chain of civilization—creating an exact science, where before chaos reigned supreme,—where things went sort of hit and miss fashion. What Edison has done with electricity, what Burbank has accomplished in the field of horticulture, Walter Hogan has done for the poultry industry. So that you can understand and apply to your own poultry work the result of all this, the full details in plain and terse language is given in his new one hundred and fifty page cloth bound book

## "THE CALL OF THE HEN"

Under the touch of his magic hand Nature's secrets stand revealed—secrets, the value of which cannot be estimated in dollars and cents—secrets which have enabled hundreds of thousands of poultrymen to double their profits in a single year.

### DON'T KILL THE LAYER—SWAT THE DRONE

If you only keep a dozen hens you need this book. It will cut down the feed bill and increase your average egg yield. Don't judge "The Call of the Hen" by other poultry books. It's a cloth bound illustrated description of a new discovery, revolutionary in nature, the result of a lifetime of investigating and experimenting and has been thoroughly tested by hundreds of the most successful poultry plants and pronounced wonderful and sure.

### CULL YOUR FLOCK NOW—SELL THE LOAFERS—KEEP THE WORKERS

By the Hogan method you can not only select your good layers, but also good BREEDERS, both male and female; birds that will reproduce their kind and enable you to rapidly increase the average egg production of your flock.

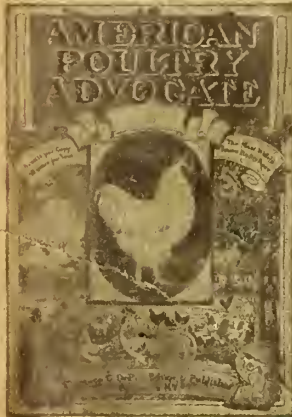
**You Take No Chance** when you send us \$2.00 for the new revised cloth bound, profusely illustrated book, "The Call of the Hen." We do not ask you to take our word for it, nor the word of such men as Prof. T. E. Quisenberry; L. C. Byce, member of the executive board of the A.P.A.; Michael K. Bover and others.

You be your own judge. Get the book. Follow Satisfaction or low directions. Apply your own tests. If you are not satisfied—more than satisfied—send back the book. **Money Back** We will refund your money at once. Don't put this off. Order today. Right now! Price \$2.00 Postage prepaid.

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Vol. XXXVI

JULY, 1919.

No. 4

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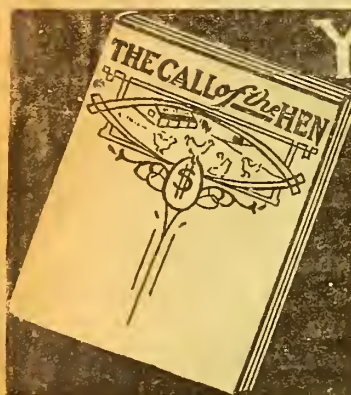
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"The hen that lays is the hen that pays." There has never been a time that has demanded action more than just now. Drones are being culled out in all lines of business activity, and rightly so, and the same is true with the poultry business. The hen which delivers the goods is the hen which is your salvation, especially now when feed is so high. There is a profit in egg farming at the present price of eggs. If this workable science in the selection of layers is adopted. Females can be scored at any time, even several months after they begin to lay, so you can tell how many eggs she will lay in one year. Males can be scored by this method to ascertain which are desirable as breeders to raise egg-laying type of birds.

The Hogan method has been tried out for several years, at experimental stations, large and small poultry plants all over the country, with satisfactory results, increasing the profit in egg production very materially, and has the indorsement of well-known poultry experts.

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### IT WILL CUT DOWN YOUR FEED BILL

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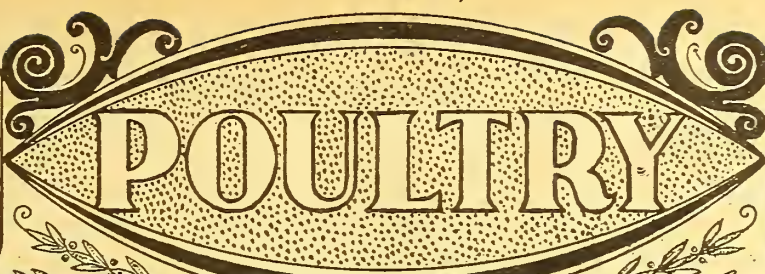
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# THE



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POULTRY  
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VOL. XXXVI.

JULY, 1919.

No. 4.

## \$1's Worth of Neglect Means \$10 Loss

The poultry and egg business has come into its own. The prices which have been paid for same have been reasonably satisfactory. You can look for even higher prices this winter than in any previous year. One of the big poultry and egg buyers told me a few days ago that the eggs which he was putting into storage now would have to sell for 65c per dozen this winter to keep him from losing money. Fresh eggs will be far higher. The export demand is going to be greater than in previous years. This has been a splendid year for farmers and poultry raisers, but I look for 1920 to be still better.

If the above statements are true, then it behooves every breeder of poultry to give close attention to those little details which make for his success. There are a few little things which must be given attention during the hot summer months. The season for the little fluffy, downy, interesting baby chick is past, and we are too apt to lose interest and grow lax with our methods and work. It is a few of the most important things for the hot summer months that I wish to call to your attention.

One of the most vital of these is **CROWDING**. Don't crowd the chicks in the house nor crowd the ground with too many fowls. If your house is crowded at night, the larger ones will impose on the weaker, mites and diseases are apt to get a start, and the vitality of your chicks will be sapped. Get the chicks to roosting on temporary roosts as soon as possible.

If you are not eternally on the lookout during the hot summer months, **MITES** are certain to get started in the cracks and crevices of the nest boxes and roosting quarters. Every roost pole and nest should be painted every two weeks with a liquid mite killer or a mixture of two parts of crude oil with one part of crude carbolic acid. Take an ordinary paint brush and go into every crack

By T. E. Quisenberry, President,  
American Poultry School, Leavenworth, Kan.

want them to grow rapidly and do best.



and crevice with the mixture. Keep the droppings, broken eggs, dirt and filth of every kind cleaned up. If once started, mites breed by the millions and cost you in feed, health and the vitality of your flock.

**CULTIVATE** your yards and the ground around the poultry houses. Cover it with air slacked lime before turning the soil. Sow some rape, swiss chard, wheat, or something else which will make **TENDER GREEN FOOD**. Keep the chickens off of it until it gets a start. If you can't do anything more, spade up a few shovels of earth in each yard each day. Encourage the chicks to work in that. The hot weather will dry the grass and make it so tough that it is not fit for food, or it is up to you to provide your flock with tender, succulent green food if you

**LICE** also thrive during the summer. Examine your chicks, also the grown fowls to see if you can find any evidence of them. If your chicks appear dumpish, one of the first things which you should do is to examine your house for lice and your chicks for mites. Some of the advertised lice ointments are good for mature fowls. Three-fourths of a pound of lard, one-fourth of a pound of suet, mixed with one-half pound of blue ointment, which can be purchased from your druggist, makes a good ointment. Mix this thoroughly and use an amount about equal to a garden pea just about an inch below the vent and the same amount in the fluffy feathers on each thigh. See that this is rubbed into the skin at these points. Do not use this for young chicks. For head lice on baby chicks, use a drop of sweet oil on the head and one drop under each wing. One of the best dust powders which you can use is **SODIUM FLOURIDE**. This chemical should be placed among the feathers next to skin about as follows:—Take a

small pinch between the thumb and first finger and use one pinch on the head, one on the neck, two on the back, one on the breast, one below the vent, one on the tail, one on the thigh, and one scattering on the under side of each wing when spread. In dusting hold the chicken over a large pan. The material which falls off may be used again. Don't use galvanized vessels for this work. Make war on the lice.

**DRINKING WATER** must be supplied frequently on hot summer days and the drinking pan should be kept in the shade. The egg and the body of the fowl is composed largely of water. If you let the pen go dry, you cut down your growth just that much, it takes just that much more feed, and you cut down your egg yield by

(Continued on Page 15).

## American Egg Laying Contest

By R. F. Palmer, Asst., American Poultry School, Leavenworth, Kans.

This laying contest, held by the American Poultry School at its Experimental Farm in the outskirts of Leavenworth, Kansas, is proving two very interesting points. First: that Professor T. E. Quinsberry, the head of this School, was right when he wrote an article for this paper seven months ago stating that, "In spite of high feed prices more money can and will be made on eggs produced from choice fowls, if properly housed, yarded, fed and cared for than ever before." Second: This contest, the second of its kind to be made up very largely of choice standard bred hens, has proven that in most cases, the best average and most consistent layers are also those hens most nearly approaching standard specifications.

The month of May was favorable to high egg production at the American Egg Laying Contest in so far as reasonable cool weather was concerned. The heavy rains and showers secured during the month were favorable to moist, fresh earth, green roots, worms and bugs. On the other hand, several dark rainy days were encountered which kept the hens indoors more or less.

Considering all varieties and all hens together, the month of May just go down on the records as recording some wonderful laying accomplishments on the part of these many hens of fine exhibition quality. All hens in the contest, numbering close to 400, averaged 22½ eggs each for May. Each contesting pen consists of five females. Forty nine pens each produced over 100 eggs in the month. Twenty four pens each produced 120 eggs or more. Ten pens produced 130 eggs or more, while the greatest record ever made in any contest by pens containing five females was made here in May when six pens each produced from 140 eggs to 149 each. The detail record of these six pens, which we are sure have broken all previous world's records, follows: White Wyandotte Pen No. 37, produced 146 eggs; owned by John Martin, Port Dover, Ont., Canada. White Wyandotte Pen No. 33, produced 140 eggs; owned by John Martin, Port Dover, Ont., Canada. White Leghorn Pen No. 13, produced 141 eggs; owned by Hillview Farm, Benld, Ill. White Leghorn Pen No. 90, produced 144 eggs; owned by The Coleman Miles Egg Farm, Mt. Carroll, Ill. White Leghorn Pen No. 50, produced 147 eggs; owned by Penna Poultry Farm, Lancaster, Pa. Single Comb Brown Leghorn, Pen No. 10, produced 149 eggs; owned by H. T. Tormohlen, Portland, Ind.

Five females could have been selected out of the White Wyandotte Pens No. 33 and 37 which would have produced very close to a perfect record. One pen had two females with records of 30; 30; and 29 eggs each.

A White Orpington pullet of excellent exhibition quality is in the lead for high individual records with a

production of 165 eggs for the first seven months.

Eight of the fourteen varieties competing in the contest each has one or more pullets with a record of 140 eggs or better for the first seven months, thus it will be seen that it is next to impossible at this date to even predict what variety will produce the individual winner by the close of the contest.

Thirty-four hens have averaged twenty eggs or more per month in the first seven months. Most of these should finish the year with records of 220 up to 300 or more eggs each.

The leading pen to date are White Leghorns with a record of 742 eggs. Should they continue as per their past average they will end the year with an average performance of about 260 to 270 eggs each. This would indeed make them a very valuable pen. Even this fine pen must keep up a great stride if it is to outlay another pen of White Leghorns from Washington which has a record of 738 eggs. The race between these two pens should be worth watching.

White Leghorns still lead in high average performance, their average for all females being 118.6 eggs. Second place in this respect was secured by the Buff Minorcas with an average performance of 100.4 eggs, they having crowded the White Orpingtons into third place with an average of 98.2. White Wyandottes are in fourth place with an average of 97.9 eggs, and the Barred Plymouth Rocks now hold fifth place in average production with a record of 97.7 eggs. The Anconas, Buff Plymouth Rocks and Single Comb R. I. Reds are but a short way back of these averages, and we may expect to see changes in position any month.

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### REMARKABLE FACTS ABOUT EGGS

The latest research proves that 1,200 eggs hold all the chemical elements contained in a man weighing 150 pounds. This does not mean that, if you make an enormous omelet of these 1,200 eggs a man would be produced. It does signify, however, that the elements in the eggs would be equal to the elements in a man.

If a person were to eat nothing but eggs he would get just the chemicals needed for supporting life, but the system would not digest an exclusive diet like this. The person trying to live on eggs alone would soon sicken, and if the diet were not changed would die.

If an average man, weighing 150 pounds, were reduced to a fluid he would yield 3,630 cubic feet of illuminating gas and hydrogen, or enough to fill a balloon that would carry 155 pounds.

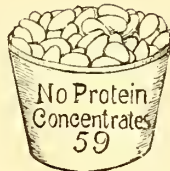
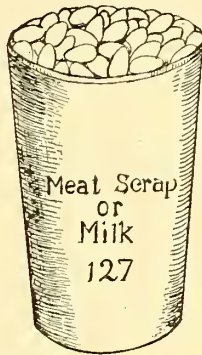
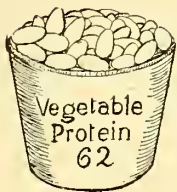
If the human body were taken just as it is and all of the elements extracted from it there would be found enough iron to make seven large nails; enough fat for fourteen one-pound candles; enough carbon to make the lead in sixty-five gross of pencils, and phosphorous enough to tip 820,000 matches. Besides all this would be found twenty teaspoonfuls of salt, fifty full-sized lumps of sugar and thirty-eight quarts of water.

Thus it is evident, that a human being is a great chemical factory, and the value of a man in actual materials is considerable.

The hundred dozen eggs would yield the same quantities of these chemical elements, and even at the present high price of eggs most of us would rather have the eggs used for the purpose than the man.

# MEAT SCRAP AND SOUR MILK FOR EGG PRODUCTION

by  
**H. L. Kempster and G. W. Hervey**  
**UNIVERSITY OF MISSOURI**



### Results Per Hen for One Year

| Vegetable Protein 62                            | Meat Scrap or Milk 127  | No Protein Concentrates 59           |
|---|---|--------------------------------------|
| Scratch Food 45 lbs.<br>Mash 13 lbs.            | Scratch Food 44 lbs.<br>Mash 17 lbs.                                | Scratch Food 45 lbs.<br>Mash 19 lbs. |
| Total Grain 58 lbs.<br>Vegetable Protein 7 lbs. | Total Grain 61 lbs.<br>Meat Scrap 6 lbs.<br>or<br>Sour Milk 88 lbs. | Total Grain 64 lbs.                  |

Hens cannot produce eggs profitably on grain alone. The grain ration must be supplemented by protein concentrates. Recent investigations show that the source of protein also influences egg production. That is, protein concentrates of animal and vegetable origin differ in ability to stimulate laying. A series of tests have been conducted to determine the relative efficiency of animal proteins, represented in these experiments by meat scrap and sour milk, and vegetable proteins, represented by oil meal, gluten meal and cottonseed meal, in rations for egg production.

### MEAT SCRAP AND SOUR MILK

Feeding tests conducted at the Missouri Agricultural Experiment Station have shown that sour milk or meat scrap added to the poultry ration materially increases egg production. Results of these tests, which were published in Circular 79 of this station, confirmed similar results obtained by Graham and Phillips. These tests extended from November 1, 1914, to October 31, 1915. A second experiment was conducted from November 1, 1915 to October 31, 1916. Results of these tests together with results from feeding protein concentrates of vegetable origin are presented herewith.

### THE RATION

About two-thirds of the ration given to each pen consisted of a scratch food made by mixing two parts of corn and one part of wheat. The rest of the feed given to each pen was a mash made by mixing bran, middlings or shorts and corn meal for the no-meat pen, or the pen which received no animal food whatever. The sour milk pen received the same mash and all the sour milk the fowls wanted, while the meat scrap pen received the same mash with the addition of meat scrap mixed with the mash. The exact number of pounds fed during the year to each of these pens of fowls is indicated in Tables 1 and 2.

### METHODS OF FEEDING

The usual poultry yard method of feeding was followed. Practically the only difference in the method of feeding the various pens was in the protein concentrate or the animal food given to the hens. In the morning



A Part of the Experimental Flock



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Compare them with ordinary hens and you will understand why so many thousands of poultry keepers breed Ferris White Leghorns. Trapped for 19 years, they have records as high as 264 eggs per year, and their laying qualities are so well established that they will produce good results for you wherever you are located. All stock is bred for size, health and profit and raised on free range with every care to produce perfect development.

### PRICES OF BREEDING STOCK

| From 230 to 264          | From 200 to 230 | From Good Egg Strain | From Good Utility Stock |
|--------------------------|-----------------|----------------------|-------------------------|
| 1 cockerel .....         | \$10.00         | \$7.00               | \$5.00                  |
| 1 male, 4 females .....  | 30.00           | 21.00                | 15.00                   |
| 1 male, 12 females ..... | 60.00           | 47.00                | 32.00                   |
| 100 females .....        | 365.00          | 285.00               | 200.00                  |

### NOW IS THE BEST TIME TO BUY.

Hundreds of choice cockerels, pullets and hens. See catalog for complete description. Prices of 8-Week-Old Pullets and Cockerels From 230 to 264 From 200 to 230 From Good Egg Strain Egg Strain Utility Stock

|                              |         |         |        |
|------------------------------|---------|---------|--------|
| 1 cockerel, 4 pullets .....  | \$16.00 | \$11.00 | \$9.50 |
| 1 cockerel, 10 pullets ..... | 35.00   | 25.00   | 20.50  |
| 50 pullets .....             | 135.00  | 110.00  | 80.00  |
| 100 pullets .....            | 250.00  | 200.00  | 150.00 |

**WE ARE NOW SHIPPING** 8-week-old chicks. At this age the pullets weigh ¾ lb. and the cockerels about 1 lb., and we guarantee safe arrival anywhere in the United States or Canada. Catalog gives full particulars. Cockerels are the same price as pullets—less than half what they will cost next fall.

### Eggs For Hatching—Prices For June and July

| From 230 to 264 | From 200 to 230 | From Good Egg Strain | From Good Utility Stock |
|-----------------|-----------------|----------------------|-------------------------|
| 15 eggs .....   | \$3.50          | \$2.50               | \$2.00                  |
| 30 eggs .....   | 6.00            | 4.50                 | 3.50                    |
| 50 eggs .....   | 8.50            | 6.50                 | 5.00                    |
| 100 eggs .....  | 16.50           | 12.50                | 9.50                    |
| 500 eggs .....  | 75.00           | 60.00                | 45.00                   |
| 1000 eggs ..... | 140.00          | 115.00               | 85.00                   |

**WE REPLACE ALL INFERTILE EGGS** free of charge, or if you get less than 90 per cent hatch we will replace one-half the eggs that do not hatch. We guarantee safe arrival anywhere in the United States or Canada.

### Day-Old Chicks—June and July Prices

| From 230 to 264   | From 200 to 230 | From Good Egg Strain | From Good Utility Stock |
|-------------------|-----------------|----------------------|-------------------------|
| 10 chicks .....   | \$4.50          | \$3.25               | \$2.50                  |
| 25 chicks .....   | 9.50            | 7.00                 | 5.00                    |
| 50 chicks .....   | 18.00           | 13.00                | 9.50                    |
| 100 chicks .....  | 35.00           | 25.00                | 18.00                   |
| 500 chicks .....  | 150.00          | 115.00               | 85.00                   |
| 1000 chicks ..... | 285.00          | 225.00               | 165.00                  |

**WE GUARANTEE SAFE ARRIVAL** anywhere east of the Rocky Mountains. See catalog for full instructions. Our incubator capacity is 51,000 eggs or over 10,000 chicks a week and we can make prompt shipment.

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### THIS 1919 CATALOG IS FREE



Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Contains photos showing our 32 acre White Leghorn farm at Grand Rapids where much of our laying stock is kept; and our 15 acre farm at South Bend, Indiana, where our exhibition stock is bred; describes our methods of feed and care; how we improve laying qualities;

list of winnings at over 50 big shows; many customers' letters; prices of exhibition, breeding any laying stock eggs for hatching and day-old and 8-week-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. Mail postal now while you have the matter in mind.

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a little scratch feed was sprinkled in the straw litter deep enough to make the fowls scratch and take exercise. Water was placed in clean pails and a pan of sour milk was given to the sour milk pen. At noon the proper amount of dry mash was measured into a trough, and during winter green feed was frequently given at the same time. Two or three times a week the fowls were induced to eat more of the mash by mixing the dry mash with water or with milk in case of the sour milk pen. This wet mash was fed at the rate of a handful for every four birds. At night the scratch feed was given again and the birds were allowed to eat all they would so that they might go to roost with full crops. The purpose of this method of feeding was to keep the hens busy all day, to keep their appetites keen, and yet to give them all the feed they would use. Feeding a small amount of the scratch feed in the morning encouraged the hens to eat more of the mash. An attempt was made to get them to consume about half as much of the mash as they did of the grain or scratch feed. Grit and oyster shell were kept before the hens at all times.

### COST, RESULTS, AND PROFIT

Cost of Feed.—The prices paid for feed will vary, of course, in different counties, in different states and from year to year, but the prices quoted by a local mill are probably fairly representative of Missouri for 1915. Even if they should be a little too high or a little too low to show the profitable cost in the reader's locality, they will enable him to compare the cost of egg production on no-meat, meat scrap, and sour milk rations.

Table 1.—Summary of Experiment With Three Twenty-Five-Bird Pens of White Leghorn Pullets

|   | Beef scrap | No meat | Sour milk |
|---|------------|---------|-----------|
| Grain, pounds                           | 1095       | 1095    | 956       |
| Mash, pounds                            | 422        | 429     | 446       |
| Total pounds (meat foods excluded)      | 1410       | 1524    | 1402      |
| Total pounds meat foods                 | 105        | -----   | 2200      |
| Average pounds of food per hen per year | 56.4       | 60.9    | 56.08     |
| Pounds meat foods per hen per year      | 4.2        | -----   | 88        |
| Average cost per hen per year, dollars  | 1.026      | .956    | 1.05      |
| Eggs per hen                            | 107        | 55      | 131       |
| Profit per hen, dollars                 | .79        | -.041   | 1.13      |
| Eggs laid                               | 2669       | 1373    | 3275      |
| Cost (total), dollars                   | 25.68      | 23.90   | 26.32     |
| Corn, pounds                            | 730        | 730     | 638       |
| Cost, dollars <sup>2</sup>              | 11.68      | 11.68   | 10.21     |
| Wheat, pounds                           | 365        | 365     | 318       |
| Cost, dollars <sup>2</sup>              | 6.08       | 6.08    | 5.30      |
| Bran, pounds                            | 105        | 143     | 149       |
| Cost, dollars <sup>2</sup>              | 1.26       | 1.71    | 1.79      |
| Shorts, pounds                          | 105        | 143     | 149       |
| Cost, dollars <sup>2</sup>              | 1.47       | 2.00    | 2.09      |
| Corn meal, pounds                       | 105        | 143     | 149       |
| Cost, dollars <sup>2</sup>              | 1.78       | 2.43    | 2.53      |
| Meat scrap, pounds                      | 105        | -----   | -----     |
| Cost, dollars <sup>2</sup>              | 3.41       | -----   | -----     |
| Sour milk, pounds                       | -----      | -----   | 2200      |
| Cost, dollars <sup>2</sup>              | -----      | -----   | 4.40      |
| Value of eggs (20c a doz.), dollars     | 44.46      | 22.90   | 54.58     |
| Profit in dollars                       | 19.78      | -1.001  | 28.26     |
| Feed to produce a pound of eggs, pounds | 4.55       | 8.88    | 3.42      |
| Food cost of a dozen eggs, dollars      | .122       | .222    | .10       |

<sup>1</sup>The minus sign (—) indicates a loss.

<sup>2</sup>The cost of the feed is based on the quotations of a local mill at the following rates: Wheat, \$1.66 per 100 pounds; corn, \$1.60 per 100 pounds; bran, \$1.20 per 100 pounds; corn meal, \$1.70 per 100 pounds; shorts, \$1.40 per 100 pounds; meat scrap, \$3.25 per 100 pounds; sour milk, \$0.20 per 100 pounds.

Eggs Laid.—During the first test, the twenty-five hens in the no-meat pen laid 1373 eggs or an average of 55 per hen for the year. The hens fed meat laid an average of 107 eggs apiece or almost twice as many as the no-meat hens; and the sour milk hens averaged 131 eggs apiece, or almost two and a half as many as the no-meat hens.

Table 2.—Summary of Experiment With Three Ten-Bird Pens of White Leghorn Hens

|                                      | Beef scrap | No meat or milk | Sour milk |
|--------------------------------------|------------|-----------------|-----------|
| Grain, pounds                        | 491        | 470             | 458       |
| Mash, pounds                         | 207        | 209             | 197       |
| Total pounds (meat excluded)         | 646        | 679             | 655       |
| Total pounds meat or milk            | 52         | -----           | 880       |
| Average pounds food per hen per year | 65.51      | 64.6            | 62.42     |
| Pounds meat food per hen per year    | 5          | -----           | 83.8      |
| Average feed cost per hen per year   | 1.13       | 1.00            | 1.14      |
| Eggs per hen                         | 133.6      | 59.7            | 126.9     |
| Profit per hen, dollars              | 1.04       | -.05            | .924      |
| Eggs Laid                            | 1336       | 597             | 1269      |
| Cost (total) dollars                 | 11.84      | 10.56           | 11.91     |

|   |       |      |       |
|---|-------|------|-------|
| Corn, pounds                              | 328   | 314  | 305   |
| Cost, dollars                             | 5.25  | 5.02 | 4.88  |
| Wheat, pounds                             | 164   | 157  | 153   |
| Cost, dollars                             | 2.72  | 2.60 | 2.54  |
| Bran, pounds                              | 52    | 70   | 66    |
| Cost, dollars                             | .62   | .84  | .79   |
| Shorts, pounds                            | 52    | 70   | 66    |
| Cost, dollars                             | .73   | .98  | .92   |
| Corn meal, pounds                         | 52    | 70   | 66    |
| Cost, dollars                             | .83   | 1.12 | 1.04  |
| Meat scrap, pounds                        | 52    |      |       |
| Cost, dollars                             | 1.69  |      |       |
| Sour milk, pounds                         |       |      | 880   |
| Cost, dollars                             |       |      | 1.76  |
| Value of eggs, (20c a doz.), dollars      | 22.27 | 9.95 | 21.15 |
| Pounds of feed to produce a pound of eggs | 11    | 9    | 4.12  |
| Food cost of dozen eggs, dollars          | .106  | .21  | .112  |

1 Includes meat scrap.  
2 Does not include milk.

During the second test the ten hens in the no-meat or milk pen laid 597 eggs, or an average of 59.7 eggs, per hen for the year. The hens fed meat scrap laid 1336 eggs, or almost two and one-fourth times as many, while those fed milk laid 1269 or 126.9 eggs apiece.

Profits.—Examination of profits returned shows that it is poor economy not to feed either meat scrap or sour milk to laying hens. Table 1 shows that the fowls fed no meat or milk laid only 55 eggs per hen at a food cost of \$0.956. With eggs at twenty cents a dozen they returned \$0.916. In other words, the poultryman gave his work for nothing and paid four cents more for the feed than the eggs returned in cash. The hens fed meat scrap laid 107 eggs per hen and returned a profit per bird of \$0.79 although the feed they ate cost \$0.07 more per hen. The hens fed sour milk laid 131 eggs per hen; and with milk at \$0.20 a hundred, they returned a profit of \$1.13 per bird or a profit of more than 100 per cent.

Table 2 shows that the no-meat or milk pen laid 59.7 eggs per hen at a food cost per hen of \$1.00. In other words, the eggs cost \$0.21 a dozen. If the eggs had sold at \$0.20 a dozen the loss per hen would have been \$0.05. The hens fed meat scrap laid 133.6 eggs at a food cost of \$0.106 per dozen. In other words, the hens returned a profit of \$1.04 per bird. The hens fed milk averaged 126.9 eggs at a food cost of \$0.112 a dozen. They returned a profit of \$0.923 per hen. There is no doubt that the meat scrap and sour milk are responsible for the great increase in the number of eggs laid.

Table 3.—Summary of Experiments With Meat Scrap and Sour Milk

|                                     | Meat scrap |         |       | No meat or milk |         |        | Sour milk |        |       |
|-------------------------------------|------------|---------|-------|-----------------|---------|--------|-----------|--------|-------|
|                                     | 1st yr     | 2nd yr. | Aver. | 1st yr.         | 2nd yr. | Aver.  | 1st yr.   | 2nd yr | Aver. |
| Total lbs., meat foods excluded     | 56.1       | 60.5    | 58.4  | 60.6            | 64.6    | 62.7   | 56        | 62.4   | 59.2  |
| Total lbs., meat or milk            | 4.2        | 5       | 4.6   |                 |         |        | 88        | 83     | 86.   |
| Av. cost per hen per yr. dollars    | 1.026      | 1.13    | 1.078 | .956            | 1.00    | .978   | 1.05      | 1.14   | 1.095 |
| Eggs per hen                        | 107.       | 133.6   | 120.3 | 55              | 59.7    | 57.3   | 131       | 126.9  | 129   |
| Profit per hen, dol.                | .79        | 1.04    | .915  | -.04*           | -.05*   | -.045* | 1.13      | .092   | 1.024 |
| Feed to produce a lb. of eggs, lbs. | 4.5        | 4       | 4.25† | 8.88            | 9       | 8.94†  | 3.42      | 4.1    | 3.76† |
| Food cost of doz. of eggs dollars   | .122       | .196    | .114  | .222            | .21     | .215   | .10       | .112   | .106  |

\*Loss, no meat or milk pens.

†The foregoing table shows that it required an average of 4.25 pounds of feed to produce a pound of eggs in the meat scrap pen; 8.94 in the no-meat or milk pen, and 3.76 in the sour milk pen. The computations are unfair to the meat scrap pen because the meat scrap is included and the sour milk is not included. By excluding the meat scrap the amount of feed required to produce a pound of eggs in the meat scrap pen would be 3.9 pounds. The feed cost per dozen eggs also gives a fair comparison.

**OIL MEAL, GLUTEN MEAL AND COTTONSEED MEAL**

Different stations have compared the value of protein concentrates of vegetable origin with protein concentrates of animal origin. Results of these comparisons, together with similar tests by the Missouri Station, are given.

In Bulletin 171 of the New York Experiment Station on "What Grains Lack as Poultry Food," Wheeler shows that rations made up of "grains alone, (even with the same nutritive ratio) required more dry matter in the food for each pound of gain, than did one corresponding lot fed on a ration composed in part of animal meal. The same held true with the four lots of laying hens compared. The average for hens was nearly one-fourth (23%) more food for each pound of eggs than on an animal meal ration."

"Laying hens, upon a ration made equal in mineral matter, produced as great weight of eggs as upon the animal meal ration for most of the time but began to show a slight advantage for the animal food toward the end of the thirty weeks."

Conclusions point "toward the superiority of rations containing animal

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### ROOST

No lice, no mites, fill hollow roosts with oil or dip. Write **ALLION PERCH CO.,** Willis, Mich.

Do you know what milk is? Agricultural chemists define it as "the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and five days after calving, or such longer period as may be necessary to render the milk practically colostrum free." Are you producing milk?

food over those made up of grain alone. When a bone ash supplement is used the advantage disappears."

Morrison in Mississippi Experiment Station Bulletin 162 concluded "that so far as can be determined, the general condition of the cottonseed meal fed seems just as good as the condition of those fed beef scrap, and that hens fed cottonseed meal will produce eggs when eggs are highest in price."

The general tone of the bulletin is to show the superiority of cottonseed meal over beef scrap.

Two tests out of three were in favor of cottonseed meal:

|  |          |               |
|--|----------|---------------|
| Pen A—Mash 10% cottonseed meal.....114 doz. ....     | \$0.1059 | cost per doz. |
| Pen B—Mash 5% beef scrap ..... 90 7-12 doz. ....     | .13      | cost per doz. |
| Pen C—Mash 22% cottonseed meal.....111 5-6 doz. .... | .088     | cost per doz. |
| Pen D—Mash 11% beef scrap .....168 7-12 doz. ....    | .067     | cost per doz. |
| Pen E—Mash 15% cottonseed meal.....121 1-2 doz. .... | .083     | cost per doz. |
| Pen F—Mash 7.5% beef scrap ..... 98 2-3 doz. ....    | .114     | cost per doz. |
| All cottonseed meal .....                            | 346      | 11-12 doz.    |
| All beef scrap .....                                 | 347      | 10-12 doz.    |

No record is given of the number of hens used so that it is impossible to judge the production. The experiment ran from January 1 to June 30. The cheapest eggs came from the pen which was fed a mash consisting of 11 per cent beef scrap.

Bulletin 112 Oklahoma Experiment Station reports feeding rations containing cottonseed meal. The authors conclude: "As a feed for egg production and not considering the effect on hatchability, beef scrap is superior to cottonseed meal and more than makes up the greater cost by apparently causing greater production." There appeared to be a slight advantage in hatchability (3.7 per cent) in favor of the cottonseed meal fed hens.

Clayton of the Mississippi Experiment Station in Bulletin 175, "Cottonseed Meal a Good Feed for Laying Hens" shows the following:

|   |      |              |
|---|------|--------------|
| Pen A—Mash 11% Cottonseed meal.....249 eggs.....  | 27.6 | eggs per hen |
| Pen 5—Mash 5 1/2% Beef scrap .....174 eggs.....   | 17   | eggs per hen |
| Pen K—Mash 22% Cottonseed meal .....396 eggs..... | 30.5 | eggs per hen |
| Pen D—Mash 11% Beef scrap .....200 eggs.....      | 29   | eggs per hen |

In pen D there were only seven hens while Pen K had twice that number. In pen D it is noted that during the first three months only 7 eggs were produced, on only 3 1/2 per cent of the entire production. In the corresponding pen K, 25 per cent were laid during the first three months when the beef scrap pen had started to lay, the seven hens laid 193 eggs or an average of 27.6 eggs while in the cottonseed meal pen thirteen hens laid 281 eggs or 21.6 eggs apiece. The experiment ran from October 1 to March 31, or six months. The egg production per hen was correspondingly low. It is regretted that the experiment did not continue over a longer period. The bulletin recommends that the mash contain 25 per cent cottonseed meal.

Hare in Agricultural Extension Bulletin 16, Clemson College, South Carolina, suggests using a mash containing one-sixth cottonseed meal and one-sixth cowpea meal.

All experiment stations do not report favorably on the use of cottonseed meal.

Waite of the Maryland Experiment Station in the Journal of the American Association of Instructors and Investigators in Poultry Husbandry reports using three different rations:

|                                    |     |      |
|------------------------------------|-----|------|
| Pen 3—10.67% cottonseed meal ..... | 214 | eggs |
| Pen 4—18.00% gluten feed .....     | 370 | eggs |
| Pen 7— 2.67% cottonseed meal ..... |     |      |
| 1.78% beef scrap .....             |     |      |
| 3.56% soybean meal .....           | 605 | eggs |
| 4.45% gluten meal .....            |     |      |

There were 40 hens in each lot. The test ran from December 1 to February 28.

During February every bird in Pen 3, if not actually sick, was in such bad condition that it was deemed necessary to change the ration.

Lewis in Vol. III No. 4 Journal of the American Association of Instructors and Investigators in Poultry Husbandry reports feeding five pens of fowls over a period of two years. In this experiment, various protein concentrates of vegetable origin were compared with beef scrap; this was the only difference in the rations.

|                              | Per cent production 1st year | Per cent production 2nd year | Per cent Mortality |
|------------------------------|------------------------------|------------------------------|--------------------|
| Pen 42—Beef Scrap .....      | 32.3                         | 24.17                        | 12                 |
| Pen 43—Soybean Meal .....    | 12.3                         | 21.68                        | 26                 |
| Pen 46—Gluten Meal .....     | 10.7                         | 17.67                        | 24                 |
| Pen 47—Oil Meal .....        | 6.54                         | 17.05                        | 32                 |
| Pen 48—Cottonseed Meal ..... | 9.4                          | 14.55                        | 32                 |

In conclusion, Mr. Lewis states that meat scrap proved to be the most efficient, nearly doubling the next highest pen, the soybean meal. The mortality was less in the beef pens and highest in the oil meal and cottonseed meal pens.

(To Be Continued Next Issue.)

## MAKE CHICKS GROW AND HENS LAY

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## MISSOURI STATE FAIR POULTRY SHOW

Sedalia, Missouri, August 9-16, 1919

The Missouri State Fair Poultry Show requests your cooperation this year, so that the 1919 Exhibition may exceed in number and in quality of entries, any Exhibition ever held at the great Missouri State Fair.

It will be pleasing news to all exhibitors that the Poultry Building will be renovated, and cooping of the very make installed, which will greatly improve the appearance of the Building and the Show and will be more pleasant and comfortable for the exhibitors and visitors, as well as the birds.

### No Entry Fee

No entry fee is charged, but a coop fee of 25c per bird and \$1.00 for breeding pen, covers all expense including feed and care.

Judge C. A. Emry, now of Kansas City, will place the awards. He is known to thousands of Missourians and has been identified with the poultry interests in Missouri as a breeder and a Judge for many years.

T. W. Noland, Director of the Missouri State Poultry Experiment Station, will superintend the Show again this year, and Fred Crosby will have charge of the office. Competent men will care for your birds while on exhibition, and see to cooping in and out.

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The Harrisburg (Ark.) egg circle, organized late in March at the request of local citizens having eggs to sell, shipped out to market 575 eggs during the first week of operation. The first 120 dozen netted the shippers 22 cents; the other 455 dozen netted 33 cents. The eggs sold for a total of \$216.20, and eggs brought home \$189.19 to the producer.

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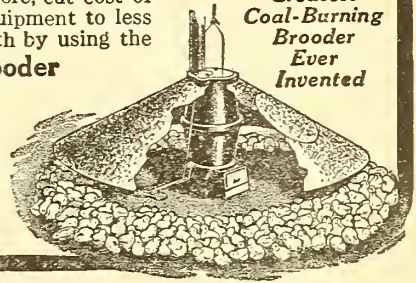
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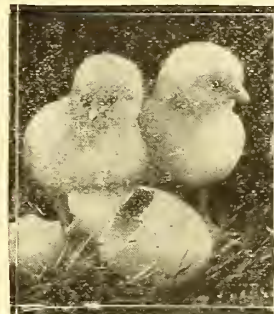
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For the past ten years it has been my annual custom to hold a Summer Sale of Stock. On account of my very heavy egg trade, I am obliged to keep all my breeding Pens mated until July 1st. After that time it is absolutely necessary to make room for my rapidly developing young stock. This season I have over 2,500 thrifty chicks, hatched between the middle of January and the middle of March and they are constantly needing more room. To give them proper accommodation I must dispose of a large number of my breeders quickly. This is not the usual time of year to sell stock it is true, but to make it an object for you to buy at this time, I am quoting very special values. My list this season is without a doubt the largest and best that I have ever offered. Many of the birds in this list will win in the large shows next winter and they have grand breeding with generations of "Regal" ancestry back of them. I have made up my mind not to show anywhere this winter, and, if it were not for this, there are many birds in this list that I could not possibly spare.

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A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## MORE CHICKENS IN SOUTH, AND STOCK IS BETTER, TOO

Increased interest in poultry raising in the general farming sections of the South, with purchase of much better stock, is reported by a specialist of the United States Department of Agriculture who recently investigated the status and activities of Old Mother Hen in Alabama, Louisiana, Mississippi, and Texas. Producers are working not only to supply the home market, but eggs are also being shipped from Mississippi, Alabama, and Texas to Memphis, St. Louis, New York, and other marketing centers.

The advantages of the South for poultry keeping are manifold and include a propitious climate, which enables the flock owner to produce eggs to better advantage during the winter season, while he also can make use of simpler and cheaper houses than can his northern associates. Furthermore, the favorable weather conditions in the South promote the feeding of green stuff to the hens practically the year round.

### Must Meet Obstacles

There are certain disadvantages, too, such as prevalence of insect pests including mites, lice, and in some sections mosquitos and stick-tight fleas as well as the blue bug in parts of Texas. Furthermore, southern markets are not high paying consumers of locally produced eggs. This is particularly true in the resort section of Florida, where for many years the trade has been accustomed to import its eggs from the North and West. It does not readily transfer this business to local producers. In addition, the southern market for eggs is usually "spotted," due to fluctuations in the tourists traffic.

During the heat of summer egg losses in the South aggregate a con-

siderable sum, largely due to the development of fertile eggs. It is essential that southern producers exert every effort to produce and market only infertile eggs in order to control this source of loss. A common opinion prevails that the legorns are particularly adapted to southern conditions, but according to the experience of the specialists of the United States Department of Agriculture southern poultrymen realize just as satisfactory results—and in many instances more favorable returns—from the maintenance of the heavier, general-purpose birds.

A number of failures in the poultry business on the part of newcomers in Florida, who embark in specialized production of poultry products, are explained by the fact that most of them were unfamiliar with local conditions and started on too extensive a scale. A beginner in chicken raising in a new locality should always start on a small scale and expand his operations as he learns more about local conditions and as his returns from the business justify. For the man who is experienced in poultry raising and who will adapt himself to new conditions readily and not take excessive risks and who is supplied with plenty of working capital, the Southern States, apparently, offer a fair opportunity.

### Texas Raises Many Turkeys

Many turkeys are raised in Texas, as well as a considerable number in Mississippi and Alabama and in western Florida. As a general proposition these birds are raised in small flocks on general farms, where plenty of range is available. Under such conditions they usually yield a profitable income. Not many ducks are raised in the South, but considerable interest is displayed in goose

production, while guineas also are raised on many farms. Guinea eggs are used on the home table, as well as being marketed, but as a rule the guineas are allowed to run wild and are not produced on any scale for market purposes.

### THE YOUTH'S COMPANION

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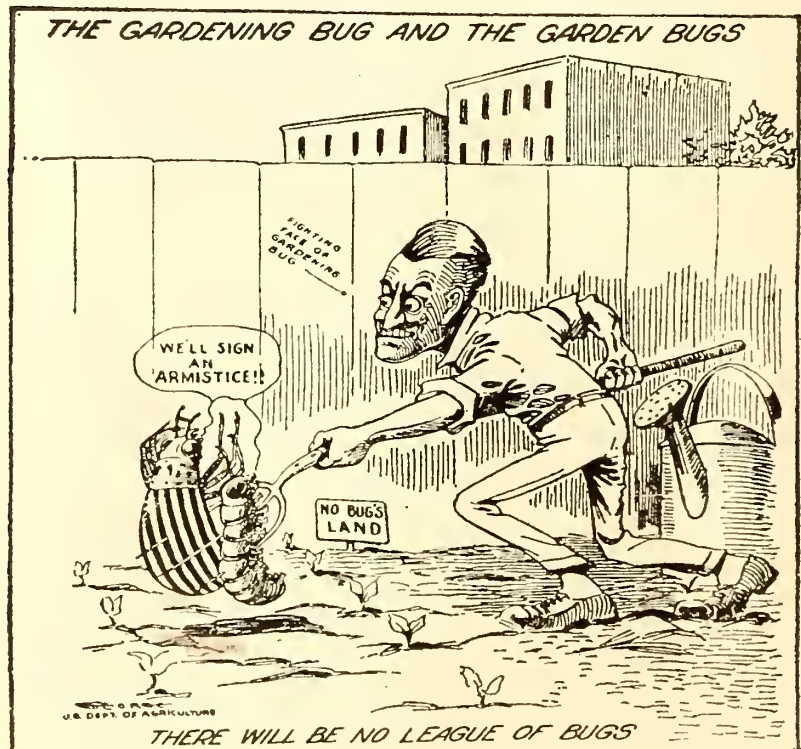
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The Youth's Companion, Commonwealth Ave. and St. Paul St., Boston, Mass. New Subscriptions Received at this Office.





## Questions and Answers

By Russell T. Barr

### Geese Won't Set

Can you suggest any way that I can make my two-year-old Toulouse geese set? They don't show any signs of being broody and they just lay and lay. Last year the two geese layed 85 eggs. I have a nice ground nest fixed out in the open for them with a roof over head for protection from rain, etc., and plenty of straw in it, but they just go to the nest and lay some more, cover the eggs over and go away. I had been feeding them up till two weeks ago, rich wet mash with bread and boiled vegetables which they are very fond of, but am not feeding quite so much at the present time.

Mrs. P. A., Pennsylvania.

As a rule a goose is supposed to reach the time when she wants to set, but if your geese do not feel disposed to do so at the time which suits your convenience I would by all means set the eggs under experienced hens and let the geese lay on to their hearts content. Many breeders of geese make it point to hatch the goose eggs under hens always because hens are far easier to handle and far more reliable in every way, both while setting and after the eggs are hatched and the goslings need particular care for a while. From what you say I believe you have been feeding too rich food to your geese. It is true that a goose can eat almost anything and in any quantity, but as a matter of fact they absolutely need little besides the grass and insects they can find on a sufficiently large range. Especially in the late winter and spring during the breeding and laying season they should not be too fat. I would cut down on the feed you are giving them unless your special object is to fatten them. As for the hatching of the eggs, I would certainly depend on hens and not make any special effort to get the geese to set.

### Kill the Mites—But How?

Last year in the fall the mites took possession of my hen houses and came near driving the chickens off the place. Nothing that I did seemed to make any difference with them as they went right on with their work till the chickens would not go into the house to roost. I have had some trouble with lice too, but the mites seem to be worse than anything else. What can I do to protect myself this fall?

M. O. S., Ohio.

If your chickens have lice and if the houses and coops are infested with mites your chickens will be in continual trouble. It is bad enough to see the misery and suffering of the fowls where these pests are at work, but the thing that every poultryman and farmer must realize is that the presence of these insects is

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**DAY OLD CHICKS**

taking good dollars right out of my pocket. It is not a matter of sentiment at all—it is a matter of cold cash to the poultryman—you can't keep lice and mites around without losing money every day that they remain. Letters I am receiving from poultrymen in many states show that this problem is beginning to be recognized. Insects must be kept down in the future if poultry keeping is to show a profit over the high cost of feed and equipment. Lice and mites multiply with such rapidity that a whole flock will soon become covered with lice if something is not done. No hen whose blood is being sucked by hungry lice is able to lay eggs as she should, since the food she eats must go to feed the lice. The fact of the matter is no need of feeding these insects. The poultryman who does so is simply permitting himself to be robbed with his eyes wide open and in broad day light. He has no one to blame but himself. The progressive poultryman has at his disposal, powders, washes, dips, sprays, etc., galore for ridding birds and premises of insects. There is no called "easy" method to follow in fighting poultry pests, but the sensible man will of course select a method which gives good results with as little cost in time and work as possible. There are several preparations regularly advertised in

Poultry Keeper and in other journals which give satisfaction where used properly. I have said before that this Department can not mention any advertised product by name, but we can say that in fighting the insect pests that ruin the poultry business, especially mites, there is nothing better than something that is to be used as a spray. Remote corners must be reached and a spray is better for this than anything else. Half hearted methods are not enough. It is possible now to get liquid preparations which work in large measure by throwing off fumes or vapors which are very effective against lice and mites. It is natural for one to select the methods which give the best results for the least time and work. Nothing which will rid your houses of mites can be called expensive—the "expense" lies in letting the lice and mites have their way with your pocket book and profits. Whatever you use be careful to follow directions—half the disappointment comes from failure to do as the instructions say when using well advertised products of this kind.

### Trap Nests

I have never used trap nests and have not thought them necessary as it seems to me they must take too much time that can be better spent in other ways. What do you think about trap nests, are they of practical use to the poultryman?  
R. G. S., Kentucky.

There is no question of the value of trap nests in their place, but the trap nest is hardly practicable for the average laying flock where general egg production is the chief object. Where poultrymen wish to study the individual records of their birds or where pedigrees must be kept the trap nest is absolutely necessary, as there is no other method by which this information can be gotten. The

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nests will aid in selecting the best producers and in discarding the poor layers, so you can readily see that as a matter of fact no real progress could be made, above a general average of excellence, where some such exact method was not available. Large poultry plants where special pens are kept should always use them, they are also used largely on plants at government stations where there is much investigation carried on. In this way only could valuable information be gotten and made available to the average poultryman. The nests when used require a good deal of time as they have to be attended to regularly, but it does not require any expert skill to care for them. As to styles of trap nests I would suggest that you communicate with the Agricultural Experiment Station of your state for information, if you contemplate their use. A poor trap nest will be worse than none, so select a good one to begin with.

### Good Dusting Material

A little advice about a good dust bath will be greatly appreciated through the Question and Answer Department of your valuable paper. We try to do the best we can for our chickens and I know that they very much enjoy the privilege of a good dust bath, especially during the late summer and fall.

Mrs. S. G. L., New Jersey.

Birds appreciate a dust bath as much as many animals appreciate a water bath, and such a bath is really necessary for the health of the flock. The dust bath is especially necessary for the laying hens as they are able to remove lice to a large extent and to remove scales and dust from the skin. The dusting box should be of such depth as to hold at least six inches of the dusting material and it should be elevated slightly so that scratching material and litter may not get into the box. A good material is composed of equal parts of loam, fine sand and sifted coal ashes, with three per cent by weight of kerosene oil well mixed in and through the mass. The finer the material is the better, as it must be fine enough to enter and fill the breathing pores of the lice. If possible have the box in the sunshine, and keep free from litter and refuse of all kinds.

### Poor Hatching Results

I have operated incubators for ten years and have had good results except last year and this season. Yesterday I took off a hatch and upon breaking the eggs that did not hatch found nearly all of them with chickens fully developed and feathered as they should be, but they had died before picking the shell. So far as I know I am doing as I always have done in running the incubators and am caring for the chickens as usual in past years, so I am at a loss to tell what the difficulty is. Can you suggest any solution of my trouble?

R. J. B., Illinois.

Your letter is a very full one as to details (we have only quoted a part of it above) and with the care you have been giving both the chickens and the incubators, and the fact that you have formerly had success, there seems every reason why you should continue to have success. In our opinion the cause for your poor success must be due to one of three causes. Lack of sufficient moisture in the incubators at hatching time; lack of sufficient fresh air; or lack of vitality in the embryo resulting

in inability to break the shell at hatching time. Your experience ought to eliminate the first two as possible causes, so our belief is that the difficulty may lie in the fact that the vigor and vitality of your flock of White Wyandottes may be running low. If this was the case it might easily result in the germs in the eggs not having vitality enough to bring the chick through the shell. If you believe that this is the trouble the only solution would lie in beginning with new stock, and you might find it advisable to do this. The fact that you have done well before would tend very strongly to drive us to the above conclusion, so I hope you may be able to figure out a conclusion along this line. This conclusion is especially supported by the fact that your bad success commenced last year and has continued this year. If we can help further we will be glad to do so.

### The American Class.

Please tell us what breeds are included in the so-called American Class as distinguished from the Asiatic and Mediterranean classes.

D. B. F., Delaware.

The American Class includes those breeds of chickens which were developed in America and which were created and improved with the idea of general utility. They constitute the majority of chickens found on the farms of America today. Among them may be mentioned the Barred Plymouth Rocks, the Wyandottes, and the Rhode Island Reds.

### WHY KEEP LEGHORNS

Editor Poultry Keeper:

As per your request for some information on "Why Keep S. C. W. Leghorns," wish to say just a few words on this subject. I am 35 years of age and have bred almost all kinds of the different breeds of poultry for show as well as for eggs. Have quite a few ribbons now on hand that I have captured at different shows. To Leghorns in preference to any other breed I will say after giving most of them a fair trial with the same conditions as the S. C. W. Leghorn that I can and do get more eggs for less money invested in birds and feed than in any other breed that I have been able to find up to this time. Of course that means that the foundation stock of anybody's flock must be of the best stock as to health as well as for egg strain.

Why then keep S. C. W. Leghorns? Because they are the best egg machine on earth without any exception if you want eggs and lots of them. Because they will produce more eggs on less feed than any other breed of fowls that I have ever bred or know of. Because they are a solid colored fowl and you can breed from single mating thereby costing less for housing. Because they are non sitters and do not lose half of their time in sitting or being cured from that desire. Because they are a good size fowl and for broilers at one or two lbs. will plump up and come to that weight quicker than any other breed regardless of size or breed. They are

workers and singers and they are layers and that means that they are payers.

I could go on and on but some will say, "Oh! that guy is a crank on S. C. W. Leghorns." Well, I will admit it. I think after breeding fowls for 25 years I have a right to say that I am a S. C. W. Leghorn enthusiast. I have found in them all of the good points of the other breeds and some good points that the others do not possess. Probably someone will think that I am knocking some other breed. Not at all. Let everybody keep what he likes best. I am trying to tell Why I am keeping S. C. W. Leghorns in preference to some other breed after 25 years of breeding.

I keep the large strain of Leghorns for eggs alone. I do not exhibit and feed for eggs, use dry feed and no other. I could tell you the advantage of this method but this article will be getting too long. Nobody can do as well with a breed of fowls he does not like as with one he does like. Care, which includes housing, feeding, kindness goes with every other factor as well as with breed and egg strain or show strain to make a success and all of these with a good strain of S. C. W. Leghorn spells success.

Wis. Geo. E. Adams.

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# Rabbits and Pet Stock

## RABBITS IN HOT WEATHER

Editor Poultry Keeper:

The out door lawn Hutch as described in June issue of Poultry Keeper is the Ideal for hot weather by covering the top with boards or cloth to make a shade and you will have rapid growing robust rabbits but if you keep them in hutches in a shed or building be sure and give them some ventilation on hot days and keep hutches clean.

Rabbits are much more free from disease than poultry but filthy hutches in hot weather when the manure accumulates will heat and throw off gas may cause sneezing which if neglected may terminate in a disease called snuffles. If not treated and the rabbit kept in better sanitary conditions the disease might become contagious but if you get your rabbits from reliable breeders so that they are robust clean and healthy to begin with and then keep them clean you need have no fear of this disease.

In visiting other rabbitries I am sorry to say many of them when they get 50 or 100, and the busy season of harvest arrives, the rabbits are neglected and with the heated manure in the hutches and the rabbit to find relief will tip the water jar over in the midst of it and the hutch will become an unfit place for any rabbit to live in. Rabbits can stand very cold weather and would do well in the far north and the far south as well but need more attention in summer than in winter unless they are kept in a movable lawn hutch shaded as described in June Poultry Keeper.

Don't fail to give fresh cool water twice each day and green food in hot weather and they will grow like weeds in a creek bottom, but don't let green grass rot or sour in their hutch. Feed only what they will clean up in 30 minutes.

J. E. Johnson.

## PLENTY OF PROFIT FROM GOOD FOWLS

The story of Reuben Lowe, of North Shapleigh, Me., illustrates the possible profits from poultry keeping where careful management is practiced. During 1918 this poultryman, who devotes only part of his time to chicken raising, kept 250 birds, which paid him a profit over feed cost of more than \$1,000 equivalent to \$4 a bird. Included in this amount about 30 cockerels sold for breeding purposes at \$3.50 to \$5 each, as well as

the market eggs, which were disposed of in large quantity. Mr. Lowe keeps White Wyandottes of a strain that wins in the show ring when judged according to either the Standard of Perfection or a utility standard.

One pen of 20 pullets owned by this Maine poultry raiser produced eggs as follows: November, 1918, 413; December, 1918, 418; January, 1919, 380; February, 1919, 326; March, 1919, 456; a total of 1,993 eggs, averaging 99.65 eggs per bird in five month.

It pays to keep poultry of this kind and growers everywhere are coming to realize that there is more money in keeping better fowls and feeding them properly balanced rations than in wasting time with inferior birds.

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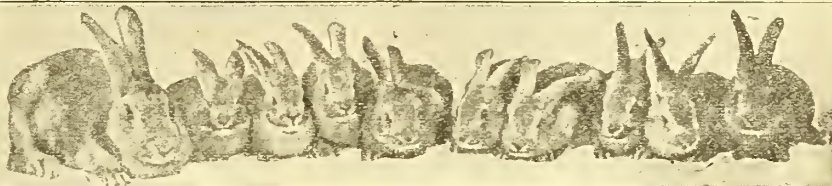
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BY ROTH AND CORNMAN, REVISED BY C. R. DEARDORFF

### Third Edition (Revised and Up-to-Date) Now Ready

The best and safest guide for the experienced or amateur breeder. Tells what you must know and do clearly, concisely, and according to approved methods. Contains 132 pages, describing and illustrating all the leading breeds and varieties of Rabbits and Hares; discusses Feeding, Breeding, Housing and Yards, Diseases and Remedies, Selection of Breeders, Judging, Preparation for the Table, etc.; is, in fact, an encyclopedia of the best available knowledge. Among books on Rabbits, it has no superior. It is to the Rabbit Breeder what the "American Standard of Perfection" is to the poultryman. Thirty illustrations of all principal varieties.

One of the many who recommend this book is M. L. Thayer, a rabbit expert of the highest standing. In the California Rural World he advises that the man starting to raise rabbits get some literature before buying stock. He recommends this book.

AN EXPERT'S OPINION OF THE BOOK—What the Ex-President of The National Pet Stock Association of America Has to Say About It.

Dear sir:—The copy of "The Rabbit Culture and Standard" has been received and read entirely through. I wish to compliment the Editors on producing the first real good work on Rabbits in the United States, which should be a great help to all those seeking accurate knowledge. I was greatly impressed by the Foreword which emphasizes the possibilities of the meat industries which very few seem to realize and which must soon come into favor in this country same as it has in all of those on the other side. This book explains it in a much clearer way than it has ever before been my privilege to read. It will prove that rabbit meat is worth per pound just as much as poultry, pork, mutton or beef, in fact, very few realize what a nice delicate meat it is when cooked. The demand has always been greater than the supply, and with this good book explaining the way, it should be more simple for the beginner to see the right path. Yours very truly,

WILLIAM I. LYON.

## A Great Rabbit Boom Is Now On

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# Care During Summer Needed by Garden

The ultimate success of a home garden depends largely upon the interest of the gardener being maintained throughout the season. Many persons have gotten the idea that when the garden is planted and cultivated two or three times their work has been ended, and as a result the garden soon goes to weeds or is destroyed by insects and diseases. The successful gardener, declare the specialists of the United States Department of Agriculture, is the one who wages a continuous fight against the enemies of the garden from the very start, never shirking his duty and being everlastingly on the job.

A crop of weeds can be destroyed in a few moments by means of a steel rake or hoe, if it is used when the weeds are just coming through the

the land lie idle, and it is easier to keep it clean if there is a paying crop upon it.

### "Seedy" Gardens Show Neglect.

To often gardens with a "seedy" appearance are seen in the middle of the summer. The brush on which the peas were grown or the wire trellis on which they were trained is left with the remains of the crop upon it, and general unsightliness rules the entire plot. It is a little more trouble to keep things neat and attractive, but it pays in the long run; and if you as a gardener want to maintain a reputation for a good garden, the necessary attention will have to be given to its neatness and general appearance.

In sections where the weather becomes extremely hot in summer and it is not possible to keep garden crops growing, the land should be cleaned, replowed and kept stirred from time to time until conditions are suitable for the planting of fall vegetables. Under ordinary conditions it is best to have some crop growing on the soil, and if the period between the early spring vegetables and the fall vegetables is sufficient, a crop of cowpeas should be grown upon the garden land. This will shade the soil and prevent the sun burning the organic matter out of it, and at the same time will actually add fertility to the soil.

### Enemies Work Early and Late

The enemies of the garden begin work just as soon as the seeds are planted in the ground, and it is a continuous fight throughout the season. The gardener who hangs up his hoe and forgets his garden also hangs up his chance of winning. By far the best results can be produced where the garden is given frequent, short periods of attention. Later in the season special care should be given to clearing away the remains of the crops and destroying any plants that are badly infected with disease, or that harbor insects in any form.



Keep the Garden going, growing through the summer.

ground. If allowed to remain, the weeds become firmly rooted and a thorough renovation of the garden is necessary to rid it of them.

### Seem Innocent, But They're Not.

A few old-fashioned hardshell potato bugs may not appear to do any great harm, but the crop of soft-shell beetles they produce will eat the leaves from the potato vines almost before you know they are present. A few spores of mildew or other disease may not do any great amount of damage, but if the weather is favorable for the spread of the disease, it will soon cause the loss of the entire crop.


The old adage of "A stitch in time saves nine" applies with double force to the care of the garden. Keep up interest in the garden and make successive plantings of various crops, so that a continuous supply of vegetables may be provided for the table. There is nothing gained by having

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**51'S WORTH OF NEGLECT MEANS \$10 LOSS**

(Continued from Page 1).

so doing. There is nothing so cheap, if supplied, yet so costly if neglected, as is water. It makes your feed go nearly twice as far and don't forget that the fowls drink a great deal on these hot days. You must also remember that scum and germs accumulate on the drinking pan, so these should be cleaned each day and disinfected once a week at least.

Dead poultry, rats which have been killed, or meat of any sort should not be allowed to lie about the premises and become tainted. These should be promptly removed, and burnt or buried good and deep. Limber neck is apt to result from ptomaine poisoning after such meat is once tainted or starts to decay.

A MOIST MASH will whet the appetites of the youngsters and hasten growth. They relish a feed once a day of the moist mash, but it should not be fed sloppy. Neither should it be fed too freely, and allowed to remain in the feeding trough to become sour.

If the ground is baked and the heat has driven all the BUGS and WORMS into the ground, what are you going to do for MEAT FOOD? Either mix about 10 to 15 pounds of a good grade of dry beef scraps into the dry mash, or boil bones and use the soup with which to moisten the mash each day. If milk in any form is available, that is excellent.

Don't expect to feed a single grain like corn, barley, oats, or kaffir corn to your poultry and expect to get best results. They cannot thrive and do best on a single food of that kind. They require some variety and some ground feed.

Mr. Poultryman if you have done your duty and used the right methods, your chicks should be practically out of danger now. One dollar's worth of expense and effort now in looking after the above precautions are worth \$10.00 spent in the earlier part of the season. Many poultrymen fall down and lose a season's profit by NEGLECT when their chicks are practically raised. The old fowls are affected by the above suggestions as well as the younger stock. Keep everlastingly at it, and you are certain to be proud of the results and proud of the flock. Do the best you know how—the best you can do toward raising all your present youngsters to maturity. A record of all eggs and fowls sold or consumed should be kept by you. This will enable you to make an accurate and full report to the census takers next winter and spring. It will mean considerable to the poultry industry to have a fall production reported.

**A STRAW SHED POULTRY HOUSE**

Tenants and other persons desiring a temporary shelter for poultry would do well to consider a straw shed house, according to T. S. Townsley, of the University of Missouri College of Agriculture. Such a house

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**My Victory Strain of Barred Rocks Continue to Win.**

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**Eggs** good cockerels to spare at reasonable prices. From my best matings, \$5.00 per 15. Some

Write for what you want.

**J. T. FRENCH, 838 West Grove Place, Toledo, Ohio**

is very simple to make and will serve as excellent quarters for poultry during at least one winter. If a supporting frame is built before threshing time it is no extra trouble to blow the straw from the threshing machine over and around this frame to form a shed completely closed in with straw on all sides excepting the south. A supporting frame can be easily made by setting a post for each corner of the proposed shed and placing across the top of these posts heavy poles to form the supports for the framework of rails, boards, or light poles, which will hold up the straw. After the straw has been thrown over this frame, a front such as is used on any modern poultry house can be built on the south side. This front should include some open space and some windows to provide ventilation and furnish light. The inside of the house may be equipped with dropping boards, roosts and nests, just the same as any other poultry house. A straw shed house of this type 20 feet square on the farm of George Boettler near St. Peters, Mo., furnished shelter for 125 hens. These birds came through without a frozen comb and laid all winter.

If such a house becomes infested with mites during warm weather, the birds can be allowed to roost outside during the summer months and a new

**Learn How to WRESTLE**  
 In Your Own Home By Mail

Yes, learn to fight in your own home, by mail, from the greatest wrestler, the world has ever known. Be an athlete, be strong, be healthy—defend yourself. All taught in our course of lessons, and illustrated with hundreds of charts and actual photographs by

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Farmer Burns, "the grand old man of the mat," taught Frank Gotch, the World's Champion, all he knew about wrestling, so Gotch said. He will now teach you Scientific Wrestling—Physical Culture—Jiu-Jitsu—Self Defense. Every man and boy in America who is interested in self-defense, needs this wonderful course of lessons. Write today—your name, age and address on a postcard or letter brings you our fine book absolutely free, no obligation of any kind. A splendid book on wrestling and physical culture. Write today stating your age.

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house can be built each threshing time.

**THE PLYMOUTH ROCKS**

A complete text book devoted to America's most popular breed of standard fowls. Explains standard requirements, tells how to select the right breeders and how to mate them. Edited by Wm. C. Denny and judges of wide experience. Three color plates by Sewell. 144 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.

The value of enthusiasm can't be computed. Almost every successful enterprise owes its achievements to the presence of one or two local "self-winders."

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## CLUB No. 6

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Farm and Home  
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## CLUB No. 7

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Farm and Home

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Western P. Journal

## CLUB No. 9

Poultry Keeper  
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THE LARGEST CLUB OF ALL

Poultry Keeper  
Farm and Fireside.  
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Poultry Keeper, Quincy, Ill.:

Gentlemen: Enclosed find \$1.00 for which send me Club No. .... for one year to the address below:

Name .....

P. O. ....

St. or R. F. D. .... State .....

**A BOY'S EXPERIENCE**

Editor Poultry Keeper.

I am a boy 12 years old and I will tell you about hatching and rearing chicks. I bought a little Brown Hen Incubator of 50 eggs capacity. I put in 50 Rhode Island eggs and I got 8 chicks, two of which were weaklings and soon died. I put the remaining six with a hen and I still have 5 of them. One small undersized chick died during a heavy rain storm, but the five are doing well. I fed them in butter-milk starting food. I had in the meantime set the incubator with 37 duck eggs and after testing out infertile eggs I had 18 left in the incubator. On the seventh day I filled it with chicken eggs of the Rhode Island Red variety and after testing I had 14 eggs left. Every egg hatched a strong chick except two and they were rotten.

I sent away for 25 Rhode Island Reds chicks they arrived at about the same time that the eggs hatched. Then I took the 37 chicks and put them with 2 hens. The chicks were dying from the first day on. They had bowel trouble. One hen was so clumsy that she stepped on the chicks and killed quite a few that way. So I put her out of the pen as many had died already so one hen could take care of them. I now have 14 chicks left out of the 37. A few days ago I had a chick sick with bowel trouble again so I cut their grain ration for a day and fed mostly of green food and the next day the chick was well again. During bad weather I kept them in a shed made by driving stakes into the ground and making a roof of old boards on them, I covered the cracks with strips of wood. I took some old boards about 18 inches wide made a number of holes in one side of them for the chicks to pass through on the roof and let them hang to the ground at night and during stormy or rainy days. I keep the feed hopper in this shed and also litter for the chicks to scratch in. I give daily feeds of green stuff and once in a while I cook potato parings for them. I also have 5 ducklings now about 1 month old. Although I have been discouraged many a time I don't intend to give up.

Illinois John Lakenburgers.  
NOTE:—We are always glad to print a letter from an amateur. We hope many more boys will take up poultry raising. It is discouraging at times but in the long run quite profitable—Editor.

**ROOSTER SELLING CONTEST**

Perryville merchants are conducting a Rooster Selling Contest as one of the features of the drive to secure infertile eggs. A cash prize of \$5.90 is being offered to the person who brings in the largest number of roosters during Rooster Week. "Every bunch of roosters will be carefully counted," says Mr. Alfred Raut, County Agent, of Perry County; but he adds significantly, "No questions will be asked." Lively competition is likely to develop between the various ladies aid societies of the

county to see which can round up the biggest load of roosters to compete for the prize. The indications are that country ministers who have been in the habit of expecting roosters for dinner on their visit to country church members will have to be satisfied with sausage or ham after this drive is finished.

**FEEDING FOR EGGS**

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

**FOR THOSE WHO CAN USE HAMMER AND SAW**

Built and Used by Poultrymen  
Is a 96-page book; paper bound; contains 108 illustrations, fully describing various styles of poultry houses for the large farm, as well as the back yard. Poultry house equipment, including roosts; trap-nests food boxes and hoppers; drinking founts; fences, both permanent and movable; metal fence posts; brooders, both fireless and heated; brood-coops; covered chick yards; poultry catchers, the popular stove-pipe hopper, and many other useful appliances that can be made at home and money saved. For the man who enjoys making his own poultry appliances, building his own coops, houses, etc., this book is of especial value. Labor-saving and money-saving devices are fully explained and illustrated so that the man who can use a hammer and saw can make any of them. Price, 50 cents. Address Poultry Keeper, Quincy, Ill.

**BLACK LEGHORNS**

Editor, Poultry Keeper:

In reply to your note in last magazine I would say that I am much interested in Leghorns. Last spring I purchased Baby Black Leghorns and after culling, I wintered 10 pullets; of course I should not recommend this breed for table use as the chicken is even smaller than the white or brown Leghorn, but as an Egg producer they certainly are unique.

Here is my book record of the 10 May pullets:

The birds began laying on February 24, and to date, April 22, they have laid 42 dozen Eggs—this means 504 Eggs for 63 days or an even average of 8 Eggs per day for the 10 birds; from this record I must discount a little for 1 bird which has been separtated for a week on account of brooding propensities. I consider this a fine record for 10 pullets.

Yours truly  
Ohio. Rev. G. R. Mente, Ph. D.

**FREE AEROPLANE**  
Boys, we have a real Aeroplane for you. Modeled after famous war aeroplanes. Called the Eagle because of its long-soar and high speed. The powerful motive power carries it right off the ground. Looks fine sailing in the air. Strongly built, will last long time. Length 28 in. Wing spread 21 in. Free for selling 20 packages Bingo Perfumed Ironing Wax at 10c each. Order today. Send no money.  
Bingo Co. Dept. 372 Binghamton, N.Y.



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Distribute only 5 doz. pkgs. of our famous New Way Washing Tablets among friends and neighbors to introduce and we will send you free this magnificent 42-piece, gold and floral decorated China Dinner Set. No money or experience needed.  
Write Today for Free Sample Outfit  
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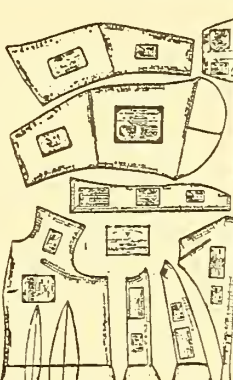
**"Finer Than a Diamond"**  
R. H. G. of Carlisle Pa., writes: "I like my Lachnite ring better every time I look at it. I think it is finer than a genuine diamond."  
Send No Money Just send your name and finer set in solid gold, prepaid, to your home, when it comes deposit \$4.75 with the postman, and wear the ring 10 full days. If you, or any of your friends can tell it from a diamond, send it back. If you return the ring in ten days we will return your deposit. If you decide to keep it, send \$2.50 a month until \$18.75 is paid.  
Write Today Send your name now. Tell us which (ladies' or men's). Be sure to send your finger size.  
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Do not delay if you are interested. Send \$1.20 which covers entire cost to you of system and books mentioned above, postage paid. If you find after receiving the outfit, that you need help, you can write to headquarters and receive same at a small cost. Address  
**OLIVER & CO.,**  
Box 106, Quincy, Ill.

## DARK BRAHMAS

Editor, Poultry Keeper:

I wrote one little article regarding DARK BRAHMAS, and I would not have known, that it ever attracted a single soul's attention, had it not been for your great interest, in Poultrydom, in general. Now Mr. Editor, I really would like to know, why, there are no more Dark Brahma breeders in the U. S. today? 42 years ago, when I first began to breed them, there were scores of breeders to

where there is but one, and I know, from experience after breeding 53 different varieties, that there is NO BETTER, breed on earth, all things being equal.

To begin with, there is no breed that has a more beautiful plumage, both male and female, and there is no breed that will lay more lbs. of eggs, and supply more lbs. of flesh, in any shorter time than the Dark Brahmas. And there is no breed except their sisters the Light Brahmas, who can be confined with a Two Foot fence as they can be. The fact that they have a very small pea-comb, fits them for cold weather, and I have bred them for 42 years, and I have my first one yet to see, that has had a frosted comb or wattles. No sir! cold weather, don't bother them one bit, about laying. I have records, that any breeder could be proud of, no matter what kind of fowls he breeds. When 10 females will average 22 eggs per month, for 12 months, I think it EXTRA, good. I had 10 females, 6 pullets hatched in February, 1917, that began to lay in Oct., and from the first of January, 1918 to December 31, 1918 the 10 layed 2730 eggs, and 4 of them raised a brood of chickens each. But began to lay when their chicks were only 5 weeks old. And I will beat that record this year, if they do as well the rest of the year as they have so far this year.

I say again, that the Dark Brahmas will mature quicker, and produce more lbs. of flesh and will dress more attractively, and bring better prices on the eastern markets, than any other breed on earth. They make the nicest pets, are easier to handle, and are not so persistent in sitting as many other breeds. And I am sure, if a man will breed them TWO years, he will never breed any other kind. It must be born in mind, that chickens, of no kind will make a good egg record, unless fed for that end in view. Any one interested, in Dark Brahmas, and want to know anything about them, I am at their service, and will tell anything I know, that will do them any good. I have bred them for 42 years, and have gotten new blood from the best yards in U. S., and I believe I know, what I am talking about. Yours for more and better Dark Brahmas.  
Mo. W. B. McCoy.

If some of the old screen doors or windows have holes in them but are too good to throw away an almost invisible patch can be easily made. Cut out the hole so it is square in shape. Then cut the patch an inch wider all around. Ravel out the edges of the patch, bend the wire "fringe" at right angles, and apply the patch. Bend over the fringe and the patch is secure.

Vermin-infested hens mean a scant egg basket. The energy, that goes into lice never makes eggs.

In some districts where cow testing associations are just being established, one-fifth of the dairy cattle deservedly find their way to the butcher within the first year.

## BREEDER'S CARDS

## BUFF WYANDOTTES

EGGBRED BUFF WYANDOTTES. Winners last National Club Show. Records to 240 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Illinois.

## WHITE WYANDOTTES.

WHITE WYANDOTTE hatching eggs, \$6.50 per 100; \$1.50 per 15; special pens, \$2.00. William Remmer, St. Peter, Ill., Route 2. 2-12

## SILVER WYANDOTTES

SILVER WYANDOTTES... Hundreds of choice breeders and exhibition birds for sale. Also eggs from trusted bred-to-lay hens. Write for circular. Satisfaction guaranteed. C. F. Schroeder, St. Peter, Ill. 2-12

## ANCONAS

S. C. ANCONAS, 10 weeks old cockerels, \$1.00 each if taken at once. Mrs. Chas. P. McBroom, Fortuna, Mo. 6-2

SPLENDID LAYING STRAIN Rose Comb Anconas. Eggs, \$1.75 and \$4.00 per 15; \$4.75 per 50; \$8.50 per 100. Infertiles replaced at half price. No circulars. Order from adv. Mrs. E. J. Crawford, Owatonna, Minn. 2-12

ANCONAS—Chicks, \$15.00 per 100. Eggs, \$10.00 per 100. Stock for sale. John Behler, Box K., Strasburg, Illinois. 1-7

MY WINTER LAYING ANCONAS cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write, Geo. Hecker, Earlville, Iowa. 2-12

HUGHES' ANCONAS are the winter layers. Satisfaction guaranteed. Joseph Hughes, Irving, Ill. 6-12

## SEVERAL VARIETIES

STOCK AND EGGS in Single and Rose Comb Reds, Single Comb White and Buff Orpingtons, Silver Comb White and Buff, White and Barred Rocks, Single Comb White Leghorns, Pekin and Indian Runner Ducks. A. Schroeder, St. Peter, Ill. 2-12

WANTED—Pullets of all varieties. Hillcrest Farm, Garden Prairie, Ill.

SINGLE COMB BROWN LEGHORNS, Bantams, Black Tail Japs, Golden Seabright, 15 eggs, \$1.25, postpaid. Mrs. P. B. Pierce, LaBelle, Mo.

## BABY CHICKS

DAY OLD CHICKS FOR SALE, 10 varieties. Thousands per week. Strong, healthy chicks. Hatched by one of the oldest hatcheries. Circular free. Old Honesty Hatchery, Dept. K., New Washington, O. 1-4

## PIGEONS

I OFFER GUARANTEED mated Homers in any quantity at \$1.00 per pair. Beautiful White Homers, \$1.50 pair. Squab companies challenged to produce better stock at twice the price. Get my prices on Runts, Carneux, Maltese Heas and save dollars. Squab Manuel, 25c. Charles B. Gilbert, 2210 Almond St., Philadelphia, Pa.

## RABBITS

FLEMISH GIANTS with pedigree. James Foytik, Swartz Creek, Mich. 2-12

BELGIAN HARES—Full grown breeding stock, \$2.00 each. Philip Condon, Westchester, Ohio. 3-12

THOROUGHbred BELGIAN HARES; Three months old, \$1.50 each. J. T. Alexander, 1814 Darrow, Evanston, Ill.

## PRINTING

POULTRYMEN'S PRINTING Prepaid. Note-heads, envelopes, cards, tags, labels, 100 either, 60c; 250, \$1.00; 500, \$1.50; 1,000, 2.50. Postcards, catalogues, circulars, linen letter heads, everything. Finest cuts furnished. Stamp brings elegant samples. Model Printing Company, Manchester, Iowa. 9-12

## MISCELLANEOUS

HOW DO JOCOBUS WASTE-NOT Feed Hoppers save feed? Circular tells. M. R. Jacobus, Box 5-K, Ridgefield, N. J. 8-12

LOOK POULTRYWOMAN—Here's a big bargain. Best laying food formula, sure to increase your egg yield. Best starch enamel recipe. Makes ironing easy, add three other valuable recipes sent for \$1.00. Either one worth the price. C. W. Harris, 509 W. Plae, Fitzgerald, Ga.

## RATES:

Rates for Ads. Classified Under Proper Headings Are as Follows:

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| 1 month  | 5c per word  |
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| 4 months | 15c per word |
| 1 year   | 36c per word |

## BANTAMS

WHITE COCHIN BANTAM EGGS, \$2.00 per 13. Cockerels, \$3.00 each. Arthur Worthington, R. 3, Two Rivers, Wis. 4-4

## GUINEAS

PEARL GUINEAS—Eggs, \$1.00 per 15; \$2.00 per 30; \$5.50 per 100. Hoaks Poultry Yards, Spencerville, Ohio. 5-3

## BROWN LEGHORNS

KULP'S BIG ROSE COMB (200) and Single Brown, 206 records. Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

## BUFF LEGHORNS

PEDIGREED BREEDERS—Half price. "Business Beauty" strain. Outbred, large. Extra layers, big white eggs. Catalog. Joseph Benedict, Chevy Chase, Maryland.

EGGBRED BUFF LEGHORNS, (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

## BLACK POLISH

WHITE CRESTED BLACK POLISH (exclusively). Home of quality and beauty. Eggs, \$2.00 15; \$3.50 30. Mark Cutts, Dundee, Minn. 4-4

## ORPINGTONS

S. C. BLACK AND WHITE ORPINGTONS. Bred to lay. Eggs for hatching, \$2.00 per 15. E. F. Lutz, Monewoc, Wis. 4-4

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SINGLE COMB BLACK MINORCA Cockerels for sale. Bred from heavy layers and grand champion male, Ill. State Minorca meeting. Grover Dege, 814 Jefferson, Quincy, Ill. 6-12

## BARRED ROCKS

PRATT'S CACKLER STRAIN Barred Plymouth Rocks. Bred for eggs. 200 egg type. Foundation Park's and contest winners. Young and old stock reasonable. Geo. W. Pratt, Cropsey, Ill.

PARK'S BRED-TO-LAY BARRED ROCKS, exclusively, direct from Park's best pedigreed stock. Large, beautiful, vigorous, prolific winter layers. Selected eggs, 15, \$2.50; 30, \$4.50; 50, \$6.00; 100, \$10.00. W. G. Meradith, Danvers, Illinois. 4-4

BARRED ROCK EGGS from selected layers, \$1.50 per 15; \$4.50 per 50; \$8.00 per 100. Special matings, \$5.00 per 15. Ralph B. Little, Fairmount, Indiana.

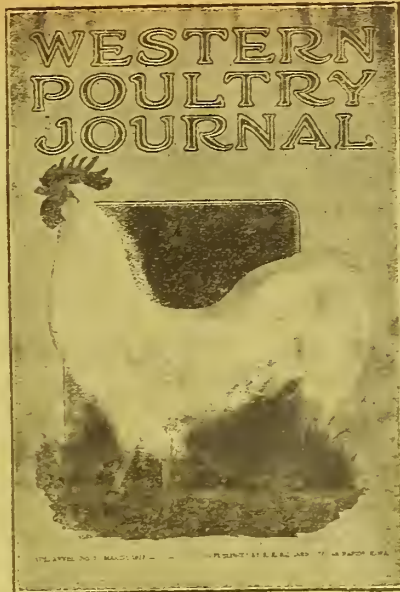
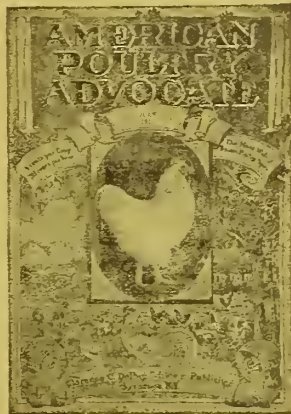
BRADLEY BARRED ROCK COCKERELS, from prize winning stock, \$3.00, \$5.00, \$10.00 each. Satisfaction guaranteed. R. O. Hazea, What Cheer, Iowa. 2-12

BARRED ROCK EGGS for hatching, Park's strain exclusively, from 11000 tested hens, for egg type and capacity. Mated to Park's pedigreed males direct. Write for mating list. H. E. McLaughlin, 1215 Cassopolis, St. Elkhart, Ind.



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POULTRY ADVOCATE**  
SYRACUSE, N. Y.

The most widely known poultry paper. This poultry journal is advertised in all the leading publications of the land and is a favorite with many poultry raisers. It is intensely practical and the information it contains will prove "MONEY SAVERS" for poultry raisers.

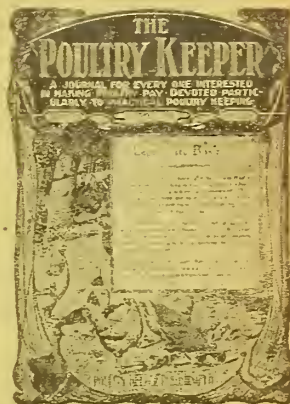


**Western Poultry Journal**  
CEDAR RAPIDS, IOWA

Has long been recognized as one of the most up-to-date and progressive poultry journals of the west. Edited by E. E. Richards, the present President of the American Poultry Association. It is chock-full of clean, instructive, common-sense articles on the care of poultry.

**THE  
POULTRY KEEPER**  
QUINCY, ILLINOIS

Established 1883. Is the second oldest poultry paper in America. The many interesting articles in each issue makes it well worth reading. It is not strictly a fancier's paper but is given more to the practical side of poultry-keeping. Its motto is: "MAKE POULTRY PAY".



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**HERE IS YOUR OPPORTUNITY** to supply your Poultry literature for the next year. Three good poultry papers, published monthly with each issue chock-full of good, sound, helpful advice which may **SAVE YOU MANY TIMES THE COST** of your subscription during the year,

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No matter whether you have ten chickens or ten thousand, you cannot afford to let this opportunity pass.

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**POULTRY KEEPER, QUINCY, ILL.**

**THE POULTRY KEEPER,**  
Quincy, Illinois

Gentlemen:—Enclosed find \$1.00 for which send me one year's subscription to American Poultry Advocate, Western Poultry Journal, and The Poultry Keeper.

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Route or Street No. ....

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Canadian subscribers add 75c, and foreign subscribers \$1.50 for extra postage.

# TRY THE NEW WAY TO KILL LICE

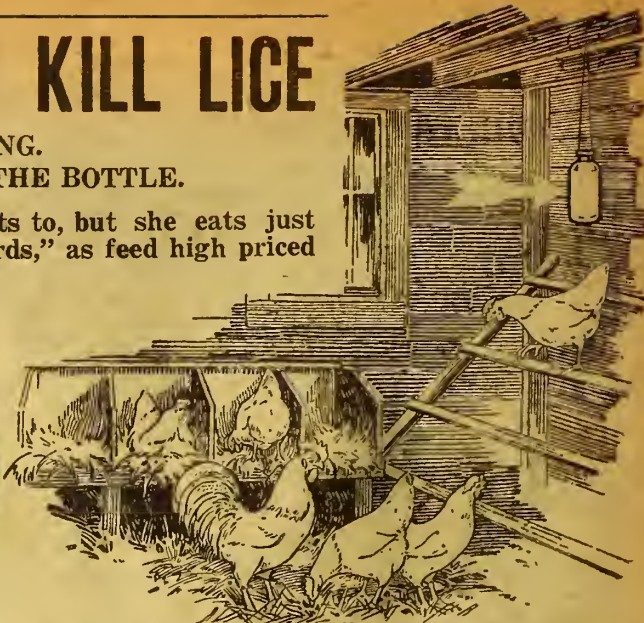
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

# Licecil

**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

## GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$1.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$1.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russek, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you some time ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

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Vol. XXXVI

AUGUST, 1919.

No. 5.

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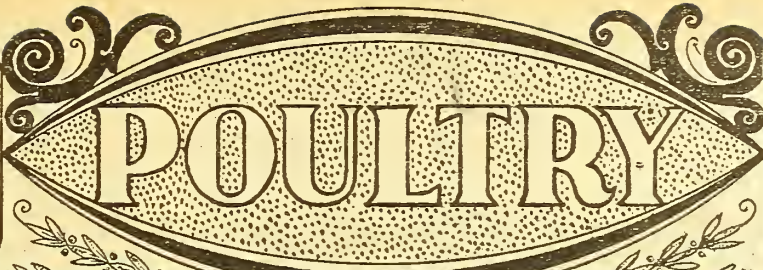
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VOL. XXXVI.

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## Tuberculosis In Farm Poultry

By *W. W. Dimock and L. E. Willey—Iowa Agricultural College*

Tuberculosis is to some extent prevalent here and there among the poultry flocks of Iowa. That has been brought out in the examination of birds, or their tissues, brought or sent for diagnosis to the veterinary laboratories of the Iowa State College and from field work by the veterinary and poultry staff of the agricultural extension department. From November 1, 1909, to June 30, 1912, the pathology laboratory examined the tissues of seventy-three birds, two of which, or 2.7 per cent were found to be affected with tuberculosis.

From July 1, 1912, to September 11, 1915, two hundred fifty-five fowls were examined and it was found that in forty-three, or 16.86 per cent, tuberculosis was the cause of sickness or death. From September 11, 1915, to June 1, 1918, there were examined in the laboratory of the Department of Veterinary Investigation two hundred and twenty-seven fowls. Eighty-three or 36.57 per cent were found to be affected with tuberculosis. These birds or tissues came from many different flocks in various parts of the state.

Tuberculosis is a specific infectious disease caused by a bacterium known as the bacillus tuberculosis. The disease shows itself in poultry by the development of yellowish-white nodules. These are found principally in the liver, spleen, wall of intestines, mesentery, joints, kidneys and skin, although lesions may appear in any structure of the body. Small nodules and areas of degeneration somewhat resembling lesions of tuberculosis, may be caused by other forms of bacteria, animal parasites or lifeless irritating substances, but the true tubercle is caused only by the bacillus of tuberculosis.

Unless the particular organism can be found, the disease should not be classed as tuberculosis.

The bacterium which causes tuberculosis in poultry (*bacillus tuberculosis avium*) is a small, slender rod, slightly curved, with round ends and, according to the author's observations, shows a marked beaded appearance, especially in stained smears from diseased tissue. While this is the specific cause of tuberculosis in fowls, there are many predisposing factors that often have a

very important bearing on the spread and course of the disease in the flock. Among the causes which encourage the disease but which may be controlled are overcrowding, bad ventilation, confinement in damp houses, exposure to cold and storms, general unhygienic surroundings and spoiled foods. Infection of healthy fowls probably takes place most often from contaminated food, water and air, by which means the organisms gain entrance to the alimentary tract and respiratory passages.

### Symptoms

Many of the birds examined were dead before they reached the laboratory. Close observations were made, however, in the case of all living birds which ultimately died, or were killed, and found to be tuberculous and where opportunity offered in in-

typical of the disease are largely based on these observations.

The symptoms which a bird presents depend somewhat upon the location and seat of the disease. When the internal organs are the parts particularly involved, there is a loss of flesh that comes on gradually, leading to



Hen suffering with general tuberculosis.

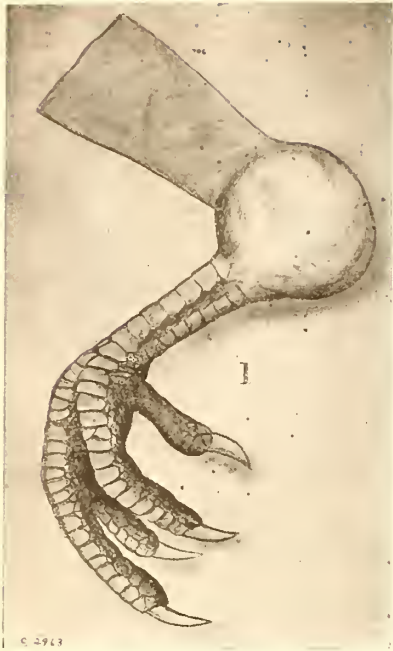


Fig. 1. Leg from hen shown on page one showing enlarged joint due to tubercular infection (tubercular arthritis). This is the kind of tubercular lesion that causes affected birds to limp and is often termed limping disease.

marked thinness and a paleness of the comb, the wattles and the visible mucous membranes. There is the general appearance of anaemia or weakness, and an examination of the blood will show a reduction in the number of red blood corpuscles. As the disease progresses, the feathers become ruffled, the bird separates itself from the flock and diarrhoea sets in, producing weakness even to the point of prostration. At first the appetite is good, even ravenous, but in many cases the affected bird will refuse food for sometime before death.

The disease often involves the joints, characterized by swelling and lameness. These swollen areas around the joints may rupture and discharge a thick, yellowish material that contains many organisms. At the point of rupture there is formed a typical ulcer; the ulcerous area being filled with a light yellow granular looking material which is easily removed leaving a round cup-shaped pit. Lameness is frequently one of the things first observed by the poultry man. Usually one leg is involved. In practically every case where lameness or "limping disease" has been reported in poultry we have found upon examination that many of the birds were affected with generalized tuberculosis. It often happens, however, that no gross lesions can be demonstrated in the joint of the clinically affected leg. The wings when involved drop low and often drag on the ground when the bird walks. Such cases are not uncommon in pigeons, wings dragging, joints swollen, many of them rupturing, and infected material constantly discharging from the ulcerous surface. The first noticeable symptoms in such cases will be the inability to fly.

If the lungs and air passages are involved there is usually difficult breathing which is brought to the attention of the owner or attendant by a wheezing or rattling sound. In such cases there is usually a discharge of a thin, slightly stained material from the nose and mouth.

If the lesions are located on the skin, they are usually in the form of round, elevated nodules covered with a thick horny growth. If these rupture they appear much the same as the ruptured areas around the joints. About the mouth, eyes, nasal passages and cavities of the head the disease takes on various form and may easily be confused with or mistaken for roup. The temperature usually remains about normal.

#### Anatomical Changes

The changes found in the tissues of birds dead from tuberculosis are for the most part small, yellowish nodules or tubercles. The liver is the organ most frequently involved. The nodules vary from very small ones just visible to the naked eye to those of the size of a large pea. They are usually separate, although in rare cases two or three may be united, forming irregular areas. The nodules in the liver are made up of a soft, semi-solid, dead, cheesy or necrotic, center surrounded by a dense connective tissue capsule. This capsule is composed of newly formed tissue, and is produced in a protective way in that it tends to hold the tubercular organisms in a confined space and prevents, in a large measure, their spread to other parts. The nodules are easily separated from the surrounding tissue, a condition which distinguishes them from other diseased areas having a similar appearance, but a different cause. The liver is usually enlarged. Its capsule may rupture, followed by hemorrhage into the peritoneal cavity, causing sudden death.

The lesions in the spleen and kidney resemble very closely those of the liver.

In the intestine the early development of the nodules seems to be just beneath the outer covering, at which time they are very small. As they develop the capsule becomes thick and the necrotic content is comparatively small in amount. There is a tendency for an opening to form leading into the passage way of the

intestines through which material from the nodules may be discharged. These nodules may occur throughout the length of the intestines. (Fig. 2).

In the mesentery, the membranes which connect the intestines with the back wall of the abdominal cavity, the diseased areas vary from acute inflammatory nodules of a flesh color to those that have a necrotic center, surrounded by a capsule of connective tissue. The center may be semi-fluid, cheesy or hardened in character. The older lesions are of a decided yellowish color and usually hardened or calcified. The nodules are usually more numerous in that part of the mesentery next to the intestine.

The lesions on the skin vary from small to large nodules that generally grow outward, seldom involving to any extent the underlying structures. These skin lesions are usually free from feathers and have a thick, horny surface. In the large, older nodules there are very likely to be found a number of necrotic centers separated by dense bands of connective tissue. When these nodules rupture, as they often do, there is thrown off a sticky, yellowish material, that contains many organisms.

Among the fowls examined in the veterinary laboratories, the lungs were seldom affected. When they are involved it is usually with the formation of the characteristics nodules. In one large flock the only recognizable lesion found was in the trachea; this consisted of a discharge into the trachea. The material was rather firmly attached to the lining membrane, was fibro-necrotic in character, of a reddish color and showed upon microscopic examination an innumerable number of the tubercular organisms. For a short distance over the involved area the rings of the trachea were, in every instance, of a light color, dry and very brittle. Other parts of the trachea and the lungs were in most cases red, congested and showed inflammatory changes. In all of the birds so affected there was a discharge from the nose and mouth.

Tuberculosis in the cavities of the head causes bulging of the affected part.

In the joints, aside from the enlargements and possible discharge, there may be found on the mem-

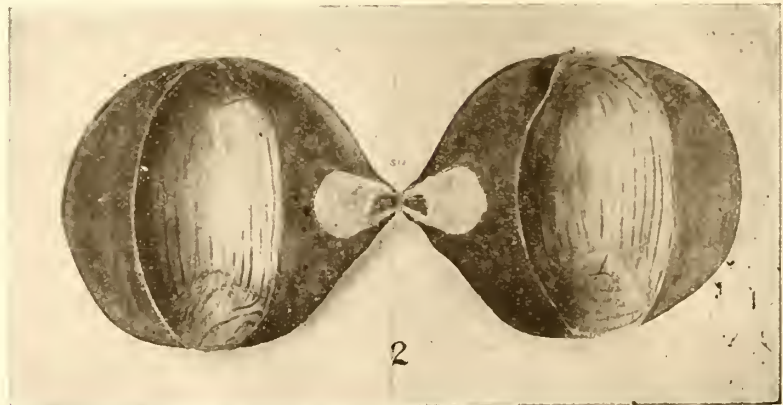


Fig. 2. Gizzard from hen showing tubercular lesion in the muscular wall of the gizzard.

brane that lines the joint cavity the development of a rather delicate fibrous exudate. Later, the joint cavity may become filled with a cheesy, tubercular material. The lining membrane breaks down, the joint surfaces become rough and the destroyed elements are loose in the joint cavity.

Other organs that are less frequently involved are the ovaries, the heart and its membranes and the bones, in fact no organ is exempt.

The lesions in all the different organs of the body are in general characteristic nodules or tubercles varying somewhat according to the structure and resistance of the tissue.

#### Mode of Infection

Birds suffering with tuberculosis may discharge the bacilli with their droppings, from open lesions on the skin, or from the nose and mouth. Coming from these parts the organisms are scattered in the yard, scratching pens, houses, roosts and nests, and can easily find their way into the food and water or receptacles used for feeding and watering. From these they may readily gain entrance to the intestinal canal, from which, under favorable circumstances, they pass into the lymph channels or circulation and are carried to the various organs of the body. The organisms may gain en-

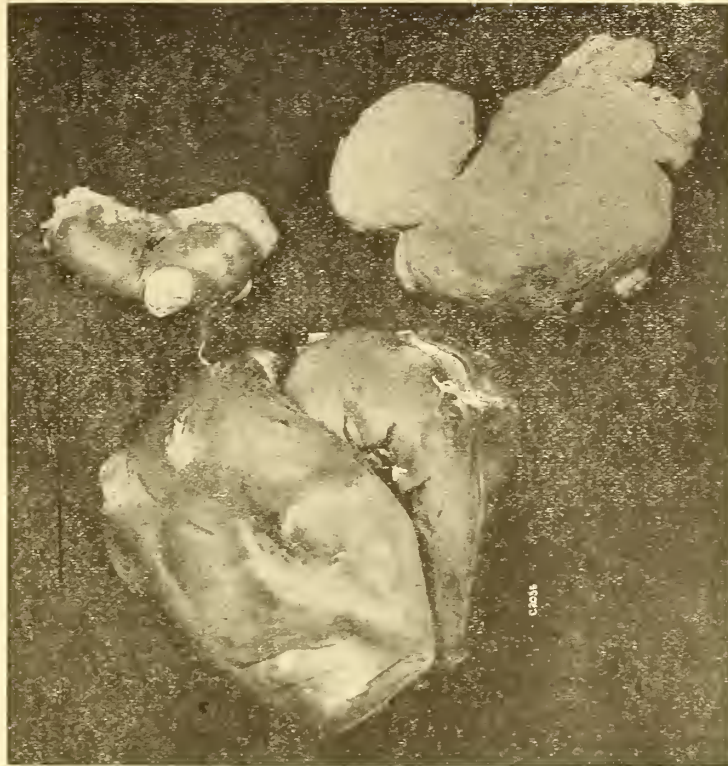


Fig. 3. Liver, spleen and heart of turkey showing tubercular lesions. Notice extreme nodule in the form of an outgrowth from the surface or epicardium of heart.

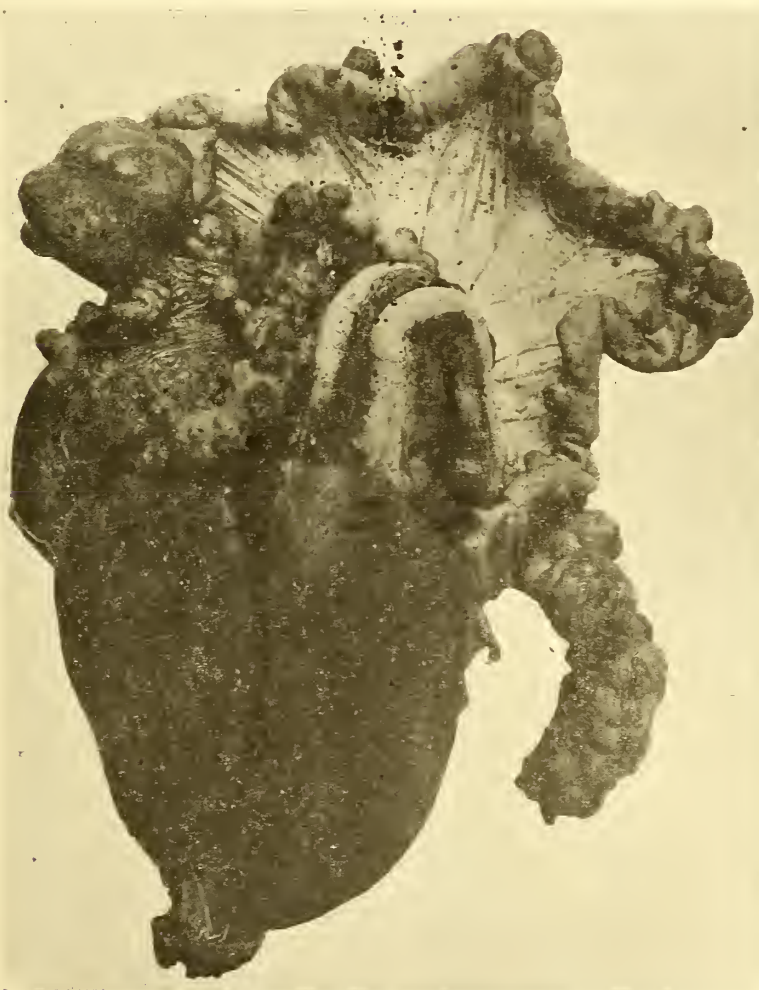


Fig. 5. Liver and intestine of chicken showing multiple tubercular nodules.

trance to the respiratory system. This is especially possible when the birds are closely confined in houses that are dusty.

On a squab farm started in 1905 with mostly young birds the disease soon began to appear in isolated cases. Recently, the plant was carrying 12,000 breeders and the loss will probably aggregate 1,000 birds a year from tuberculosis alone, the greatest number of cases occurring in the old birds and in the old habitations. Another instance when the disease spread rapidly was in a flock of about 500 hens. There was for several years a gradually increasing loss of birds, supposedly from roup, totaling during the last year 15 per cent of the flock. A careful investigation demonstrated that tuberculosis, not roup, was the cause of death.

While the most common source of infection is from sick to healthy fowls, either directly or indirectly, experimental evidence shows that there is a possibility that fowls may become infected with tuberculosis from following cattle and hogs that are suffering with the disease and discharging the bacilli with the faeces; from eating the sputum of tuberculosis people, milk that contains the organisms, or the carcasses of animals that have died of tuberculosis and which are so often fed to other farm animals.

Experiments have shown that it is possible for the bacilli to be transmitted through the egg to the young chick. This, however, is not common and probably takes place only when a lesion exists in the ovary, or possible when the individual is suffering with advanced generalized tuberculosis. Chicks hatched from in-

fectured eggs never reach maturity, usually dying within the first three months.

#### Prevention

As the administration of medicines will not give results and is therefore useless, all efforts should be to prevent the introduction of the disease into healthy flocks and to check its spread in flocks where it already exists. If flocks are known to be free from tuberculosis they should, as a precautionary measure, be kept from other farm animals that may be suffering with the disease and from eating the flesh of animals so affected. Birds or eggs for hatching should not be purchased from flocks that are not known to be free from tuberculosis as there is a possibility of the introduction of infection by this means especially in the purchase of birds. After the disease is known to exist one of two courses must be followed: the whole flock must be disposed of, or the disease must be eradicated. Eradication is in most cases the logical step and it is recommended for the following reasons: The disease spreads slowly in flocks when kept under proper conditions, that egg production may be maintained, the possibility of infection from eggs is slight, it is becoming increasingly difficult to purchase birds that are known to be free from tuberculosis, and that a new flock may be built up from the same variety and strain.

To control and eradicate the disease in an infected flock and at the same time build up a new, healthy flock, some radical and persistent steps are necessary. The following suggestions are recommended as a general guide. All birds showing symptoms of tu-



Fig. 4. (a) Spleen, chicken. (b) spleen, turkey. (c) spleen, chicken showing lesions of tuberculosis.

berculosis should be killed and burned. New quarters and yards should be furnished if possible and the old houses, if of little value, burned, used for fuel, and yards plowed up and seeded. If the houses are permanent and valuable, then all loose fixtures should be removed and destroyed. All loose dirt and dust must be entirely and completely removed and the inside of the building treated with a strong disinfectant and then whitewashed.

Proper ventilation and light should be provided. Droppings from the roost should be removed daily and carried at once to a field not occupied by fowls. Surface dirt and accumulated rubbish should be scraped from the yards and removed to the open fields. Proper drainage of yards and surrounding grounds should be carried out as local conditions may indicate, especially grading to prevent collection of surface water is essential. Food and water should come from sources that are known to be free from contamination. All feeding and drinking receptacles should be so constructed as to prevent the birds from stepping in them, or otherwise contaminating them, and kept clean and disinfected from time to time. The system of housing in small colonies greatly aids in the carrying out of control measures of this as well as other infectious diseases. It further permits of plowing and seeding the yards which is very desirable and is recommended.

In regard to the flock itself the main steps in the eradication of the disease to be followed are that all birds showing symptoms or clinical evidence of the disease should be killed and disposed of by burning or burying deep. The remaining members of the flock should be kept under the best possible conditions and carefully watched for evidence of the disease, the object being to maintain the production of as many eggs as possible and at the same time to grow a flock of healthy chicks to take the place of the birds which are to be disposed of within the year.

Where incubators are available or it is possible to purchase them they are recommended for hatching. If the new flock is to be hatched by hens, care should be taken in the selection of the hens to set. As soon as they have hatched they should be isolated from the remainder of the

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flock. Chicks hatched by hens may be reared in a brooder; if left with the hen she should be removed as soon as the chickens are a few weeks old, this depending largely upon the time of year and weather. The old hens may then be placed with the rest of the flock and disposed of at the end of the year. All old hens that are to be killed for food purposes should be inspected by a competent veterinarian and those fit for food should be so used. All carcasses showing evidence of infection should be properly disposed of. Since there is always a possibility of infection remaining on the premises and infection being reestablished in the flock sanitary measures should be constantly complied with and the flock should be culled every year. All birds that have given one year service of egg production should be marketed; in no case is it advisable to keep a hen for more than two years.

Our records show that most of the flocks where tuberculosis was more or less serious were farm flocks where no effort was made to sell off the old hens every year. In order to do this it is necessary to mark the young chickens so that birds can be identified and all birds that have given one year of egg production can be disposed of. The tuberculin test would be indicated in some cases in carrying out various steps in preventing the disease and in eliminating infected individuals. (See discussion on tuberculosis test).

In case it seems desirable to kill or dispose of the entire flock, all birds showing evidence of the disease should be killed and properly disposed of. The remainder should be killed under veterinary supervision. The carcasses of birds showing lesions of tuberculosis should be destroyed by burning; those that are free from the disease should be used for food. Any birds killed that are in good flesh, although suffering from a mild or localized form of the disease may be utilized for food provided they are properly handled and thoroughly cooked before being used. The great danger from an infected carcass is when the chicken is being prepared for cooking as the process of cutting up favors and makes possible the infection of kitchen utensils and all articles coming in contact with the carcass. In all such cases it



is always best to cook the fowl whole.

#### Diagnosis

The diagnosis of tuberculosis in poultry by observing the symptoms may be possible in some typical cases. In a majority of cases, a diagnosis may be made from a study of the gross or visible part of the tissue changes found upon post mortem examination. A positive diagnosis rests with the finding of the bacillus tuberculosis avium in microscopic preparations made directly from the lesion in the organs or tissues of birds that were suffering with the disease.

Some of the diseases and tissue changes which must be distinguished from tuberculosis are chronic cases of chicken cholera where there is lameness. Birds are not uncommonly lame from joint rheumatism, exposure to cold, gout, and sore feet. In birds dead from cholera there are often yellowish white spots, and areas of degeneration on the liver. Areas of fatty degeneration, local areas of necrosis and abscess formation, which are due to various causes and which stand out as prominent discolored spots, may by the inexperienced be mistaken for tuberculosis.

Tumors of the liver, which are usually of the lymphoma or sarcoma variety, may also be confused with tuberculosis. In some cases the development of the tumor is uniform throughout the substance of the liver, making the organ several times its normal size and giving it a mottled appearance. In other instances, tumors appear as yellowish white, firm, slightly elevated, circumscribed masses of newly formed tissue, usually larger than tubercular nodules.

Tuberculosis of the cavities of the head must be distinguished from chronic roup. Further tuberculosis of fowls must be distinguished from tumors of the skin, encysted parasites (*Laminosioptes cysticola*) that are so frequently found in the subcutaneous tissues of fowls, the disease known as "going light" or asthenia, paralysis in chickens and heterakiasis are not to be confused with tuberculosis. In paralysis in chickens there would be the absence of the swelling about the joints. Heterakiasis is a disease characterized by extreme wasting of the muscles, caused by a round worm that lives in the caeca or blind gut. Other diseases to be considered in the differential diagnosis are cheilospiriosis or gizzard worm disease due to the presence of a round worm (*cheilospirura hamulosa*) in the muscular wall of the gizzard and characterized by emaciation and death. Teniasis, aspergillosis, chronic coccidiosis, chronic pericarditis, traumatic gastritis and chronic inflammation of the oviducts.

As the administration of medicines will not give results and is therefore useless, all efforts should be to prevent the introduction of the disease in to healthy flocks and to check its spread in flocks where it already exists. If flocks are known to be free from tuberculosis they should be

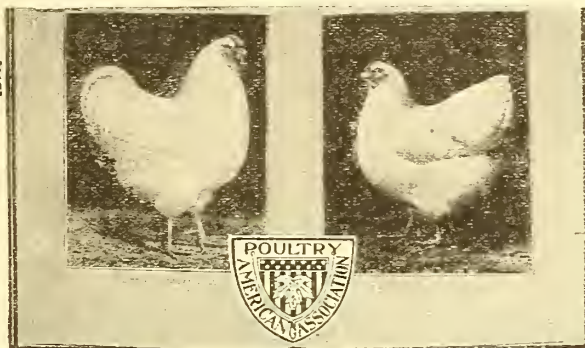
kept from other farm animals that may be suffering with the disease and from eating the flesh of animals so affected. Birds or eggs for hatching should not be purchased from flocks that are not known to be free from tuberculosis.

After the disease is known to exist, the whole flock must be disposed of or the disease must be eradicated.

In the diagnosis of diseases of chickens it is always advisable to kill a sick bird and make a careful post-mortem examination. In case of an individual or a small flock of valuable birds other methods may well be followed. If you wish to determine whether a particular fowl or a few for breeding purposes are free from tuberculosis the tuberculin test, intradermal method, becomes a prac-

tical procedure.

**Tuberculin test:** The application of the tuberculin test as a diagnostic agent to determine the presence of tubercular infection in fowls has been rather thoroughly and extensively carried out by a number of reliable men in various parts of the country and has given most satisfactory results and promises to be of great practical value in the handling of valuable flocks, especially in the selection and purchase of birds for breeding purposes. H. A. Bittenbender, professor of poultry husbandry at Iowa State College, who is familiar with the poultry industry of Iowa and the total losses from disease, through his association with the agricultural extension department, feels that if tuberculosis in



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fowls continues to be as prevalent as present conditions show, that it will be a practical and necessary economic step to carry out the tuberculin test on fowls. The conditions under which the test would be practical are:

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The tuberculin test carried out on fowls is what is known as the intradermal or skin test of cattle and pigs. It might well be called the comb or wattle tuberculin test for chickens. The tuberculin must be made from the avian bacillus as experience has shown that tubercular chickens will only rarely react to tuberculin from other strains. The test is carried out by injecting a small quantity of tuberculin into the surface layers of the comb or wattles. The injection should be made with a strong, small gauge needle, using about 10.30 cubic millimeters of tuberculin. The reaction consists of a rather large, tense, definite swelling at the point of injection. After one has observed a number of reactions it becomes comparatively easy to tell the true reaction from slight or inflammatory enlargements due to the mere presence of the tuberculin or from complications. The reaction first shows on the day following the injection and disappears on the fifth day, but in the more typical case in 48-72 hours. Work on tuberculosis in fowls with special reference to the practicability of the test for poultry raisers is under way jointly by the poultry department and department of pathology, Iowa State College.

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We want to call particular attention to the advertisement of the Aluminum Marker Works, Beaver Falls, Pennsylvania, in this issue. They manufacture their famous "Best Yet" aluminum leg bands and also a celluloid leg band made up in various colors that are easy to distinguish to those that have trouble in reading the numbers on flat leg bands. This firm has advertised in Poultry Keeper for a long time and we know them to be strictly reliable.

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For the past ten years it has been my annual custom to hold a Summer Sale of Stock. On account of my very heavy egg trade, I am obliged to keep all my breeding Pens mated until July 1st. After that time it is absolutely necessary to make room for my rapidly developing young stock. This season I have over 2,500 thrifty chicks, hatched between the middle of January and the middle of March and they are constantly needing more room. To give them proper accommodation I must dispose of a large number of my breeders quickly. This is not the usual time of year to sell stock it is true, but to make it an object for you to buy at this time, I am quoting very special values. My list this season is without a doubt the largest and best that I have ever offered. Many of the birds in this list will win in the large shows next winter and they have grand breeding with generations of "Regal" ancestry back of them. I have made up my mind not to show anywhere this winter, and, if it were not for this, there are many birds in this list that I could not possibly spare.

FREE—Send for complete list of the 1000 choice breeders offered for sale. 2 page Catalogue also free.

**JOHN S. MARTIN, Box 113, Port Dover, Canada.**

# MEAT SCRAP AND SOUR MILK FOR EGG PRODUCTION

by  
**H. L. Kempster and G. W. Hervey**  
**UNIVERSITY OF MISSOURI**

(Continued from Last Issue)

Concerning oil meal, Payne in Vol. III No. 3, Journal of the American Association of Instructors and Investigators in Poultry Husbandry says that linseed meal was not palatable, but that gluten feed was palatable.

### AT THE UNIVERSITY OF MISSOURI

Similar tests were made in which the method of feeding was similar to that already described under the meat scrap and sour milk experiments. The grain rations were the same. The only difference in the feed was the

**Table 4.—Results of Three Ten-Bird Pens of White Leghorn Hens  
November 1, 1915 to October 31, 1916.**

|   | Oil<br>Meal | Gluten<br>Meal | Cottonseed<br>Meal |
|---|-------------|----------------|--------------------|
| Grain, pounds .....                         | 460         | 464            | 446                |
| Mash, pounds .....                          | 169         | 194            | 180                |
| Total pounds .....                          | 629         | 658            | 626                |
| Average pounds food per hen per year.....   | 59.9        | 62.6           | 59.6               |
| Average cost per hen per year, dollars..... | .96         | 1.00           | .958               |
| Eggs per hen .....                          | 64.9        | 63.8           | 66                 |
| Profit per hen, dollars .....               | .12         | .06            | .14                |
| Eggs .....                                  | 649         | 638            | 660                |
| Cost (total) dollars .....                  | 10.11       | 10.49          | 10.24              |
| Corn, pounds .....                          | 306         | 309            | 297                |
| Cost, dollars .....                         | 4.90        | 4.94           | 4.75               |
| Wheat, pounds .....                         | 153         | 155            | 149                |
| Cost, dollars .....                         | 2.54        | 2.57           | 2.47               |
| Bran, pounds .....                          | 42.25       | 48.50          | 45                 |
| Cost, dollars .....                         | .51         | .58            | .54                |
| Shorts, pounds .....                        | 42.25       | 48.50          | 45                 |
| Costs, dollars .....                        | .59         | .68            | .63                |
| Corn meal, pounds .....                     | 42.25       | 48.50          | 45                 |
| Cost, dollars .....                         | .72         | .82            | .77                |
| Oil meal, pounds .....                      | 42.25       |                |                    |
| Cost, dollars .....                         | .85         |                |                    |
| Gluten meal, pounds .....                   |             | 48.5           |                    |
| Cost, dollars .....                         |             | .90            |                    |
| Cottonseed meal, pounds .....               |             |                | 45                 |
| Cost, dollars .....                         |             |                | 1.08               |
| Food to produce a pound of eggs, pounds     | 7 2-3       | 8 1-4          | 7 2-3              |
| Value of eggs, (20c. a doz.), dollars ..... | 10.82       | 10.63          | 11.00              |
| Food cost of a dozen eggs, dollars .....    | .18         | .19            | .196               |

kind of protein concentrate used. The three mashes were composed of equal parts by weight of the following ingredients:

|                 |   |                   |   |                       |   |
|-----------------|---|-------------------|---|-----------------------|---|
| Bran .....      | 1 | Bran .....        | 1 | Bran .....            | 1 |
| Shorts .....    | 1 | Shorts .....      | 1 | Shorts .....          | 1 |
| Corn meal ..... | 1 | Corn meal .....   | 1 | Corn meal .....       | 1 |
| Oil meal .....  | 1 | Gluten meal ..... | 1 | Cottonseed meal ..... | 1 |

Table 4 shows the results of the test.

**Table 5.—Summary of Comparison of Sour Milk and Meat Scrap With Oil Meal, Gluten Meal and Cottonseed Meal. Basis of One Hen Per Year.**

| Ration                 | Pounds<br>Feed | Feed<br>Cost<br>Per Hen | Eggs  | Profit  | Feed to Produce<br>1 Pound of Eggs |
|------------------------|----------------|-------------------------|-------|---------|------------------------------------|
| Meat scrap .....       | 58.4           | \$1.078                 | 120.3 | \$0.915 | 4.251                              |
| Sour milk .....        | 59             | 1.095                   | 129   | 1.02    | 4.762                              |
| Oil meal .....         | 59.9           | 0.96                    | 64.9  | 0.12    | 7.6                                |
| Gluten meal .....      | 62.6           | 1.00                    | 63.8  | 0.06    | 8.25                               |
| Cottonseed meal .....  | 59.6           | 0.958                   | 66    | 0.14    | 7.6                                |
| No basal protein ..... | 62.7           | 1.00                    | 57.3  | —0.045  | 8.94                               |

1 Includes meat  
2 Does not include milk.

From the tests it appears that the addition of protein concentrates of vegetable origin, such as oil meal, gluten meal and cottonseed meal, to a ration has but little influence on egg production. Where sour milk or meat scrap was used the production was very nearly double, and while the cost of the ration was increased from 9 to 13 cents per hen per year, the extra profit paid for this ten fold. The oil meal mash was not consumed in as



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The prices quoted in this ad. apply only to stock purchased for shipping before November 1st. After that date an increase of about \$1.00 per bird will be necessary on all grades of heavy laying stock. Ferris Leghorns have been bred nearly 20 years for heavy egg production. Size, health and vigor given special attention. Thousands of pullets, hens and breeding males now ready for shipment.

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|                     |                |
|---------------------|----------------|
| 200-230 Strain      | 230-264 Strain |
| 10 pullets \$ 23.50 | \$ 32.00       |
| 50 pullets 110.00   | 135.00         |
| 100 pullets 200.00  | 250.00         |

### LAYING PULLETS FOR SEPTEMBER AND OCTOBER DELIVERY

Thousands of pullets from our heavy laying strains are now ready for shipment. These pullets will more than pay for themselves this fall and winter and will make splendid breeders next spring.

|                     |                |
|---------------------|----------------|
| 200-230 Strain      | 230-264 Strain |
| 12 pullets \$ 45.00 | \$ 50.00       |
| 25 pullets 90.00    | 95.00          |
| 50 pullets 170.00   | 185.00         |
| 100 pullets 325.00  | 365.00         |

### YEARLING HENS FOR LAYING AND BREEDING

We have several thousand hens of unusual quality to sell at very reasonable prices. Place your order now and let us reserve the number you want.

|                  |                |
|------------------|----------------|
| 200-230 Strain   | 230-264 Strain |
| 12 hens \$ 40.00 | \$ 50.00       |
| 25 hens 80.00    | 95.00          |
| 50 hens 150.00   | 185.00         |
| 100 hens 285.00  | 365.00         |

### EARLY COCKERELS AND COCK BIRDS

Hundreds of choice cockerels, March hatched from our very best matings will be disposed of this fall at the following prices. Also a number of yearling cock birds that we have used in our breeding pens at the same prices. From 200-230 strain, \$7.00, \$8.00 and \$10.00. From 230-264 strain, \$10.00, \$15.00 and \$20.00.

### WE SHIP C. O. D. AND ON APPROVAL

You can return within three days any stock that is not fully satisfactory and we will refund your money, or you can send money to guarantee express, and we will ship C. O. D. with privilege of examination. We insure all stock for 30 days, replacing free any that die or get out of condition.

### WINNERS FOR EARLY FAIRS

Every one of our 20 exhibition matings last spring was headed by a male that won first prize at some big show. We have hundreds of early cockerels and pullets sired by these great males and we will guarantee them to win at any show in America. Write for prices.

### GET THIS FREE CATALOG

Send for your copy today. Describes fully the stock mentioned above. Contains photos showing our 32 acre White Leghorn Farm at Grand Rapids where much of our laying stock is kept; and our 15 acre farm at South Bend, Ind., where our exhibition stock is bred; describes our methods of feed and care; how we improve laying qualities; list of winnings at over 50 big shows, many customers' letters; prices on exhibition, breeding and laying stock, and 8-week old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. Mail postal now, while you have the matter in mind.



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I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but understand I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay Write today.

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large quantities as the other mashes, indicating that the hens did not relish this as much as they did the other mashes.

### DIFFERENT PROTEINS ALONE AND IN COMBINATIONS

Another series of experiments was conducted from November 1, 1916, to October 31, 1917, in which meat scrap, cottonseed meal and gluten meal alone and in combinations supplied the basal protein.

Ten pens of White Leghorn yearling hens, ten birds to the pen of similar age and breeding were used in the work. All pens were fed a plain mash consisting of equal parts by weights of bran, shorts and corn meal. This plain mash in nine of the pens was supplemented by a basal protein concentrate or a combination of protein basis. The mashes were so mixed that the actual protein content in each was identical. The tenth pen (check pen) received the plain mash only.

Following were the mashes used:

|   |   |
|---|---|
| (1)   | (6)   |
| Basal Protein—All Meat Scrap.                         | Basal Protein—2-3 Meat Scrap<br>1-3 Gluten Meal   |
| Bran ..... 2.2 pounds                                 | Bran ..... 2.2 pounds                             |
| Shorts ..... 2.2 pounds                               | Shorts ..... 2.2 pounds                           |
| Cornmeal ..... 2.2 pounds                             | Cornmeal ..... 2.2 pounds                         |
| Meat Scrap ..... 3.4 pounds                           | Meat Scrap ..... 2.27 pounds                      |
|   | Gluten Meal ..... 2.51 pounds                     |
| (2)   | (7)   |
| Basal Protein—2-3 Meat Scrap<br>1-3 Cottonseed Meal   | Basal Protein—1-3 Meat Scrap<br>2-3 Gluten Meal   |
| Bran ..... 2.2 pounds                                 | Bran ..... 2.2 pounds                             |
| Shorts ..... 2.2 pounds                               | Shorts ..... 2.2 pounds                           |
| Cornmeal ..... 2.2 pounds                             | Cornmeal ..... 2.2 pounds                         |
| Meat Scrap ..... 2.26 pounds                          | Meat Scrap ..... 1.13 pounds                      |
| Cottonseed Meal ..... 2.0 pounds                      | Gluten Meal ..... 5.03 pounds                     |
| (3)   | (8)   |
| Basal Protein—1-3 Meat Scrap<br>2-3 Cottonseed Meal   | Basal Protein—All Gluten Meal                     |
| Bran ..... 2.2 pounds                                 | Bran ..... 2.2 pounds                             |
| Shorts ..... 2.2 pounds                               | Shorts ..... 2.2 pounds                           |
| Cornmeal ..... 2.2 pounds                             | Cornmeal ..... 2.2 pounds                         |
| Meat Scrap ..... 1.13 pounds                          | Gluten Meal ..... 7.54 pounds                     |
| Cottonseed Meal ..... 4.02 pounds                     |   |
| (4)   | (9)   |
| Basal Protein—All Cottonseed Meal<br>Plus 5% Bone Ash | Basal Protein—All Gluten Meal<br>Plus 5% Bone Ash |
| Bran ..... 2.2 pounds                                 | Bran ..... 2.2 pounds                             |
| Shorts ..... 2.2 pounds                               | Shorts ..... 2.2 pounds                           |
| Cornmeal ..... 2.2 pounds                             | Cornmeal ..... 2.2 pounds                         |
| Cottonseed Meal ..... 6.03 pounds                     | Gluten Meal ..... 7.54 pounds                     |
|   | Bone Meal ..... 74 pounds                         |
| (5)   | (10)  |
| Basal Protein—All Cottonseed Meal<br>Plus 5% Bone Ash | Check Pen—No Basal Protein                        |
| Bran ..... 2.2 pounds                                 | Bran ..... 2.2 pounds                             |
| Shorts ..... 2.2 pounds                               | Shorts ..... 2.2 pounds                           |
| Cornmeal ..... 2.2 pounds                             | Cornmeal ..... 2.2 pounds                         |
| Cottonseed Meal ..... 6.02 pounds                     |   |
| Bone Meal ..... .66 pounds                            |   |

Table 6.—Results of Ten Ten-Bird Pens of White Leghorn Hens

| Pen No.                             | 1       | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |
|-------------------------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Grain                               | 468.7   | 425.8 | 443.0 | 433.4 | 443.9 | 433.9 | 450.6 | 447.7 | 383.8 | 450.6 |
| Mash                                | 248.2   | 236.5 | 198.7 | 200.8 | 226.8 | 215.7 | 218.4 | 228.8 | 248.1 | 176.8 |
| Total feed                          | 716.9   | 662.3 | 641.7 | 634.2 | 670.7 | 649.6 | 669.0 | 676.5 | 631.9 | 627.4 |
| Eggs                                | 1347    | 1275  | 979   | 596   | 834   | 1068  | 1152  | 588   | 929   | 637   |
| Pounds feed to produce 1 pound eggs | 4.2     | 4.1   | 5.2   | 8.5   | 6.4   | 4.9   | 4.6   | 9.2   | 5.4   | 7.8   |
| Grain cost                          | \$12.98 | 11.79 | 12.27 | 11.99 | 12.30 | 12.30 | 12.47 | 12.40 | 10.63 | 12.47 |
| Mash cost                           | \$ 7.74 | 6.50  | 5.22  | 4.88  | 5.68  | 6.27  | 5.95  | 5.95  | 6.63  | 3.80  |
| Income                              | \$33.68 | 31.88 | 24.47 | 14.90 | 20.85 | 26.70 | 28.80 | 14.70 | 23.23 | 15.93 |
| Profit                              | \$12.96 | 13.53 | 6.98  | 2.17  | 2.87  | 8.13  | 10.38 | 3.65  | 5.97  | 0.34  |
| Loss                                |         |       |       |       |       |       |       |       |       |       |

Feed cost is based upon the following quotations per 100 pounds; bran, \$1.80; shorts, \$2.10; cornmeal, \$2.55; meat scrap, \$5.00; gluten meal, \$3.00; cottonseed meal, \$2.75; bone meal, \$4.00; wheat, \$3.50; corn, \$2.40. The price of eggs is figured at 30 cents per dozen.

### REVIEW OF EXPERIMENTS

1. The five pens receiving meat scrap in the dry mash showed a higher egg production than the five pens not receiving it.

2. Pen 1, receiving a basal protein consisting entirely of meat scrap, produced the greatest number of eggs. This mash was composed of 34 per cent meat scrap, a greater amount than had been used heretofore in the feeding tests. The total production, 134.7 eggs per bird, was approxi-

mately the same as had been previously obtained with a 25 per cent meat scrap mash. (See Table 2.) Apparently the use of this 9 per cent additional meat scrap was not economical.

3. Pen 2, receiving two-thirds meat scrap and one-third cotton-seed meal in basal protein, was the most profitable pen on the experiment. They returned a profit of \$1.35 per bird. The total production, however, was 7 eggs per bird fewer than in the all-meat scrap pen. There is no evidence that the good results obtained in this instance were due to the cottonseed meal. It would seem that the efficiency of the mash was a result of the larger amount of animal protein present. This is verified by the results obtained in the case of Pen 3 where two-thirds of the basal protein was cottonseed meal. A 70 cent profit per bird was returned, which does not represent economical feeding practice.

4. Opposite results were obtained when gluten meal was used in combinations with the meat scrap. (Pens 7 and 6.) The two-thirds gluten-meal pen produced 115.2 eggs per bird and the one-third gluten 106.8 per bird.

5. Negative results were obtained in the use of cottonseed meal and gluten meal alone (Pens 4 and 8) as protein bases. There was a loss of 22 cents and 37 cents per bird respectively in the two pens while the egg production in each case was less than one-half that of either Pen 1 or Pen 2. Furthermore the production curves of these two pens were quite irregular as compared with Pen 1. It is striking that the production of the gluten meal pen was even less than that of the check pen.

6. The addition of bone meal, equivalent to 5 per cent of the mash (Pens 5 and 9), to all-cottonseed-meal and all-gluten-meal bases evidently exerted a favorable effect on egg production. There was an increase of 233 eggs in the first instance and 341 eggs in the latter over the respective cottonseed meal and gluten meal pens not receiving it. (Pens 4 and 8).

7. So far as could be observed the hens in all pens were in perfect health throughout the experiment with vegetable proteins.

8. No deleterious effects, other than a slight coloration of the egg yolks, were noted in the use of cottonseed meal.

CONCLUSIONS

1. Meat scrap and sour milk are the most economical sources of protein for laying hens.

2. It is poor economy not to furnish the laying hen a protein concentrate of animal origin.

3. Vegetable proteins alone cannot be fed economically.

4. The production of birds which are fed animal food is more uniform than that of those which do not receive it.

5. Twenty-five per cent meat scrap is a sufficient amount of animal food in a dry mash.

6. Meat scrap in combination with cottonseed meal gave satisfactory results when the meat scrap constituted two-thirds of the protein base.

7. Meat scrap in combination with gluten meal gave satisfactory results when the meat scrap constituted one-third of the protein base.

8. There is no evidence that vegetable proteins, alone or in combinations with animal food, increase egg production.

9. The addition of bone meal equivalent to 5 per cent of the mash seems to increase egg production materially when cottonseed meal or gluten meal is used as a protein base.

10. One pound of eggs can be produced with every four pounds of feed if the proper ration is fed.

11. According to these tests, 100 pounds of sour milk is worth 5.4 pounds of meat scrap.

(To Be Continued Next Issue.)

BAD EGG ARITHMETIC

More than one-sixth, 17 per cent, of the annual egg output of Missouri is lost through carelessness. According to figures supplied by H. L. Kempster, professor of poultry husbandry in the University of Missouri College of Agriculture, Missouri hens produce 1,332,000,000 eggs a year. Of this number, 17 per cent, or 226,440,000 eggs are lost through spoilage and breakage. These 226,440,000 eggs would weigh 28,305,000 pounds. They represent 141,525,000 pounds of chicken feed and the output of 2,264,400 hens. If all the eggs which are now wasted in Missouri were conserved, there would

be one extra egg for every man, woman and child in the state for every Sunday and holiday in the year.

The loss from bad eggs comes about because a single broken or spoiled egg is not considered a great loss. In fact it is so small that it is hardly noticed on the average farm, but it is the total of these broken and bad eggs which causes an annual loss of \$5,661,000 when eggs are selling at 30 cents a dozen.

These bad and broken eggs not only represent a loss of human food but they represent a loss of grain and other feeds which the country can ill afford especially at this time of national food shortage. It is probable that similar losses occur each year in other states.

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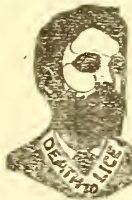


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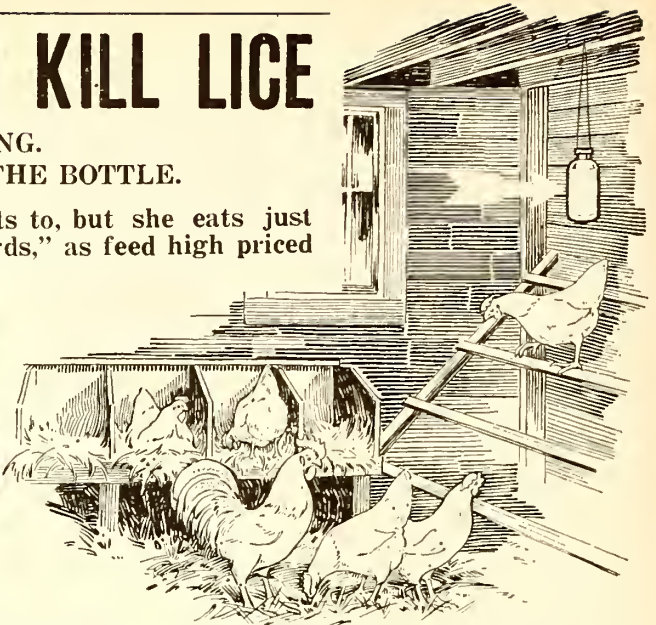
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ter from Mr. A. E. Martz, also that of D. S. Newton.

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Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

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# BALANCING THE RATIONS

The solids in an egg are made principally of three different kinds of material; fat, protein and minerals. The yolk is principally fat; the white, protein; and the shell, minerals. These terms are used to cover the three kinds of material, yolk meaning all fat in the egg; white, all protein; and shell, all minerals.

In order to balance the ration for egg production, it is necessary to know how much yolk and white forming material is in each kind of feed. Then in compounding the ration we should use quantities of different feeds so that the total will produce an equal number of yolks and whites.

The following table shows the number of yolks and whites produced from one hundred pounds of the different kinds of feed:

| Grain                  |                | Dry Forage              |                |
|------------------------|----------------|-------------------------|----------------|
|                        | Yolks. Whites. |                         | Yolks. Whites. |
| Corn .....             | 255 134        | Corn fodder (dry)....   | 133 41         |
| Kaffir corn .....      | 254 125        | Alfalfa hay .....       | 140 180        |
| Wheat .....            | 243 182        | Clover hay .....        | 142 113        |
| Cow Peas .....         | 189 305        | Timothy hay.....        | 155 46         |
| Oats .....             | 195 155        | Cowpea hay .....        | 114 71         |
| Barley .....           | 203 145        | Wheat straw .....       | 121 7          |
| Buckwheat .....        | 178 123        |                         |                |
| Sunflower seed .....   | 233 266        |                         |                |
| Mill Products          |                | Green Forage            |                |
|                        | Yolks. Whites. |                         | Yolks. Whites. |
| Wheat Bran .....       | 155 205        | Alfalfa .....           | 46 67          |
| Middlings .....        | 205 220        | Clover .....            | 54 48          |
| Corn meal .....        | 260 135        | Corn fodder (green)...  | 42 16          |
| Ground oats .....      | 195 155        | Cabbage .....           | 40 11          |
| Gluten meal .....      | 230 430        | Rape .....              | 56 11          |
| Alfalfa meal .....     | 133 205        |                         |                |
| O. P. Oil meal .....   | 160 500        | Vegetables, Roots, Etc. |                |
| Cotton Seed Meal ..... | 148 620        |                         | Yolks. Whites. |
| Meat Food              |                | Apple .....             | 62 12          |
|                        | Yolks. Whites. | Mangel beets .....      | 19 18          |
| Beef Scraps .....      | 106 1107       | Mangel beet leaves....  | 28 16          |
| Fish scraps .....      | 87 806         | Onions .....            | 11 25          |
| Dried Blood .....      | 19 871         | Potatoes .....          | 55 15          |
| Fresh Cut Bone .....   | 196 336        | Turnips .....           | 26 16          |
|                        |                | Pumpkins .....          | 22 23          |
|                        |                | Corn silage .....       | 42 15          |

The above table assumes that one pound of carbohydrates will make 3 1-3 yolks and one pound of protein will make 16 2-3 whites. This is above maintaining the body where hens are fed all they want.

The following shows an unbalanced and a balanced ration for egg production:

| Unbalanced Ration    |                | Balanced Ration       |                |
|----------------------|----------------|-----------------------|----------------|
|                      | Yolks. Whites. |                       | Yolks. Whites. |
| 100 lbs. corn .....  | 255 134        | 100 lbs. corn .....   | 255 134        |
| 100 lbs. wheat ..... | 243 182        | 100 lbs. wheat .....  | 243 182        |
| 20 lbs. oats. ....   | 39 31          | 20 lbs. oats .....    | 39 31          |
| 20 lbs. bran .....   | 31 41          | 20 lbs. bran .....    | 31 41          |
| 20 lbs. shorts ..... | 41 44          | 20 lbs. shorts .....  | 41 44          |
| 20 lbs. cornmeal.... | 50 27          | 20 lbs. corn meal.... | 50 27          |
|                      |                | 20 lbs. beef scraps.. | 21 221         |
| Totals .....         | 659 459        | Totals .....          | 680 680        |

It will be seen that the unbalanced ration produced more fat than albumen and would therefore be a good fattening ration. Amount of range, size of breed, season, etc., will influence quantity of feed consumed. As fat or yolk material produces heat, it should be increased during winter and decreased in summer.

The mash should be in hoppers where the hens can eat at any time. Oats may be fed with either grain or mash. One-half pound of fine table salt and two pounds of fine charcoal should be added to each 100 lbs. of mash. Grit and oyster-shell or ground limestone should be before the birds at all times. Fresh water should be before the fowls constantly.

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A. OTIS ARNOLD, Editor.



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## EGGS IN FALL AND WINTER

Now is the time the pullets need special attention. Upon them depends the bulk of our winter fresh egg supply. Neglect now is apt to result in less eggs during the season, when the demand is big and the prices are high. To make a flock pay well it is absolutely necessary to have the flock productive during the fall and winter months. It requires no special effort on the part of the operator of a poultry plant to produce eggs during the spring and summer months, when conditions and the surroundings are ideal, but to get the proper percentage of eggs when the weather conditions are unfavorable requires some study and management.

The early hatched pullets should now be laying, and if they are not there is evidently something wrong with your feeding. Of course, this has been a poor season for rapid development of the growing chicks, owing to the unfavorable weather conditions, but the experienced poultryman overcomes, to some extent, such conditions by special attention both in the housing and feeding.

### Dry House Important.

First of all, good dry houses with well drained runs. Nothing is more important to the general welfare and development of a flock of pullets as a well built house with a perfectly dry floor and tight roof. The floor, no matter if it is of natural earth, wood or any other material, should be higher than the runs. The material and construction of the walls should be such as prevent the hardest rains from getting through. Have the windows so arranged that the sun rays will reach almost every part of the house. Sunshine is much enjoyed by the pullets on a cold winter day, and it also keeps the house in a sanitary condition.

If possible separate the pullets

from the hens, and by all means take out surplus cockerels if some are still running with the pullets. Different feeding methods must be used on hens than pullets. The later require more grain feeds to assist them in their development, whereas too much grain to the hens would make them fat and lazy. By all means take out the cripples and stunted birds. A flock of pullets of almost uniform size are pleasing to the eye and will get along better. With the small back yard poultrykeeper, who only has one or two pens and pullets varying in age and development, this plan cannot be carried out, but such a breeder can at least remove those stunted in growth and those possessing some deformity of body or limbs.

### How to Make Mash.

Give the pullets plenty of mash, in fact have it before them at all times. Do not wet this mash, but feed it dry. Do not think that bran alone will answer the purpose. A good commercial mash is composed of a variety of grains ground up together with meat scraps and ground alfalfa. It is cheaper to buy this than to mix it yourself, besides a good commercial mash is correctly balanced, as the formulas are made up by men who are experts in the business.

Green cut bone is an ideal animal food to feed now, but if this cannot be obtained dry meat scraps will answer the purpose. In buying prepared meat scraps be careful to purchase the best obtainable. Better pay a little more and get a product safe to feed. Poor meat scraps are liable to cause serious bowel trouble.

For a grain feed give them a well-balanced scratching feed. This should be fed in deep litter or from an automatic feeder. Do not feed this from an ordinary hopper or the pullets will soon get lazy and lose their appetites, whereas on the other hand if fed in deep litter or by a good reliable automatic feeder the fowls get lots of exercise, which is a very important item. When feeding in the litter endeavor to feed only what they will eat up clean. The first week or so it will be necessary to do a little experimenting before one knows about how much to feed at each meal.

### Value of Green Food.

Green food is one of the most important factors to make up the daily ration of laying pullets. They must have a supply of succulent feeds if good results are looked for. This can be given them in the form of cabbage, sprouted oats, short cut alfalfa, cut clover, raw potatoes, mangel roots, turnips, carrots, beets and other roots and vegetables. A good way to feed them cabbage is to hang a head up with a wire or heavy cord and let the fowls pick at it. This method will give them additional exercise. If alfalfa is to be fed it should be scalded and allowed to soak over night, squeeze the water out in the morning and feed from a pan or trough or some other feeding utensil. Potatoes should always be fed raw, as boiled potatoes are fat

producers and do not answer as well as green food.

Every well regulated poultry house should have a hopper attached to the wall containing oyster shells, grit and charcoal, so that the pullets can help themselves to these necessities whenever they feel so inclined.

The poultry-keeper will find that there are always some pullets which lay better than others. The most modern method to cull the poor layers from the good ones is to use a trap nest, but those who have no one to look after these nests every day should not attempt to install them. Birds that are trapped should be released as soon as possible and should not be permitted to stay in these until evening. To those we advise watching the flock as closely as possible, and when a pullet is found in the nest she should immediately be banded with a colored coil ring. In this way all the workers can be distinguished from the drones. Of course in using this method you cannot keep an accurate account as to the number of eggs each pullet lays during the year, but with a little watchfulness you will, by the aid of the various colored bands on their legs, soon discover which are the best layers.

In arranging the laying house make a special effort to place the nests in as dark a place as possible; this is a preventive to the egg-eating habit. Keep a good supply of clean, fresh straw in the nest so as to keep the eggs clean and sanitary.

Go among your pullets as often as possible and get them as tame as possible. Nothing will so disorganize a laying flock as a frightened pen of birds. The smaller breeds, such as Leghorns, are not as easily tamed as the larger breeds, but even these can be made very tame if properly handled.

Go over your pullets carefully and see that they are free from lice. At the first sign of these pests go after them energetically, for it is a well-known fact that they multiply rapidly and if not taken in hand will soon overrun the flock. A free use of lice powders and lice paints are advisable at all times.

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## Questions and Answers

By Russell T. Barr

### What is the Bug?

Can you tell me what kind of a bug it is that I have in the cracks and crevices of my hen house? It is not a bed bug but looks something like them and does not stay on the hens. Some of the hens have small boils the size of bird shot under the wings. Can you tell me what will kill these insects? Some of the hens have head lice, too.

W. D. McF., Texas.

From the description it would seem that your hens are being troubled by some kind of mite. It is the habit of mites to hide in the walls of the house or coop and only go onto the hens at night, sucking the blood from the body of the hen while on the roost. Whether you have some special variety of the mite in Texas we do not know, but you can be sure this is a mite of some kind. In order to get rid of them the first thing to do is to see that the premises are thoroughly cleaned of all waste litter, etc., and then the walls should be sprayed thoroughly with a solution of coal oil or petroleum. There are louse and mite killers advertised in Poultry Keeper which are valuable for this very purpose when mixed with coal oil. Even the roof and floor should be sprayed, and do not be satisfied with one application. If you want to be rid of the pests you will have to make several applications and not let up on these bugs till the job is well done. For the sores under the wings of the hens an application of carbolated vaseline will be good. This can be gotten at your drug store. The same thing can be used for the head lice, but if you use a good vaporizing spray inside the house and confine the chickens inside for a time it should finish the head lice in fine style. Hang something over the windows and doors, if they should be too open, and you will get quicker and better results.

### Incubator Temperatures

Tell me what is the matter with my incubator. When I take the eggs out to turn them as directed and put them back again the temperature will fall to 98 degrees and then soon it will rise again to 103 degrees and stay there.

W. D. S., Pennsylvania.

If you are operating an incubator for the first time it would be well for you to follow the instructions very closely until you learn the operation thoroughly. The manufacturers of all incubators are glad to help

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people to learn how the machines are to be managed to get best results. When you open the machine to turn the eggs it naturally cools off not only the eggs but the machine itself. This would result from the machine being opened and it would follow very naturally that the temperature as registered on the thermometer would fall correspondingly. After the eggs were put back it would take a little time for the heat to come up again, but the fact that the temperature as shown by the thermometer comes up again would indicate that your machine is acting pretty well and will probably give you good results. The cooling which comes from removing the eggs to turn them will not hurt anything.

### Ventilating a Poultry House.

How many windows should a poultry house have to give the chickens all the air and light they should have both summer and winter. Some people differ in their advice about this and I am anxious to get some good idea about it.

C. B. N., Ohio.

It is absolutely necessary that a poultry house should have enough light and ventilation, if the birds are to be healthy and give the desired results. When it comes to the exact number of windows a poultry house should have to give the right amount

of light and ventilation, it would depend on climate and locality. If you are interested in this subject you should get a good book on poultry house construction and look into the matter. It is not possible to go into the subject of poultry house construction very fully in these columns. Birds that are confined in badly ventilated houses lose vitality and run down quickly, they will not lay and of course get off their feed, as the saying is, with any number of bad results and troubles following in order. When the circulation is bad moisture soon collects on the roof and walls of the house, the air becomes saturated and even the litter on the floor may be moist as a result. Such a condition is uncomfortable and breeds trouble of all kinds. Avoiding the above conditions is simply a matter of keeping doors and windows open enough to admit fresh air and keep the walls dry. Few people will have much trouble in this respect till the temperature drops low enough to freeze water in the house. The problem is to keep fresh air enough to keep the moisture from depositing on the walls, and at the same time keep the house warm enough so that artificial heat will not be needed. About the only way this can be done is by careful observation—study the situation and see what is needed. Many make the fatal mistake of assuming that fresh air means a draft blowing in somewhere, and that fresh air is not getting in unless one can feel it passing into the house. Drafts must be avoided as they are especially bad for laying hens. A cold draft drives the blood in, disturbs the circulation and so upsets

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egg production by upsetting the functions of the body of the hen. A good circulation of the blood in a hen or a human being is the best possible insurance against disease of all kinds. Avoid drafts in the hen house as you would skunks or chicken eating dogs.

#### Like Sizes Together

Have a flock of chicks about ten weeks old and thirty in number, but about one-third of them seem to be a good deal behind the others in development. They are so much smaller that I believe they get crowded out when it comes to feeding time. Is it right to have these together?  
P. K. H., Virginia.

It often happens that several of the chicks in a brood will fall behind the others in development. This may result from a number of different causes, the eggs from which they were hatched may have had germs of different vitality, or some of the chicks may have gotten chilled in some way and been retarded in growth, so that they are behind the others. Where there are only a few chicks it would not be worth while to bother, but where there are as many as thirty, I would by all means separate them, putting the larger ones by themselves and the smaller ones together by themselves. If this is not done the larger and stronger ones will get the best of everything and the weaker ones may never catch up. The smaller ones need a little more attention and will be much better nourished if they are by themselves. In a few weeks they may catch up with the larger ones and be just as good specimens when full grown. The experiment is worth trying anyway, as ten chickens grown to maturity are worth something in these days of high prices for eggs and table chickens. Separate them at once and note the results of a little special feeding and attention. It is observing things like this that make the difference between success and failure often in the handling of chickens, as well as other stock. It is the man or woman who observes closely who sees where improvements can be made and profit gained.


#### Cure for Roup

Can you tell me something about roup? I received some chickens by express and they seem to have a sort of sneeze which I fear will develop into roup if it is not stopped.  
H. W. D., Minn.

Good roup formulas have been given in the columns of P. K. at intervals, but it is a fact that care in this regard must be constant, so we are glad to repeat the advice again.

It is likely your birds are only suffering with severe colds, but the thing to fear is that the dread disease, roup, will get started among your chickens. You should take every means to avoid this. At the first sign of watery or blubbery eyes, rattling in the throat, or other like symptoms, the bird should be put in a coop away from chilly winds. Clean the nostrils of all discharge by pressing above them and wiping clean with a cloth. Take a small amount of the ointment mentioned below and rub it in the slot or open-

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## DAVID T. FARROW

### PEORIA, ILLINOIS

ing in the roof of the birds mouth. Press up under the throat quickly with the finger, holding the beak tight together for a few seconds until the ointment is melted and inhaled. The ointment is made this way: Vaseline, 2 oz., carbolic acid, ten drops; boric acid, 24 grains; sulphate of zinc, 2 grains; pine tar, one-fourth oz. If this is used faithfully, I think you will soon overcome the trouble, but be sure to protect the fowls from dampness and cold drafts at all times—both are disastrous to success with chickens.

Not long ago a good reader of P. K. sent us the following formula for a roup cure which she recommends very highly as having given her very fine results. Those who have trouble of this kind may be glad to give this formula a good trial and report to us later the results they got. Her remedy was made up as follows: Olive oil, 4 oz., carbolic acid, 1 oz.; camphor gum, 2 squares. Add camphor gum to olive oil and shake well. When nearly all dissolved add the carbolic acid. Rub the preparation on the head, also swab in throat and in slot with feather. Three treatments are said to produce wonders in reviving birds that are very sick with roup. It is well to have a remedy for this disease always ready, but it is better and wiser to prevent its appearance altogether. During treatment feed should consist of soft mash with a little poultry tonic mixed in.

#### Chicks Go Blind?

Will you be so kind as to let me know what is the cause of my young chicks going blind—not from the cold—but they go blind through the day without any evidence of soreness on the head at all.

G. S. A., Arizona.

As you say nothing about the exact conditions under which the chicks are kept it is rather hard to draw definite conclusions as to just what your difficulty may be due to. However, some general observations and instructions may be of value to you in arresting the trouble. In your part of the country it would be an important thing to protect the chicks from the sun in the middle part of the day. Give them plenty of chance

to get in the shade, as the very bright sun light often tends to blind the young chicks. It is also important to protect the little fellows from cold at night. This might easily affect them even though they were quite warm during the day. Chill at any time affects the circulation of the blood powerfully in any animal or bird, especially in the young, and may easily disturb any function of the body depending upon which are the weakest functions at the time. It seems very likely that your trouble is from such cause as above, if there is no local trouble affecting the eye. Feeding is also important as any indigestible food will disturb things and bring on trouble that may manifest as you describe. Give a dose of castor oil to clear out the alimentary canal, and feed the chicks very light for a few days and the trouble may disappear entirely.

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The key note of modern business is "service." The most successful concerns are those which best serve their customers in every way, which keep their products up to the highest standard of excellence and efficiency.

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Prof. M. C. Kilpatrick has recently been appointed director of these famous farms, a position which he is eminently qualified to fill because of his unusual training and recognized ability. It is not too much to predict that his work here will prove of greatest benefit to the poultry industry, not only of America but of the entire world.

Professor Kilpatrick is a native of Pennsylvania and a life-long lover of good poultry. After completing his general education he took a course in poultry husbandry at Cornell University, where he won honors as a student. In 1912 he was appointed instructor in poultry husbandry at Pennsylvania State College. This position he filled for nearly three and a half years, during which time he more than doubled the number of students taking this subject.

During the summer of 1914, Prof. Kilpatrick acted as special investigator in poultry and egg handling for the United States Department of Agriculture, covering the great producing sections of Texas, Oklahoma, Kansas and Missouri. From October, 1915, to January, 1919, he was extension specialist in poultry husbandry at Ohio State University. He is an active member of a large number of organizations of poultrymen and a popular and forceful writer and lecturer on poultry topics.

It is understood that the results of Prof. Kilpatrick's work at Pratt Experiment Farms will be made public through the free bulletins and booklets which are issued from time to time by the Pratt Food Co. Poultrymen everywhere will do well to secure copies of these publications as they appear.

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One of the many who recommend this book is M. L. Thayer, a rabbit expert of the highest standing. In the California Rural World he advises that the man starting to raise rabbits get some literature before buying stock. He recommends this book.

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Dear sir:—The copy of "The Rabbit Culture and Standard" has been received and read entirely through. I wish to compliment the Editors on producing the first real good work on Rabbits in the United States, which should be a great help to all those seeking accurate knowledge. I was greatly impressed by the Foreword which emphasizes the possibilities of the meat industries which very few seem to realize and which must soon come into favor in this country same as it has in all of those on the other side. This book explains it in a much clearer way than it has ever before been my privilege to read. It will prove that rabbit meat is worth per pound just as much as poultry, pork, mutton or beef, in fact, very few realize what a nice delicate meat it is when cooked. The demand has always been greater than the supply, and with this good hook explaining the way, it should be more simple for the beginner to see the right path. Yours very truly,  
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The hatchery alone represents an investment of \$8,000, and if it were possible to insure the hatch and eggs placed in the mammoth incubators it would run very near to \$15,000. Something like 40,000 baby chicks have been shipped by way of parcel post to all parts of the United States from this electric hatchery, and the chicks as hatched by this new method of incubation.

An increase of 10 per cent in the number of chicks hatched is due to new method, and some of the results obtained are interesting. In one machine of 310 eggs there were 250 hatched. In a smaller machine of 74 eggs, there were 62 hatched. In the whole hatchery the general average of chicks from all eggs set—this includes infertile eggs—is 65 per cent.—(Hope Star-Journal, April 25th, 1919).

## CARE NEEDED TO KEEP UP QUALITY OF EGGS

During the summer the poultryman must exercise special care if he is to produce market eggs of the best quality. The nests should be kept clean, and broody hens should be removed from the nests and confined as soon as noticed, as the high body temperature of the hen causes the eggs to become heated within a few hours. If the eggs are fertile they may be rendered unfit for use by the hen sitting on them even over night.

Eggs being held for market should be kept in a cool, well-ventilated, but not drafty, place where the air is slightly damp, say the poultry workers at the state college at Ithaca, N. Y. The temperature should be as near 45 degrees F as possible and never over 65 degrees. The ordinary cellar, if not unusually damp, is the best place on the average farm.

If eggs are kept in a warm place the quality is rapidly lowered as shown by the darkened yolk when the eggs are candled. Such eggs are known on the market as "heated."

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IN MAKING POULTRY PAY · DEVOTED PARTIC-  
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Vol. XXXVI

September, 1919.

No. 6.

## *Breeder Advertising*

Now is the time to start your breed-  
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# The Hen That Lays Is the Hen That Pays

The Hogan method of scoring hens according to certain bone and body measurements proving a close test to show the number of eggs a hen will lay in a year. It also shows the reproductive powers of the male. Thousands of Poultrymen using this system successfully.

## Selecting Poultry For Egg Production.

By Russell F. Palmer.

Haphazard methods of mating and breeding don't pay, and indiscriminate methods cannot prove successful in building up a flock of laying hens. There never was a time in the history of this country when poultry and eggs were in greater demand; the price at which poultry and eggs sell has increased much more in proportion than has the price of feeds necessary to produce these products.

The opportunity is ours to insure greater profits. If we carefully and systematically solve the problem which is facing us: "How can we insure a reasonably high average egg production?"

In July issue I had an article in which I pointed out that the "Hogan Method" of selection and breeding made possible culling out the non-layers—the drones and slackers—and keeping only those we know will produce eggs in profitable quantities. The writer has received many letters from readers of this paper regarding this method; all requesting more information.

There are exceptions to all rules. You will find some exceptions in selecting, testing, and breeding poultry according to the "Hogan Method" described in the book known as the "Call of the Hen;" but many breeders have tested it for some six or eight years; many of these have doubted their egg yield in that time.

The "Hogan Method" does not stop with the mere selection of a good or poor layer of eggs.

It continues and shows the kind of males and females which will breed good layers. It shows the characteristics of males that are sure breeders or fallures.

It is important to have males of the right formation to mate with the great layers for breeding purposes. The advantages of this method for one owning even a small flock of birds are so apparent that space need not be given to discuss it. Please read below the advertisement of "The Call of the Hen." Leavenworth, Kansas.

### THE CALL OF THE HEN.

The book by Walter Hogan on the science of selecting and breeding poultry for egg production, is especially timely now, when poultrymen are using every opportunity to increase the food supply in poultry and eggs. They want to eliminate the drones which will increase the meat supply and keep every pullet or hen that will lay enough eggs to pay for her keep and a profit as well. This can be done by following the instructions given in the book. Score your pullets and hens by this method and you will know which to keep as profitable layers. Prof. B. E. Knapp of Syracuse, N. Y., in 1910, scored about seventy females, and we give the scores he recorded by using the Hogan test, on twelve individuals, White Leghorns; and one year's laying, viz:

| Hen      | Scored | Layed    |
|----------|--------|----------|
| No. 37   | 235    | 235 eggs |
| No. 39   | 250    | 255 eggs |
| No. 42   | 250    | 254 eggs |
| No. 43-B | 235    | 226 eggs |
| No. 43-G | 220    | 222 eggs |

|        |     |          |
|--------|-----|----------|
| No. 45 | 265 | 262 eggs |
| No. 46 | 250 | 242 eggs |
| No. 1  | 280 | 282 eggs |
| No. 3  | 255 | 258 eggs |
| No. 4  | 220 | 226 eggs |
| No. 70 | 205 | 210 eggs |
| No. 71 | 205 | 201 eggs |

This proves that the Hogan System is a very valuable discovery and should be used by all progressive poultrymen.

"The hen that lays is the hen that pays." There has never been a time that has demanded action more than just now. Drones are being culled out in all lines of business activity, and rightly so, and the same is true with the poultry business. The hen which delivers the goods is the hen which is your salvation, especially now when feed is so high. There is a profit in egg farming at the present price of eggs. If this workable science in the selection of layers is adopted, females can be scored at any time, even several months after they begin to lay, so you can tell how many eggs she will lay in one year. Males can be scored by this method to ascertain which are desirable as breeders to raise egg-laying type of birds.

The Hogan method has been tried out for several years, at experimental stations, large and small poultry plants all over the country, with satisfactory results, increasing the profit in egg production very materially. It has the indorsement of well-known poultry experts.

We would appreciate receiving your order for this book, which you will find advertised for sale below.



## YOU NEED THIS BOOK!

### IT WILL CUT DOWN YOUR FEED BILL

Why feed the hen that never lays or that never lays enough eggs to pay her keep? There is a way to prevent this.

### Learn Which of Your Hens Lay Best

THIS BOOK WILL TEACH YOU HOW



**B**UT ONCE IN A CENTURY is a discovery made which revolutionizes an industry, adding to the sum of human knowledge a "missing link" in the chain of civilization—creating an exact science, where before chaos reigned supreme,—where things went sort of hit and miss fashion. What Edison has done with electricity, what Burbank has accomplished in the field of horticulture, Walter Hogan has done for the poultry industry. So that you can understand and apply to your own poultry work the result of all this, the full details in plain and terse language is given in his new one hundred and fifty page cloth bound book

## "THE CALL OF THE HEN"

Under the touch of his magic hand Nature's secrets stand revealed—secrets, the value of which cannot be estimated in dollars and cents—secrets which have enabled hundreds of thousands of poultrymen to double their profits in a single year.

### DON'T KILL THE LAYER—SWAT THE DRONE

If you only keep a dozen hens you need this book. It will cut down the feed bill and increase your average egg yield. Don't judge "The Call of the Hen" by other poultry books. It's a cloth bound illustrated description of a new discovery, revolutionary in nature, the result of a lifetime of investigating and experimenting and has been thoroughly tested by hundreds of the most successful poultry plants and pronounced wonderful and sure.

### CULL YOUR FLOCK NOW—SELL THE LOAFERS—KEEP THE WORKERS

By the Hogan method you can not only select your good layers, but also good BREEDERS, both male and female; birds that will reproduce their kind and enable you to rapidly increase the average egg production of your flock.

**You Take No Chance** when you send us \$2.00 for the new revised cloth bound, profusely illustrated book, "The Call of the Hen." We do not ask you to take our word for it, nor the word of such men as Prof. T. E. Quisenberry; L. C. Byce, member of the executive board of the A.P.A.; Michael K. Bover and others.

You be your own judge. Get the book. Follow Satisfaction or low directions. Apply your own tests. If you are not satisfied—more than satisfied—send back the book. **Money Back** We will refund your money at once. Don't put this off. Order today. Right now! Price \$2.00 Postage prepaid.

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IN MAKING  
POULTRY  
PAY

VOL. XXXVI.

SEPTEMBER, 1919.

No. 6.

## AMERICAN VARIETIES OF CHICKENS

Practically every farmer in the United States keeps chickens. In the majority of instances the flock of poultry is kept merely as a side line, to utilize material which would otherwise go to waste, and to furnish eggs and meat for the farmer's table. At many seasons of the year the flock will produce a large surplus over what is needed for the farmer's own use, and this when sold yields a considerable income, sometimes sufficient to pay for the groceries and wholly or in part to clothe the family.

To meet these demands the farmer therefore desires a breed or variety of chickens which are not only good layers, but also have size enough to provide edible carcasses for the table. The breeds which meet these two demands are commonly called the general purpose breeds, and in the main are those comprising the American class as given in the American Standard of Perfection. The Orpington, belonging to the English class, is also a well known general purpose breed in this country. The general purpose breeds are undoubtedly the most popular breeds in the United States. Certain of these, namely, the Plymouth Rocks, Wyandottes, Rhode Island Reds, and Orpingtons, compose the bulk of pure bred poultry kept on the general farms, and their blood is evident

in most of the farm flocks. Characteristics of the General Purpose Breeds.

In size the general purpose breeds are intermediate between the meat breeds, such as the Brahmas, and the egg breeds, such as the Leghorns. They are of a much quieter temperament than the egg breeds and for that reason are more easily handled

in confinement. They mature earlier than the meat breeds, but not so quickly as the lighter egg breeds. In activity and ability to "rustle" for a living they are again intermediate between the meat and egg breeds, but are good foragers. Because of the fact that they fatten readily and are of a fair size they are very popular with the poultry packer, sell to

better advantage in those localities where the farmer is compelled to look to the poultry packer for a market for his fowls.

Because of the tendency for the general purpose breeds to put on fat much more readily than the egg breeds, they must be fed more carefully when kept in confinement, otherwise there is a tendency for them to "break down behind, in other words, to accumulate an excessive amount of fat in the abdominal region. Where the fowls have free range, however, this trouble is not likely to occur.

They are sitters and make good mothers. This is an important consideration where the farmer keeps only a small flock and does not wish to invest money in hatching and brooding equipment. All of these birds are layers of brown eggs. In consequence, they are not as suitable for conditions where a premium is paid for white eggs; under such conditions, where large poultry

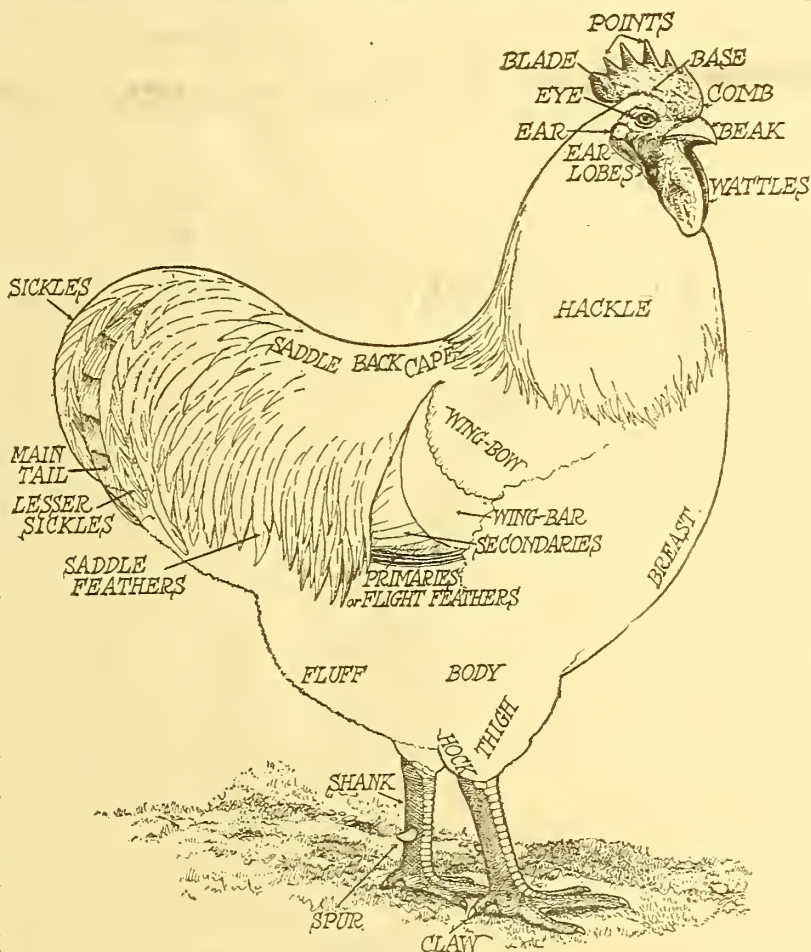


FIG. 1.—Glossary chart giving the names of the various sections of a male fowl.

farms have been established, the White Leghorn has come to be the most popular fowl.

All the American breeds are clean legged; that is, they have shanks free from feathers. They also have yellow legs and skin, except the Java, in which the legs are black or leaden blue and yellow. In the markets of the United States the former is a desirable point, as the demand is for yellow skin and legs in table fowls.

#### Breeds and Varieties

The American class includes the following standard breeds and varieties.

Breed, Plymouth Rock: varieties; Barred, White, Buff, Silver Penciled, Partridge, Columbian.

Breed, Wyandotte: varieties; White, Buff, Silver, Golden, Partridge, Silver Penciled, Columbian, Black.

Breed, Java: varieties; Black, Mottled.

Breed, Dominique.

Breed, Rhode Island Red; varieties; Single Comb, Rose Comb.

Breed, Buckeye.

In describing these breeds and varieties it is the intention to give only a general statement of their appearance and characteristics. For a description sufficiently detailed to enable one to breed exhibition specimens it will be necessary to refer to the American Standard of Perfection, a book published by the American Poultry Association, which is the guide by which all the poultry shows in the United States are judged.

#### FEEDING FOR EGGS

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

#### THE LEGHORNS

Contains valuable information for breeders of any variety. Suitable for amateur and fancier. Articles by best breeders and judges. Color plates of S. C. White Leghorns and Brown Leghorn feathers by F. L. Sewell. Edited by J. H. Drevenstedt. 140 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

#### DUCKS AND GEESE

A complete guide to profitable Duck and Goose rearing. Articles by foremost breeders. Complete instructions on breeding, rearing, feeding, housing, marketing and exhibiting these profitable fowls. 104 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

# Hens With Official Record In Demand

By—Prof. R. F. Palmer, American Poultry School,  
Leavenworth, Kansas

\$6.15 profit per hen above all feed bought at retail was made by 75 pullets in nine months.

Certainly this proves that Standard Bred Poultry, properly bred and selected for egg production—properly housed and cared for, and more important still, fed on perfectly proportioned egg making ration will more than make any man or woman a fine profit, a good living and perhaps a larger cash return on the amount of money invested than would be possible for them to make in any other safe and sane business venture.

Fifteen pens consisting of a total of seventy-five Standard Bred pullets, each pen containing five females owned by a different breeder from as many states and Canada, are being given the very best care, feed and housing here at this Contest conducted by the American Poultry School, which Professor T. E. Quisenberry and his assistants know of.

They are being fed scratch grain consisting of choice, sifted cracked corn and whole wheat. This is scattered in medium deep litter in the early morning and one hour before

roosting time in the evening.

A dry mash consisting of wheat bran, shorts, hulled grown oats, corn meal, bone meal, beef scrap, charcoal, and fine salt is always kept before them in self feeding hoppers.

At ten A. M. again at two P. M. a moistened mash is given. Care is always taken to feed no more than what the hens clean up in twenty minutes. Every other day this mash is made moist by the use of fresh beef bone soup, which is first properly diluted with water.

It is unnecessary to use these exact grains mentioned above. One should be guided largely by the available supply and its price. The important thing to consider is that a hundred pounds of one kind of grain will make more yolks and less whites as compared with another grain which makes more whites and less yolks. To get full value in health—fowl condition and egg production—we must consider these things. Regardless of what kind of food stuff we use, it must be proportioned so that it represents a possible equal number of yolks and whites.

Between November 1, 1919, and



David T. Farrow shipping baby chicks from Peoria, Illinois.

August 1, 1919, these seventy-five pullets consumed an average of eleven pounds of food per month for each female. The total consumption for all seventy-five females for the nine months period was 3215 pounds of dry and moist mash and 3210 pounds of scratch grain. One inch square of green sprouted oats was supplied each female per day. Hard grit and oyster shell is always kept before them.

All this food has been purchased through the local dealers. Its total cost delivered was \$173.47.

These seventy-five pullets have produced 13144 marketable eggs which have sold at an average of 58 cents per dozen for a total of \$635.29, leaving a profit for the nine months above feed cost of \$461.82 or a profit of \$6.15 per hen.

This production, which is slightly over an average of 64 per cent per day, is the more remarkable in view of the fact that it takes in the consecutive months of November, December, January, February, March, April, May, June and July. At least three of these months provided much extremely cold and stormy weather, while two months have provided some very intense heat and much dry weather.

We find there is a great deal of interest being taken in the pullets in this year's Contest. Seldom a day passes that we do not receive mail inquiring as to the ownership of certain high producers, and if they can be purchased. Already several of these females have been sold for delivery after the close of the Contest at prices ranging from \$25.00 up to \$100.00 per fowl. We have reason to believe that some fine producers are likely to change owners at prices even higher.

The demand for fowls with official egg records or actually bred from such is greater today than ever before in the industry's history. It is to be regretted there are not more official contests held. As matters stand, the demand for space in most all contests is greater than the number of pens that can be handled. Last year and the year before, Professor Quisenberry found it necessary to return entries for the American Egg Laying Contests as more were received than we possibly could handle.

#### HENS CAN BE BRED UP TO 200-EGGERS ON A SMALL-SIZED CITY LOT

This can be done, as the seven years' record of one breeder at the Missouri Experiment Station at Mountain Grove has shown.

The owner of this heavy-laying variety of Buffs entered a pen the first year of the international egg-laying contests and has had a pen there every year since, winning first place in variety five times and second twice, besides producing some very fine records for individual hens, these having won numerous ribbons for twenty-five eggs during the winter months and several cups for best pen for the month.

The hens were all raised on a city back yard; food purchased from local dealers at current prices. During the last few years they have paid all equipment expenses, including the erection, at the cost of \$125, of a "fool-proof" poultry house. Also electric and other incubators, hoppers and all necessary articles for care of young and old stock as well as buying Liberty Bonds and other investments.

In selecting the birds to be retain-

ed each year, all hens have been culled and sold to produce houses if their egg record is not satisfactory, and all young stock showing disqualifications and not complying with the standard requirements are sold early in the season, so that no bird is kept over one season's laying unless her daily egg record is satisfactory.

The record kept for the past ten years as to egg production and mating gives the exact breeding of each bird and makes possible an intelligent mating for improved type and increased egg production each year.

Through poisoned food last summer all but sixteen pullets and a few cockerels of the last hatching were killed, but the few left have proved usually good layers, one pen of ten pullets at home averaging a fraction over six eggs a day and the pen at Mountain Grove making an average last month of almost four eggs a day for the six pullets, one pullet laying forty-two eggs in forty-two days, being the only bird in the contest to make a perfect record of thirty-one eggs for December.

This year a home pen of birds having a state trap-nest record of 200 eggs and over is a realized dream; these birds are laying well and have already produced promising chicks hatched in early February.

By culling the poor layers, proper feeding, plenty of exercise and avoiding damp or draughty houses, anyone can have eggs if a few good layers are provided, but the best food and care is wasted if "just chickens" are purchased. It takes as much food to keep alive a non-producing hen as one who pays her way, and something over, and the extra cost for good stock is soon repaid in the returns of the eggs and poultry for table use.

## Rush Molting Hens Back to Work

THIS year of all years—with egg prices going the highest ever—get a big fall and winter egg-yield. Get your hens through molting—when they're all expense and no income—as fast as you can. Get your pullets to laying early and regularly. Yes, get all the profit you can from the high egg prices. Give all your poultry

## Pratts Poultry Regulator

AMERICA'S original poultry tonic and conditioner, the standard for nearly fifty years. It builds health and strength naturally. It stops losses from the strain of molting. It puts and keeps hens in the condition where a good ration is all they need to lay the biggest lot of eggs you ever got. See if it doesn't. At our risk!

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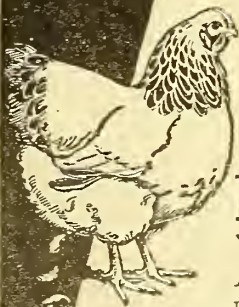
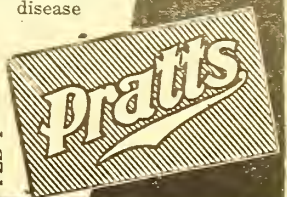
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# FEEDING FOR EGG PRODUCTION

by  
**H. L. KEMPSTER**  
of  
**UNIVERSITY OF MISSOURI**

The hen is an economical transformer of food into a finished product. A hen laying 200 eggs in a year is not at all unusual. A four-pound hen laying this number will produce six times her weight in eggs. To do this she will require from seventy to eighty pounds of feed. For economical production it is necessary:

1. That the food be properly selected.
2. That it be fed in correct proportion and in a judicious manner in order that her digestive organs may be kept in good condition.
3. That she be fed enough so that she has plenty of surplus for egg production.

Food is taken into the body to furnish energy and to build up tissue. In feeding for egg production the purposes for which food is supplied are:

1. To supply the body needs.
2. To produce eggs.

The problems of poultry feeding require good judgment and keen observation. Hens fed for egg production should have foods high in the food elements which are found in eggs. Those fed in the fattening pens should have the foods which most economically produce fat. The best ration, then, is the one which supplies most economically the food requirements of the bird for the purpose for which it is kept.

It should be remembered that one of the principles of poultry feeding is that the hen cannot do well if fed on a whole grain ration. Not only does a ration of grain fail to furnish the proper food nutrients, but such a ration is difficult for the bird to digest properly. The great fault with the farmer in his poultry feeding is that he attempts to feed a whole grain ration, and generally only one grain at that. Such a ration results in poor egg production and also causes digestive disorders, liver and kidney troubles. Complaints of this kind frequently come to the department of poultry husbandry and a suggested change in the ration has usually resulted in the elimination of the trouble. Efficient digestion demands a combination of whole and ground feeds. Generally speaking, twice as much grain should be consumed as ground feed. This depends, of course, upon the nature of the foods fed. Whole and cracked grains are designated by poultry feeders as scratch foods. Combinations of ground feeds either wet or dry are called mashes.

### ADAPTABILITY OF FEED STUFFS

**Wheat.** Wheat is probably the most popular poultry food. It is a safe food, greatly relished by the fowls; it runs high in protein content; and it has a large amount of ash. Shrunken wheat can be fed to advantage, and can often be obtained cheaply. Wheat screenings, if of good quality, can be used. Salvage wheat is often found on the market. It should be used with caution. Grain burned by fire makes satisfactory poultry food; there is, however, a large amount of salvage grain that was never in an elevator fire. The wheat has spoiled by molding, and has been charred to hide this fact. Moldy grains of any kind should never be fed. The molds not only set up digestive disorders, but cause a certain disease of the lungs.

**Bran.** Bran is a by-product of wheat. It should always form an important part in any poultry ration. Bran is high in ash content, and also renders the mash ration of such consistency that digestive disorders are not likely to arise. This is the chief value of bran as a poultry food.

Only a small portion of it is digested by chickens, so that for its food value alone it would be an expensive feed.

**Middlings.** Middlings are lower in protein content and higher in starch content than bran, but because of the relative cheapness should be used. A mash too high in middlings is pasty, and when used, middlings should be mixed with other foods so as to be easily handled by the digestive tract.

**Corn.** Corn should form a large portion of the ration. It is liked by the fowls. Because of its high starch and fat content, it is fattening. It should be fed in combination with other grains. Cracked corn is in a form more easily assimilated than whole corn, and better results will come with the use of it. Feeding immature or green corn in the fall often results in digestive troubles.

**Corn Meal.** Corn meal should be present in all rations. It may be used in the mash, but should be mixed with other feeds to lessen the likelihood of crop impaction. One danger in handling corn meal is the

probability of its heating or fermenting in storage. Sour or moldy feed should never be fed. A good practice is to mix the corn meal with bran in proportions desired, and store them mixed rather than attempt to store separately. One of the reasons why corn bread is better than corn meal as a chick food is that baking destroys the ferments or molds.

**Oats.** Oats can be used successfully in the ration. When fed whole they should be given in limited quantities, and should comprise not more than one-third of the grain ration, because of the high percentage of hull. Chickens are able to digest but very little crude fibre, and for this reason one must limit the amount of foods with hulls, such as buckwheat, oats, and sunflower seed. The ration should not have more than 3 1-2 to 4 per cent of crude fibre. Ground oats make an excellent mash for chickens, while pin head or steel cut oats and rolled oats make excellent chick food.

**Protein or Nitrogenous Food.** The hen requires some food high in protein. All grain foods thus far considered do not furnish enough protein. It is necessary, then, to supply something which will balance the ration, or equalize the relation between the proteins and the carbohydrates and fats. Of the vegetable protein foods, oil meal is perhaps the most popular. It is high in protein, containing 30 per cent, and makes a valuable addition to the mash during the molting season. It should never form more than one-fifteenth of the ration. Cottonseed meal is not considered as palatable and it is slightly constipating. If fed, it should be in very small quantities. Gluten meal is also used for the same purpose and is greatly relished.

**Meat.** Meat foods are considered essential for efficient egg production. In fact, it is poor economy not to feed meat food of some kind. Increased returns from feeding it more than make up for the expense. Beef scrap is perhaps the most common meat food. This is a commercial product which comes in ground form, will keep indefinitely, and can be mixed in the mash. Beef scrap runs very high in protein and in addition contains ash which is beneficial. It is an unnecessary expense to feed too much. One-twelfth beef scrap in the ration is fed. If oil meal, gluten meal, etc., are fed, this proportion can be reduced. At the Missouri Agricultural Experiment Station a pen of twenty-five Leghorns was fed beef scrap and produced 869 more eggs from November 1, 1914, to July 1, 1915, than a corresponding pen which was fed the same ration without the beef scrap. The two pens ate practically the same amount of food, so that \$2.10 worth of beef scrap produced 869 more eggs.

**Green Cut Bone.** Green cut bone is popular as a meat food. It is relished by hens. The preparation of bone is laborious unless one has a power cutter. It must be fed almost as soon as prepared, for it spoils very quickly in warm weather. A small amount daily increases materially the egg production. When one meat food is fed there is no need of supplying others.

**Tankage.** Tankage is not so satisfactory because the hens do not like it so well. Fresh fish, infertile eggs, table scraps, etc., can also be used in the supply of animal food.

**Sour Skimmed Milk or Buttermilk.** For farmers the use of sour skimmed milk or buttermilk is urged. At the Missouri Agricultural Experiment Station it was shown that by the use of sour milk the cost of producing eggs was reduced ten cents a dozen. A pen of twenty-five Leghorns which was fed sour milk produced in eight months 850 more eggs than another pen fed the same ration, but without sour milk. At the rate of 20 cents per hundred pounds for milk, \$2.60 worth of milk produced 850 more eggs. The pen consumed 100 pounds less feed during that time. Sour milk is better than sweet milk. In feeding milk one should keep the pails or pans clean. When milk is fed it is unnecessary to feed beef scrap or green cut bone.

**Ash, Grit, Crushed Rock, Limestone, etc.** These materials should be kept before the hens all the time. The lime makes the shell, and the grit aids digestion. Flint grit cannot take the place of limestone or oyster shell.

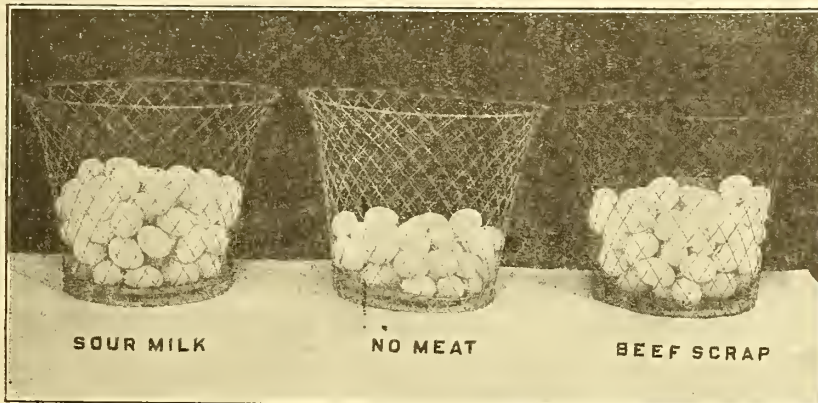


Fig. 1. Feed sour milk or beef scraps. The hen fed no meat or milk laid 38 eggs while 71 were being laid by the milk fed hen and 72 by the hen fed beef scrap.

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Germozone is sold by most drug, seed and poultry supply dealers, or mailed postpaid in 25c, 75c, and \$1.50 packages from Omaha. Book on treatment of diseases free with each package. **GEO. H. LEE CO., Dept. 300 OMAHA, NEB.**

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Limestone and oyster shell are the most common sources of lime and should be kept constantly before the fowls.

When fowls are allowed to range over gravelly soil there is no need of supplying grit, but where small pebbles are lacking and the birds are confined, grit must be supplied. A gravel pile on the farm usually solves this problem.

During the egg production period the hen requires three times as much ash or lime as there is in the grain and meat foods. This is largely because she requires large quantities to manufacture the egg shell. When a feeder fails to supply extra ash as suggested, the egg production will be considerably less or the hen will lay soft-shelled eggs.

**Green Food.** Green food is very important as a poultry food. Its function is not so much to supply food nutrients as to assist in the digestion of other foods and in keeping the digestive tract in better condition. Green food is greatly relished by all kinds of poultry. Absence of green food causes hens to lay eggs with pale yolks. If possible green food should be grown on the poultry runs. In winter it can be supplied by various means. Cabbage and mangel wurzels (large beets) are good, but steamed clover or alfalfa can be utilized. Some people get a heavy stand of rye in the fall, cut this in the winter when the chickens are not permitted to run, and feed it in the pens. Ensilage chopped very fine is also used. For summer feed sowing the runs to wheat the previous fall and oats in spring followed by rape, buckwheat, or soybeans gives good results. Other forms of succulent food are potatoes (boiled), carrots, turnips, onions, etc. The two named last are said to flavor the egg. Soaked beet pulp can be used as a green food.

A popular source of green food is sprouted oats. It requires considerable labor to keep the flock supplied with sprouted oats. The sprouting is done by the use of trays two or three inches deep with holes in the bottom for drainage. The trays should be kept in a room at a temperature of 70 degrees. A half-inch of earth should be placed in the bottom of the trays. A half-inch of oats which have been soaked in warm water over night is placed on the earth. The oats should then be covered with a half-inch of sand and the trays kept moist. When the oats are three inches long they should be fed. As a green food, sprouted oats cannot be excelled.

**Water.** Failure to supply clean fresh water will decrease egg production materially. Hens must have water. The egg is 65 per cent water. The more eggs a hen lays the more water she requires. The warmer the weather, the more she will consume. If this important point is neglected not only will the number of eggs be less, but they will be smaller and ovarian troubles may result. A drinking stand eighteen inches high upon which the pail can be placed assists in keeping the water clean.

### FEEDING MASH

Mash is a combination of ground feeds. A mash may be moist or dry. It should constitute about one-third of the ration. Mash may be fed dry in hoppers where the birds may have access to it for part of the day. The advantages of feeding the dry mash are that it saves labor, there is no danger of the hens overeating, and food is always available so that each hen gets her share. It has been difficult to secure a suitable dry mash hopper which will prevent the hens from wasting the food. In spite of this slight disadvantage the dry mash system of feeding is being employed on nearly all commercial poultry farms because of the saving of labor. Often the mash is stored in boxes and a definite quantity is fed daily. Where this is done it serves as an indicator of the appetite of the fowls. Many feeders govern the amount of scratch food fed by observing the condition of the mash trough. If the same amount of mash is fed daily and at the next feeding some remains in the trough, this indicates that the hens have been slightly overfed. Accordingly the scratch feed can be reduced. If the mash is all cleaned up the full amount of grain should be fed.

Hens must be educated to eat dry mash. They should be fed dry mash when chicks; otherwise it is difficult to get them to eat it. They much prefer mash moistened with water or milk. The objection to wet mash is that too much work is required to prepare it; it also requires greater skill to feed it successfully than it does to feed dry mash. Some persons object to feeding wet mash before noon for the reason that the birds gorge themselves and remain inactive the rest of the day. When wet mash is used it should never be fed in such quantities that the birds are completely satisfied. They should clean up all that is fed and still be slightly hungry. Another reason for this is that if any wet mash remains it will sour and spoil before the next meal.

Both systems of feeding mash have their advantages. There is no reason why a combination of the two cannot be used. If, especially during the winter, a small quantity of wet mash is fed, say a handful to every four hens, it will stir the birds to activity and increase their hunger, which they can satisfy by visiting the dry mash hopper. The birds will be better satisfied and better egg production will thereby be encouraged. The more mash the hens can be encouraged to eat, the greater the egg production will be. The correct amount varies from a third to a half of the amount of grain eaten. One should never forget the importance of feeding ground food.

(Continued Next Month.)

# A. P. A. POULTRY NEWS

As Conducted by the President A. F. Cooper.

It is our purpose to publish under the above heading every month in the year, news pertaining to A. P. A. matters also general poultry matters in order that the members of the American Poultry Association may know just what is going on in the American Poultry Association offices at Fort Wayne, Ind. Hence the reader can look for A. P. A. news under the above heading at least twelve times per year.

## New Constitution

The Forty-fourth Annual Convention of the American Poultry Association has gone down in history and a great deal of good was accomplished.

The new constitution was adopted and will be ready for general distribution along about the first of October or at least we hope to have it by that time as it is now set up in type. Copies are being made and just as soon as the Revision Committee goes over these copies and they are pronounced O. K., several thousand copies of the constitution will be run off and sent out to the live members of this Association. Also we hope in the October number of the poultry journals to have this new constitution and by-laws in full or in part. In other words, whatever important parts the editor wishes to publish will appear in the different poultry magazines.

The membership fee is on a fifty-fifty basis, therefore I wish to request all state associations and local association to get ready for new blanks are now in press and can be sent out on a days notice, showing just what it costs to become a life member also an annual member. Send to the office and get these applications at once. We want several thousand new members before the next A. P. A. Convention. Get busy, and send your new applicants for membership right along to the secretary's office. This will please the president, make the secretary smile and the treasurer rejoice at the growing bank account of the American Poultry Association.

## Plymouth Rock Breed Book.

The Plymouth Rock Standard and Breed book made its appearance on the floor of the Convention during the week and from the rush among the members to procure a copy, I feel confident the book will be a great seller. The book is well bound and printed, and the illustrations from start to finish are fine indeed. There has been considerable delay in issuing same, owing to the war and unsettled conditions. The printers state that they were unable to get it out any sooner. However the book is well worth waiting for, and every man or woman interested in poultry at all with Plymouth Rocks, or any other breed ought to get a copy of this new Plymouth Rock book.

The Wyandotte book is now in

press, and we hope to be able perhaps by October at least to know how soon it will be ready to send out on orders.

We herewith publish the new committees in full, names and addresses. Kindly look them over carefully and it would be well to file this number of Poultry Keeper away whereby you can refer to it any time you wish to know who's on this committee and that committee. Under the heading of the Board of Directors you will find all the districts represented from one to ten, as revised under the new constitution.

## COMMITTEES

### Finance, Ways and Means

A. F. Cooper, Pittsburg, Pa.  
Chas. G. Pape, Fort Wayne, Ind.  
John S. Martin, Port Dover, Ont.

### Legislation

E. E. Richards, Cedar Rapids, Ia.  
M. F. Delano, Vineyard Haven, Mass.

W. M. Coats, Vancouver, B. C.

### Judiciary

V. O. Hobbs, Kansas City, Mo.  
Chas. D. Cleveland, Eatontown, N. J.

H. H. Collier, S. Tacoma, Wash.

### Education and Statistics

A. A. Peters, Los Angeles, Cal.  
W. Burton, Dallas, Texas.  
John S. Martin, Port Dover, Ont.

### Poultry Shows

Chas. D. Cleveland, Eatontown, N. J.

Harry Collier, So. Tacoma, Wash.  
Florence Forbes, Albany, Ala.

Welfare, Grievances and Appeals  
E. E. Richards, Cedar Rapids, Ia.

A. F. Cooper, Pittsburg, Pa.  
E. B. Campbell, Fort Wayne, Ind.

## Publicity

A. F. Cooper, Pittsburg, Pa.  
F. H. Stoneburn, New York, N. Y.  
E. B. Campbell, Fort Wayne, Ind.

## Medals, Diplomas, Certificates

A. F. Cooper, Pittsburg, Pa.  
Chas. G. Pape, Fort Wayne, Ind.  
E. B. Campbell, Fort Wayne, Ind.

## Permanent Headquarters

D. Lincoln Orr, Orr's Mills, N. Y.  
E. E. Richards, Cedar Rapids, Ia.  
T. E. Quisenberry, Kansas City, Mo.

Carrol H. Hoagland, Trenton, N. J.  
Jas. W. Bell, Chicago, Ill.

## Licensing Judges

E. C. Branch, Lees Summit, Mo.  
H. P. Schwab, Rochester, N. Y.  
W. M. Coats, Vancouver, B. C.

## Standards

E. C. Branch, Lees Summit, Mo.  
A. C. Smith, St. Paul, Minn.  
Theo. Hewes, Indianapolis, Ind.

## Marketing and Transportation

Harry Collier, So. Tacoma, Wash.  
Chas. G. Pape, Fort Wayne, Ind.  
M. F. Delano, Vineyard Haven, Mass.

## Treasurer

U. R. Fishel.

## Board of Directors

District 1.—M. F. Delano, Vineyard Haven, Mass.

District 2.—C. D. Cleveland, Eatontown, N. J.

District 3.—Chas. G. Pape, Fort Wayne, Ind.

District 4.—Florence Forbes, Albany, Ala.

**Dr. Hess  
Instant  
Louse  
Killer  
Kills  
Lice  
on  
Poultry  
and Stock**

Put Dr. Hess  
Instant Louse Killer  
in the dust bath and your  
fowls will do much to keep  
themselves free from lice. They'll  
work it into the feathers—that  
means death to the lice. Use the  
handy sifting-top can to sprinkle on  
perches, in nests, about houses and  
yards. Use it regularly—and freely.  
Dr. Hess Instant Louse Killer is  
guaranteed. The dealer is author-  
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- District 5.—E. E. Richards, Cedar Rapids, Iowa.
- District 6.—V. O. Hobbs, Kansas City, Mo.
- District 7.—Walter Burton, Arlington, Texas.
- District 8.—A. A. Peters, Los Angeles, Calif.
- District 9.—H. H. Collier, So. Tacoma, Wash.
- District 10.—Jno. S. Martin, Port Dover, Ont., Can.

**Personal Mention**

The writer is unable to make a personal mention of each member that attended the late Convention, therefore I will confine myself down to two.

Mrs. George Russell, Chilhowee, Mo., attended the convention as the saying goes "leave it to a woman." This lady surely made good in her speech. Her Brown Leghorn argument was up to date and right down to the minute. During my thirty-four years, I have never heard a woman on the floor of the American Poultry Association that advanced any better argument in order to sustain what she believes in reference to the matter of Brown Leghorns. As Mrs. Russell, finished her speech, there seemed to be a general rush to shake hands with the lady on account of her able, honest and conscientious speech that she made in behalf of Brown Leghorns which she is so very much interested in breeding. We would like this lady to attend every convention and whether she makes a speech on Leghorns or not, I feel confident she would be able to address the convention in anything pertaining to the A. P. A.

Mr. H. H. Collier, So. Tacoma, Washington, came all the way from the Pacific Coast in order to have the say, and he had it good and plenty. We very much enjoyed Mr. Collier's way of speaking and he surely proved himself to be a good entertainer to the convention.

**Do Not Forget**

Do not forget that the home of the American Poultry Association is now located in the Citizen's Trust Bldg., Fort Wayne, Ind. The president and secretary have merged offices and all business will be transacted from the above headquarters. We hope to answer all correspondence promptly, attend to business as rapidly as it can be attended to and we invite A. P. A. members or anyone interested in the breeding and care of poultry, also any member of any organization allied with the American Poultry Association, if ever in Fort Wayne, to call at our office and pay us a visit.

**HIGH CLASS BUFF ORPINGTONS**

Do not overlook the announcement in this issue of Mrs. Joe Hartman. She is advertising for sale some of her young stock. Mrs. Hartman has been a constant winner at the Quincy shows for years and the fact that her birds not only take first at the shows but are also heavy winter layers should make them desirable. Look up her ad in this issue and write her for particulars.

**QUESTIONS & ANSWERS**

**Can Hens Taste Food?**

I had an argument with a druggist who claims that chickens have no sense of taste, while I say that they do have the sense of taste. Let me know what you think about this.  
J. B., Wisconsin.

To just what extent chickens possess the sense of taste we do not know, but there are many things which indicate that they do have this sense pretty well developed. Experiments have been made which would indicate this fact beyond doubt. It can be readily seen that they exercise the power of choice and will at once reject a food with a distinctly bitter or unpleasant taste. When it comes to many of the grains of course the sense of taste is not an important factor and might be disregarded, but any observant poultryman knows that it is an important thing to have the feed he gives his chickens fresh and palatable. A hen will choose a food which has relish rather than one that is tasteless.

**Cholera Again.**

My chickens are dying. They do not act sick and suddenly become affected and die in half a day. The droppings are yellowish green. The last one that died could hardly get its breath. Nothing I have done appears to have any effect on them and others are getting sick.

This trouble has every appearance

of being cholera in a bad form. There is nothing you can do to save the birds after they are sick, as the disease works so rapidly. But you must employ preventive measures for the sake of the rest of the flock and do it with all speed. Under the head of "May Be Cholera" elsewhere in this department you will find this subject spoken of. Read it and put in practice the things suggested there as soon as possible.

**A Good Whitewash.**

I want to use a whitewash on my poultry premises to cover houses, coops and pens of all kinds. Will be glad if you can give through the Question and Answer Dept., a formula that will serve my purpose and how to put the stuff on the best way.

S. L. O., New Jersey.

Whitewash is in pretty general use and many people have ways of mixing and using that gives them good satisfaction. One of the best mixtures for a whitewash that will do well under all circumstances is that used to a considerable extent by the United States government. Slack with boiling water a half bushel of lime, keeping under cover to hold the steam in. Strain through a fine sieve or strainer and add a peck of salt which you have dissolved before-

Thousands of Baby Chicks ready for delivery each week in September and October. Raise some fall chicks for spring layers or Christmas fries. Vigorous, healthy chicks make profits. I ship only that kind.



**100 CHICKS POSTPAID**

- WHITE LEGHORNS . . . . \$12.00
- BARRED ROCKS . . . . . 14.00
- REDS . . . . . 14.00
- WYANDOTTES . . . . . 14.00
- WHITE ROCKS . . . . . 16.00
- ODDS AND ENDS . . . . . 12.00

I GUARANTEE 95 per cent alive delivery and pay all charges.

- LEGHORN HENS, \$1.50, \$1.75, \$2.
- RED, ROCK, and WYANDOTTE HENS, \$1.75, \$2, up.
- COCKERELS, \$1.50 each, up.

Catalog on request.

**D. T. FARROW PEORIA, ILL.**



hand, then add three pounds of rice boiled to a paste, stir in while hot one-half pound of Spanish whiting and one pound of glue which has been previously dissolved. Add five gallons of hot water to this mixture and let stand for several days. This wash will stand the weather and will not rub off easily. It should be applied hot.

#### Scaly-Leg Mite

We have tried two ointments advised for scaly legs but some of our birds are very bad with this trouble and the ointments don't seem to work well. What causes this trouble and what can we do to get it out of our flock. Is there some simple way to treat them?

D. C. A., Delaware.

The cause of scaly legs is an insect which digs its way under the scales on the legs of the bird and secretes a hard calcarious material which will sometimes make the leg as much as three times the normal size. The condition is unsightly and interferes with the sale of birds, it also is irritating to the bird, making it bite and peck at its legs till they may bleed badly. First soak the legs thoroughly in warm water so that the large crusts can be scraped off without causing much bleeding. Then wipe the legs dry with a soft rag and apply a strong carbolated vaseline daily until you have overcome the trouble. Better pen the birds up in a pen with straw on the floor so that the legs will not become dirty. Sometimes the legs are tied around with cloth strips to protect them from dirt, but this is not necessary if the quarters are clean. This treatment will cure bad cases if you keep it up and the legs will become as smooth as those of a young chicken. Sometimes crude petroleum will cure mild cases with two or three applications. This trouble is helped on by dirty quarters, so it is best to keep things clean in a systematic way and avoid the trouble in the first place.

#### Stiff Legs—Crooked Toes.

We have an incubator and the first hatch were almost half with crooked toes and some with entirely stiff legs. Can you tell us how to prevent this condition? Should the chickens with these defects be killed or will the trouble be outgrown in time

Mrs. F. J. B., N. Dak.

If the difficulty you mention was present immediately upon hatching it was probably due to one of two causes, or to both causes. As to which is the most likely you will have to be the judge, as at this distance we could not tell you. Such trouble often results from lack of moisture in the incubator during incubation and this might result especially in dry climate, such as I believe you have in N. D. Expert incubator operators claim that it is almost impossible to have too much moisture in an incubator during hatching. If this is true you can see the importance of having adequate moisture provided. Experiments have been made which show that crippled chicks are six or seven times more frequent where moisture is lacking than where the incubator is properly provided with moisture. Such being the case your difficulty may easily arise from this cause alone. Such trouble might result from lack of vitality in the parent

stock, but as you tell us nothing about this we are not in position to judge. If you believe that the trouble lies here, it would be well to take measures to correct things another year, but the trouble may all lie in the first named direction.

#### Lice Disturb Hens

My hens act in a peculiar way which makes me think that they may have lice on their bodies. The hens pick themselves and will occasionally run from place to place in the yard when there is no apparent reason for them to do so. Could these actions result from lice?

M. C. U., Michigan.

When hens are badly infested with lice it is not an uncommon thing for them to show just such nervous actions as you describe. This arises from the fact that the lice are constantly biting the flesh of the hens and sucking the blood so that there is constant irritation to the skin. A careful examination of the hens will show whether they have lice. Be sure to look under the wings and around the vent where the lice are usually found in great numbers. If they are infested with these expensive pests you must take measures to free them if you expect them to do well for you. I will not go into detail here as to what you should do as this question was fully covered in the last issue of Poultry Keeper in the Question and Answer Department. I am sure the advice given there will answer your purpose well if you follow it out consistently.

#### May Be Cholera

My chickens have a trouble which causes them to get stooped and lazy, then they sit around for a day or two and die. I opened several and found that the liver was enlarged much over the natural size. The droppings are of a yellowish color. I feed well, have the houses whitewashed and things clean. What is it?

M. J. N., Iowa.

Your description sounds like cholera. In any event you should take every precaution in a case of this kind, even though it is only a severe diarrhea. The fact that the birds go rapidly would indicate that it is cholera. There is not much use in giving treatment to birds that are already sick with the disease, as they can't be saved. Separate all the well birds from those which are droopy and kill and burn all the sick birds. Those that are not very sick may be kept by themselves at a distance from the well chickens for the purpose of observation. Give the sick birds one-tenth-grain tablets of corrosive sublimate to every quart of

## Rheumatism

### A Home Cure Given by One Who had it

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case. I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but understand I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay Write today.

Mark H. Jackson, No. 694 F. Hurney Bldg., Syracuse, N. Y.  
Mr. Jackson is responsible. Above statement true—Pub.

water. Feed stale bread soaked in boiled milk and seasoned with pepper. Burn all litter in houses, sprinkle air slaked lime everywhere and disinfect houses, roosts, coops, nest boxes, drinking fountains, etc. thoroughly.

#### Hens Not Laying

Have 50 pullets and ten hens and none of them are laying though the pullets are from 5 to 7 months old. Killed several pullets and one hen and find that they are full of little eggs size of pinhead. All are healthy B. P. Rocks. What can I do to get these chickens on the job?

C. E. B., Illinois.

So far as your description goes it would seem to favor the proper performance of your hens and pullets, with the exception perhaps, that you are not feeding green food. Some form of green food is very important indeed, especially at the winter season, and they should have it every day. If your hens are well housed and are not troubled with lice, I think a liberal supply of green food will start them to laying in good shape. This could be in the form of sprouted oats, or in such other form as is most convenient. Sprouted oats are especially valuable for producing eggs and keeping the hens in good physical shape.

Is your tractor lying down on the job? A homemade stethoscope, consisting of a rubber tube and small funnel, may help you locate the knock.

## Turn Your Losses into Profits

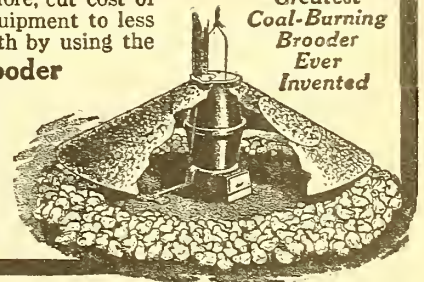
Grow three chicks where one grew before; cut cost of operation to less than half; cut cost of equipment to less than half; reduce labor to less than a fourth by using the

### STANDARD Colony Brooder

Guaranteed to raise more and better chicks than any brooder on earth. Broods 100 to 1000 at a guaranteed cost of less than 6 cents a day. Burns hard or soft coal—simple, safe, everlasting. Endorsed by all Agricultural Colleges and Experiment Stations. More than 30,000 satisfied users in U.S. Money back any time in 30 days if not satisfied. Catalog free.

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Greatest  
Coal-Burning  
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# TWENTY BLUE RIBBON WINNERS

## THE SIRES OF THIS SEASON'S EXHIBITION

# FERRIS WHITE LEGHORNS

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|---|---|---|--|---|
|    |    |    |    |    |
| 1st Cock<br>New York<br>Jan. 1919   | 1st Cock<br>Chicago Coliseum<br>Dec. 1918   | 1st Cock<br>Chicago Coliseum<br>Dec. 1917   | 1st Cockerel<br>Chicago Coliseum<br>Dec. 1917  | 1st Pen Cock<br>Chicago Coliseum<br>Dec. 1918   |
|    |    |    |    |    |
| 1st Cock<br>Tennessee State Fair<br>Sept. 1918                                      | 1st Cock<br>Missouri State Fair<br>Sept. 1918                                       | 1st Cockerel<br>Tennessee State Fair<br>Sept. 1918                                  | Best Cock in Show<br>South Bend, Ind.<br>Jan. 1919                                   | 1st Cockerel<br>Chicago Coliseum<br>Dec. 1916   |
|  |  |  |  |  |
| 1st Pen Cock<br>Chicago Coliseum<br>Dec. 1917                                       | 1st Cockerel<br>South Bend, Ind.<br>Jan. 1919                                       | 1st Cock<br>South Bend, Ind.<br>Jan. 1919   | 1st Pen Cockerel<br>Interstate Fair<br>Sept. 1918                                    | 1st Cockerel<br>Michigan State Fair<br>Sept. 1918                                     |
|  |  |  |  |  |
| 1st Cock<br>West Mich. State Fair<br>Sept. 1918                                     | 1st Cockerel<br>Interstate Fair<br>Sept. 1918                                       | 1st Cock<br>Grand Rapids<br>Jan. 1919   | 1st Cockerel<br>Grand Rapids<br>Jan. 1919  | 1st Cockerel<br>West Mich. State Fair<br>Sept. 1918                                   |

Nearly every Ferris Exhibition cockerel and pullet raised this year is sired by one of the above males. Never before have so many prize winners headed a breeder's pens. Hundreds of early hatched cockerels and pullets, with blood lines that make them the greatest value as breeders, and with the perfection of shape and color to make them almost certain winners in strongest competition, are now ready at reasonable prices. Good heads, with fine combs, and white earlobes, full breasts, long bodies, low, well spread tails and proper station are the rule. The plumage is as white as it is possible to get it.

The catalog which Mr. Ferris sends free of charge, gives prices and full particulars. All stock is sold on approval and insured for thirty days and will be shipped C. O. D. if desired.

**PREVENTION BETTER THAN CURE**

Poultry raisers who wait until disease appears in the flock and then prepares to make a defensive attack are likely to be successful only in rare cases. By far the best plan, say poultry specialists of the United States department of agriculture, is to care for the flock in such a way that disease will not appear. The aim in controlling the diseases of poultry is, they add, to learn how to prevent them, rather than how to cure.

To enlighten poultry owners as to the characteristics of the more important diseases in order that they may intelligently use the most improved methods of combating them Farmers' Bulletin 957, "Important Poultry Diseases," has recently been published by the department. The causes, symptoms and treatment of poultry ailments, from aspergillosis (brooder pneumonia) to worms, are given in this publication.

**Killing Often Advisable.**

As all poultry is susceptible to many diseases, some of which are highly infectious and resist all efforts of treatment, the bulletin suggests that when birds become sick it is often the best plan to kill them. The greater the number of birds kept upon any farm or plot of ground, and the more they are crowded in together, the more important are the measures for excluding, eradicating and preventing the development of the causes of disease.

When disease appears among poultry the fowls should be removed from the poultry yard and a good coating of freshly slaked lime should be applied to the entire surface of the ground, according to the bulletin. After a few days it should be plowed and then cultivated three or four times at intervals of a week and finally sowed with oats, rye or other grain. It is best to leave the ground unoccupied by fowls until the winter has passed. After the fowls have been returned the premises

**SPROUTED OATS - WINTER EGGS**  
**CLOSE-TO-NATURE GRAIN SPROUTERS**

Cut down the Feed Bill—Run up the Egg Yield. Change high-priced grain into cheap green feed. Our vapor-bath machines produce the succulent sprouts, the vegetable milk and the grape sugar that bring the big egg yields.

SPROUTED OATS FROM ONE BUSHEL OF GRAIN

We are the originators of the grain sprouter and its largest manufacturers and make three kinds and many sizes from one-fourth bushel to eight bushels—a few hens to 1,000. Write us at once for circulars and prices.

**CLOSE-TO-NATURE CO.**  
 20 Front Street COLFAX, IOWA

must be frequently cleaned and occasionally disinfected.

**How to Disinfect.**

The drinking fountains and feed troughs must be washed every week with boiling water or other disinfectant, and if any lice or mites are found on the birds or in the house, the roosts and adjoining parts of the walls should be painted with a mixture of kerosene, one quart, and crude carbolic acid or crude creosol, one teacupful. The house may be whitewashed with freshly slaked lime or sprayed with kerosene emulsion. In case of an actual outbreak of a virulent disease it is well to add to each gallon of the whitewash six ounces of crude carbolic acid. Good disinfectants destroy the germs of contagious diseases, the external parasites, such as lice and mites, and in some cases the eggs of parasitic worms, and should be used frequently in and about the poultry house.

**"OCULUM" BRINGS RESULTS**

Here is Convincing Testimony  
 Jamestown, N. Y.

The "Oculum" Co., Salem, Va.  
 Gentlemen—I used "Oculum" all last summer. I have 24 White Leghorn hens that average 4 lbs. and the rooster weighs 9 lbs. They laid 1378 eggs from October 3rd to March 8th.

Enclosed find \$1.00 for another bottle.  
 H. Casselman.

The "Oculum Co., Salem, Va.  
 Gentlemen—I have not hesitated to recommend "Oculum."

A. J. Rolf,  
 Ga. Experiment Station.  
 Send 10c to "Oculum" Co., Salem, Va., and get a trial bottle.  
 We carry their ad and they are O. K.

**PROVIDE DUST BOXES FOR HENS**

Chickens never wash, as many other birds do, but cleanse themselves of insects by wallowing in soil. Where board or cement floors are used, some means of dusting should be provided during the winter months. For a flock of 50 to 60 fowls a dust box 3 by 5 feet or 4 by 4 feet will be found large enough in most instances, and should be placed where it can be reached by sunlight during as much of the day as possible. Fine, light, dry dust is the best, but sandy loam is good. Road dust is recommended by many, but it is apt to be filthy. Coal or wood ashes may be mixed with the soil if desired.

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A complete text book and instructive treatise. Tells how to select breeders and how to mate for best results. Care, feeding and management fully discussed. Edited by J. H. Drevenstedt, breeder and judge. Three color plates by F. L. Sewell. 160 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.

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There are people who have the right variety of fowls, who house and feed them properly, and yet who can not obtain eggs early in the winter because their fowls are too old. It is seldom that it pays to keep hens for laying after they are two and a half years old; not that they will not give a profit, but that younger fowls will give a greater profit.

**REGAL-DORCAS White Wyandottes**

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If you are thinking of going into the Poultry business you cannot select a strain that will give you more profit, which after all is the most important consideration.

If you are already a breeder of White Wyandottes, why not try the Regal Dorcas strain which has a future.

**5000 COCKS, HENS, COCKERELS AND PULLETS FOR SALE. 5000**

This season I have the finest flock of White Wyandottes I ever owned. However the demand is very heavy and orders should be placed as early as possible.

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Strong Utility Cockerels in lots of 6 or more, \$5.00 each.

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to express their opinions on any subject of  
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give helpful talks to the inexperienced and ask  
questions in any department.  
A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## SHOW DATES

It has been our custom in the past  
to list the show dates beginning with  
our September issue. On account of  
the lack of space we will not publish  
the first list until the October issue  
this year.

## EGG LAYING CONTESTS

We have just received an an-  
nouncement of an egg laying contest  
in England. There is no question  
but that the egg laying contests have  
proven a great benefit for the poul-  
try industry. The hen that lays is  
the hen that pays. These contests  
have directed the attention both of  
the utility breeders and also the fan-  
cier to this subject. The result is  
that fancy stocks or more commonly  
called exhibition stock, is now ex-  
pected to possess egg laying qualities  
also.

## PATRONIZE SHOWS

Every person interested in stand-  
ard bred poultry should show an  
active interest in promoting and  
patronizing the local poultry shows.  
It is all right for the fanciers to  
patronize the big shows. Many of us  
would be out of place there. But we  
can win at local shows and further-  
more the local associations are de-  
serving of our patronage. It is the  
shows, large and small, that really  
give value to the standard and as  
breeders we are not true to our-  
selves and the industry if we do not  
take an active part in the shows this  
winter.

A. P. A.

The annual meeting of the Ameri-  
can Poultry Association was held in  
Chicago the week of August 11. It  
was a splendid meeting in every re-  
spect. The attendance was fair.

The new constitution brought out a  
great deal of discussion and was  
finally adopted with a few changes.  
Real constructive work was accom-  
plished that will do much for the  
good of the poultry industry.

## GET BUSY

It is high time to begin the selec-  
tion of what you consider the win-  
ners in this year's crop. The most  
promising of the young stock should  
be carefully watched and developed  
with an idea of entering them at the  
winter shows. Many a prize winner  
has been lost because they were not  
appreciated at this age and were al-  
lowed to be sold as breeding stock.  
We want to bring our flocks up to a  
better standard every year and now  
is the time to carefully watch the  
most promising of the young birds.

## QUESTIONS AND ANSWERS

The Poultry Keeper endeavors to  
give a service to its subscribers in  
addition to what they may read in its  
columns. The Question and Answer  
Department is conducted entirely in  
the interest of our readers. If you  
have any questions to ask, we want  
you to feel free to call on our Mr.  
Barr at any time. Tell him your  
troubles and let him help you to  
greater success in raising poultry.

## INSPECTING EGG SHIPMENTS TO ENFORCE FEDERAL LAW

Interstate shipments of eggs are  
being watched closely during the hot  
summer months by Federal food in-  
spectors of the Department of Agri-  
culture in order that appropriate  
action may be taken when such ship-  
ments violate the law.

Shipments containing eggs which  
have yolks stuck to the shell, moldy  
eggs, black spots, mixed rots, addled  
eggs, and any other eggs which are  
filthy, decomposed, or putrid, are in  
violation of the law.

Careful candling before shipment  
will enable dealers to eliminate the  
bad eggs. The elimination of the  
spoiled or partially spoiled eggs be-  
fore shipment not only removes the  
hazard of violating Federal and  
State food laws, but it is economical  
in that it saves shipping charges on  
eggs likely to be rejected at place of  
receipt. A number of states have  
laws or regulations specifically re-  
quiring the candling of all eggs  
placed on sale.

Directions as to how to candle  
eggs as well as information regard-  
ing the best methods of packing,  
shipping, and storing eggs, will be  
sent upon request to the United  
States Department of Agriculture,  
Washington, D. C.

## SOME RESULTS OF SYSTEMATIC POULTRY CULLING

Directions for determining which  
hens should be disposed of were is-  
sued last fall by the University of  
Missouri Poultry Department. Under  
the leadership of the Poultry Special-

ists in the Extension Service of the  
State College of Agriculture co-oper-  
ating with the United States Depart-  
ment of Agriculture and the County  
Farm Bureaus, these culling plans  
were extensively employed in about  
thirty-five Missouri counties. That  
the results secured were highly satis-  
factory is shown by the reports sub-  
mitted by hundreds of poultry keep-  
ers and the great demand for culling  
demonstrations.

From the flock of 166 Rhode Isl-  
and Reds owned by Mr. W. H. Orr,  
of Clinton County, 70 hens showing  
the ear marks of loafers were re-  
moved. During the four days pre-  
vious to culling Mr. Orr received an  
average of 34 eggs each day from  
the 166 hens. For the first six days  
after culling he received an average  
of 32 eggs each day from the 96 hens  
left.

The Home Demonstration Agent  
in Greene County, reported that from  
858 farm flocks culled by this system  
in her county, 38,329 low producing  
hens were sold. She estimated that  
\$32,454.00 worth of feed which  
otherwise would have been wasted  
was saved by this campaign.

A Chicago poultry dealer who  
handles cars of live poultry from  
Missouri reported that several cars  
of live hens arrived in Chicago with  
no eggs in the coops. Ordinarily the  
free eggs in a car of hens furnishes a  
fine source of revenue to the dealers.  
Investigation by the Chicago firm  
showed that these hens were coming  
from counties where culling cam-  
paigns had been conducted and the  
farmers were selling only non-laying  
hens.

## FOR THOSE WHO CAN USE HAM- MER AND SAW

### Built and Used by Poultrymen

Is a 96-page book; paper bound;  
contains 108 illustrations, fully de-  
scribing various styles of poultry  
houses for the large farm, as well as  
the back yard. Poultry house equip-  
ment, including roosts; trap-nests  
food boxes and hoppers; drinking  
fountains; fences, both permanent and  
movable; metal fence posts; brood-  
ers, both fireless and heated; brood-  
coops; covered chick yards; poultry  
catchers, the popular stove-pipe hop-  
per, and many other useful appli-  
ances that can be made at home and  
money saved. For the man who en-  
joys making his own poultry appli-  
ances, building his own coops,  
houses, etc., this book is of especial  
value. Labor-saving and money-  
saving devices are fully explained  
and illustrated so that the man who  
can use a hammer and saw can make  
any of them. Price, 50 cents. Ad-  
dress Poultry Keeper, Quincy, Ill.

## THE ASIATICS

Brahmas, Cochins and Langshans,  
contains information on mating,  
breeding, selecting, exhibiting and  
judging. This information is of value  
to every breeder of Asiatics who  
wishes to produce the best of birds.  
Color plates of Buff and Partridge  
Cochins by F. L. Sewell, 96 pages,  
9x12, illustrated. Price, 50c. Ad-  
dress Poultry Keeper, Quincy, Ill.

## GET MORE EGGS; SAVE FEED

Eggs are certain to be higher priced this winter than ever. Those who know how and what to feed to get the most eggs all fall, winter and spring, will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed—loss and disappointment. Prof. T. E. Quisenberry, Director-in-Chief of the great American Egg Laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." He will mail this bulletin to readers of Poultry Keeper who will write him without delay. Send no money. Over a thousand hens under Quisenberry's direction laid from 200 to 304 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him today for the free bulletin, addressing care of American Poultry School, Box 4011, Kansas, City, Mo.—(Adv.)

## DOES THE FARM HEN PAY?

A farm hen which will earn \$3.47 above her feed cost is a valuable asset. M. P. Hollar, of Ray county, had 133 hens which averaged that amount for a year, according to figures supplied by him to the University of Missouri College of Agriculture. Mr. Hollar started his test April 1, 1916, and produced during the twelve succeeding months \$468.84 worth of eggs and \$235.60 worth of birds. His feed cost for the year was \$242.05 which left a net profit of \$462.39. His hens averaged 141 eggs during the year.

Some farmers contend that poultry is profitable only when it lives on waste material and that feeding will result in loss. The College of Agriculture has been cooperating with a few farmers in the state to determine what returns may be expected from a well managed flock on the average farm. Records on all the flocks have not been compiled but reports which have been received indicate that proper feeding methods will return a worth while profit.

Two other records are not so good as that made by Mr. Hollar but they show that the birds returned a good profit above the feed cost. Mrs. Nimrod Nance, of Daviess county had 240 hens and produced \$295.02 worth of eggs and \$285.63 worth of birds. The feed cost for the year was \$246.08 which left a net profit of \$334.57. Her hens averaged 95 eggs each and she realized a profit of \$1.39 on each bird.

Mrs. H. R. Spaht also of Daviess county, produced \$197.46 worth of eggs and \$258.66 worth of poultry from her flock of 160 hens. She spent \$217.59 for feed. This gave her a profit of \$238.53 over feed cost which gives an average profit of \$1.49 per hen. The hens averaged 88 eggs each.

These three records are the only ones that are complete for a year but a number of other cooperators have

started keeping a profit and cost account of their poultry and all are obtaining good returns on the money invested.

## KEEP EGGS COOL

Statistics show that from one-fourth to one-half the eggs produced in Missouri during the summer months are a partial or total loss, says H. L. Kempster, of the University of Missouri College of Agriculture. Heat is directly or indirectly responsible for enormous losses. Before the year it was estimated that two and a half million dollars worth of eggs annually were lost due to their becoming unfit for food. Heat causes germ growth, embryo and mold development, increases evaporation and causes eggs to become bad in a very short time.

Nearly all the losses due to heat can be avoided by the ordinary conveniences that the average farm provides. This is especially true provided the farmer keeps roosterless flocks as advised elsewhere. If the farmers would take the same care of eggs as they do of butter and cream before and during the time it is taken to market there would be little loss because of heat. Any temperature above 70 degrees causes eggs to start deteriorating. Even under the best of conditions eggs should be marketed at least once a week.

Eggs should be collected daily and should be cooled as quickly as possible. A sweet fresh basement which is cool or a cyclone cellar makes a satisfactory place to store eggs. They may also be kept cool by placing them in a bucket and lowering into a well. Avoid storing in a musty basement, keep away from flies and remember that the above suggested conditions are better than a room in the house. A hen produces a good egg. It is your fault if it does not keep well and shows up bad when taken to market.

## PLENTY OF PROFIT FROM GOOD FOWLS

The story of Reuben Lowe, of North Shapleigh, Me., illustrates the possible profits from poultry keeping where careful management is practiced. During 1918 this poultryman, who devotes only part of his time to chicken raising, kept 250 birds, which paid him a profit over feed cost of more than \$1,000 equivalent

to \$4 a bird. Included in this amount are the sales of a few eggs for hatching, about 30 cockerels sold for breeding purposes at \$3.50 to \$5 each, as well as the market eggs, which were disposed of in large quantity. Mr. Lowe keeps White Wyandottes of a strain that wins in the show ring when judged according to either the Standard of Perfection or a utility standard.

One pen of 20 pullets owned by this Maine poultry raiser produced eggs as follows: November, 1918, 413; December, 1918, 418; January, 1919, 380; February, 1919, 326; March, 1919, 456; a total of 1,993 eggs, averaging 99.65 eggs per bird in five months.

It pays to keep poultry of this kind, and growers everywhere are coming to realize that there is more money in keeping better fowl and feeding them properly balanced rations than in wasting time with inferior birds.

## SILVER WYANDOTTE ELECTION AND CLUB MEET

Result of recent election are President, R. G. Williams, Vice President, Campbell W. Bushnell; Secretary-Treasurer, Carl H. Sommer. Executive Committee, W. F. Garland, Clare E. Hoffman, J. F. McHugh. Election Commissioner, H. J. Goette.

Place of holding next Club Meet, Indianapolis, Ind. From reports of members this is going to be the greatest meet in the history of the club, with the biggest purse of specials in view ever offered by the club, breeders are watching their youngsters for the show now and it is hoped that every Silver breeder will plan on an exhibit and help to make Silver Wyandotte Aisle the leading attraction at the Indianapolis show. If not a member write Carl H. Sommer, Secretary, Rush City, Minn.

## THE PLYMOUTH ROCK

A complete text book devoted to America's most popular breed of standard fowls. Explains standard requirements, tells how to select the right breeders and how to mate them. Edited by Wm. C. Denny and J. H. Drevenstedt, breeders and judges of wide experience. Three color plates by Sewell. 144 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

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Write for Buckeye Catalog and proof of superiority. The Buckeye Incubator Co. 1517 Euclid Ave. Springfield, O.

# Rabbits and Pet Stock

## CARE OF RABBITS

Editor Poultry Keeper.

Don't feed corn as it is heating but good clean oats builds muscles without giving fat and heat and should be fed once each day what they will clean up in twenty minutes or you might feed a little less and feed twice each day. If you have carrots, feed oats once a day and carrots once each day and a good handfull of clover or alfalfa hay once a day. Give cool water twice each day rinsing the water trough each time.

You can make a good water jar by taking a quart tin can and cutting it off so it will make a cup 3½ inches high then take one-half sand and one-half cement, mix well, wet it so it will work like mortar, plaster the inside of this cup with this cement and trowel it smooth with a table spoon. Let dry for about a week and you have a fine sanitary watering cup that will not tip over easily. You can make twenty-five or thirty such cups with fifteen cents of cement. You can also make fine feed troughs of cement by digging a long hole in the ground and putting the cement in the bottom and sides. You poultry men can make fine chicken feed and watering troughs in like manner any size you wish from two to ten feet long.

Keep hutches clean for if you let it accumulate it will ferment and produce gas, which will cause rabbits to sneeze and might terminate into snuffles.

Should your rabbits get to sneezing from such conditions until you fear it has become a case of snuffles, use the following remedy: ½ pint of liquid vaseline, ¼ ounce of oil of pine, five drops of carbolic acid, shake well. Take firm hold of the rabbit by the loose skin of the neck and shoulders and both ears in your left hand. Turn the rabbit over and let him lay on his back on left arm and with a dropper purchased at the drug store drop four or five drops in each nostril and a cure will be effected in a short time by treating thus once or twice each day. By using this precaution you need have no fear of snuffles.

A prominent rabbit man gave an account in Pet Stock World of getting the snuffles among his rabbits until he had forty-eight cases but cured them all with the above remedy after having tried many snuffle remedies without success.

Any rabbit may sneeze occasionally when eating oats or hay if it is a little dirty or even when drinking water too fast need not

cause alarm, but if they take to sneezing violently and running at the nose treatment should be used at once and whether the sneezing be caused from some chaff having lodged in the nose or from any other cause the medicine will dislodge the chaff or cure the effected nostril. Clean oats, clean hay, clean hutches will prevent, which is better than cure.

Give room for youngsters to romp and play and proper feed and care will rush them to full growth. I like to feed hay in a rack high up so they have to stretch to get it and they seem to grow faster. Don't keep rabbits too fat in hot weather.

J. E. Johnson.

## POINTS ON THE RABBIT INDUSTRY

It has been said that the rabbit is the poor man's meat, and surely it is, but unfortunately heretofore he has not known it. A great many people of all classes have, however, learned during the past two years the great value of this little animal as an economical factor in reducing the high cost of living. He has learned that there is no animal that will produce the amount of meat as quickly and so cheaply as the domesticated rabbit. During the year 1918 there were many thousands of families who had kept poultry for meat, but replaced the fowl with rabbits, on account of the higher cost of poultry feeds, and the quick and sure return from rabbits.

Farm and poultry papers have advocated the hen business for years, until many people have come to the conclusion that if they have a few more feet in their back yard they should invest in poultry, and it is the proper thing to do if they have the room. But the majority of the city and village people who keep poultry

as a rule undertake to keep a flock of hens when they have room only for a few rabbits, which, if properly cared for, will in the end probably give better returns than the hens.

With an easy-going, haphazard method success will not be gained in any business. The rabbit game, especially, must be conducted upon business principles and attention given to details to insure success. Breeding and raising rabbits is not a get-rich-quick scheme, but like some other good legitimate enterprises, will bring splendid returns if taken care of as it should be, and besides will furnish a world of pleasure to the fellow, man or woman, who goes into it with enthusiasm and determination to get all the good out of it that there is to be had. Rabbit breeding is surely a great study; a study with manifold possibilities, awaiting the honest, earnest worker. But there is much to learn about this work and I would suggest that the beginner start in a very modest way and grow up with the business, in other words, instead of going into the business, grow with it.

I wonder how many rabbit breeders have given serious thought to the great possibilities of this utility rabbit as a meat proposition. The exorbitant prices of grain still keeps profit on poultry and eggs down as compared with rabbits. Those who have an opportunity and the facilities for raising a good sized bunch of rabbits will do well at this time to look into the possibilities of the utility rabbit. The fact is, there never has been, and perhaps never will be, a better time to bring to the attention of the public the merits and possibilities of this animal as a meat proposition. All should work together in an endeavor to put the rabbit where it belongs, a staple food product and a recognized national industry.—American Poultry Advocate.

## NEW ZEALAND, RED RABBITS AND RUFUS RED BELGIAN HARES

Eight page pamphlet on rabbits free

J. E. JOHNSON,

Marionville, - - - Missouri.



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SOLD ON A MONEY-BACK GUARANTEE.

### Southern Guard and "Marine" Game Fowls

The greatest fighting generals that ever used steel and as game as death, choice 3 month old trios \$10. Eggs \$5 per 15.

Also Genuine English Bloodhounds two months old \$100 each, pair \$150. Best American and English Fox Hounds, trained on Deer, Bear or any game you like, \$100 each.

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### My Victory Strain of Barred Rocks Continue to Win.

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

**Eggs** From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices.

Write for what you want.

**J. T. FRENCH, 838 West Grove Place, Toledo, Ohio**

### TO ALL PET STOCK BREEDERS

The management of the Great Madison Square Garden Poultry Show, "The World's Leading Show" is desirous of opening the Pet Stock Department again. A good Superintendent will be placed in charge. The secretary will be pleased to hear from all interested so that an idea can be had as to whether sufficient interest can be obtained. All constructive and helpful advice desired.

T. A. Havemyer, Pres.

D. Lincoln Orr, Sec'y.

Dated Orr's Mills, N. Y.,

Aug. 4, 1919.

### THESE FARMERS DID NOT SELL THE HEN THAT LAYS

Last fall Greene County conducted an extensive campaign to eliminate the slacker hen. The campaign was conducted by the University of Missouri Agricultural Extension Service in cooperation with the Green County Farm Bureau. As a result of this campaign 858 flocks were culled, 95,000 hens handled and over 38,000 sold as culls. It was estimated that this campaign saved the farmers of Greene County \$32,000. That the slacker hen was sold is shown by this paragraph from the Springfield Leader: "When Missouri entered upon her vigorous poultry culling campaign she deprived the commission men of a considerable source of profit. They had been in the habit of taking as 'velvet' the eggs, usually one to two dozen to each crate laid en route from the country to the central market. When the usual number of 'frees' failed to be turned in they thought at first that someone was appropriating the eggs, but investigation showed that the farmers and poultrymen were selling the buyers only the hens which either had not laid or were loafing on the job."

### WHEN HENS EAT EGGS

Egg eating sometimes becomes a serious vice, fowls becoming very fond of eggs when they have learned to eat them, and it often spreads from fowl to fowl. It usually begins through accident by eggs being broken or frozen. Be careful to see that this does not happen. See that the nests are properly supplied with straw or other nesting material and have them darkened, so that if an egg is accidentally broken the fowls will not be likely to discover it. Supply plenty of lime in the form of oyster shells, bone, or similar substances to insure a firm shell. As soon as it is discovered that a fowl has formed the habit, the fowl should be removed, in order to prevent the spread of the vice. Once formed, it is difficult to eradicate, and the safest remedy is the death penalty.

Fowls sometimes pluck feathers from themselves and from each other, which is often caused by too close confinement, by the presence of

insect pests, or by improper feeding. When some of the fowls of a flock have formed the habit slightly, a wide range with a change of diet, including a plentiful supply of animal feed, and freedom from insect pests, will usually correct the evil. Above all, see that the fowls have plenty of inducement to exercise. If the habit becomes well formed it is very troublesome and may necessitate the killing of some of the fowls in order to stop it.

### BLIND MISSOURIAN RAISES POULTRY

After attending several meetings of poultry enthusiasts in Cole county, O. E Jones of Jefferson City decided to go into the poultry business. Mr. Jones is blind, but he could see a future in the poultry industry in Missouri. Unaided, he constructed a two-section, two-story poultry house and equipped it in approved style. His flock consists of birds of laying age and some spring hatched chicks.

The efficiency shown in all his work is a surprise to any visitor, says H. E. Cosby of the University

of Missouri College of Agriculture, who has called on Mr. Jones to give him instruction. The work has been done well in spite of all handicaps. Mr. Jones does not stop at providing good equipment; he uses progressive methods in handling his flock. His method of recording the eggs produced is unique. A small section of hardware cloth one-fourth inch mesh is tacked to a board. In the first vertical column he uses tacks to designate each hen. In the horizontal columns he sticks tacks to record the days on which each hen lays. In this way the records are kept for a month. At the end of the month the tacks are removed for a new start.



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Mother Rabbit can duplicate this six times a year!

## The New Rabbit Culture and Standard

BY ROTH AND CORNMAN, REVISED BY C. R. DEARDORFF

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The best and safest guide for the experienced or amateur breeder. Tells what you must know and do clearly, concisely, and according to approved methods. Contains 132 pages, describing and illustrating all the leading breeds and varieties of Rabbits and Hares; discusses Feeding, Breeding, Housing and Yards, Diseases and Remedies, Selection of Breeders, Judging, Preparation for the Table, etc.; is, in fact, an encyclopedia of the best available knowledge. Among books on Rabbits, it has no superior. It is to the Rabbit Breeder what the "American Standard of Perfection" is to the poultryman. Thirty illustrations of all principal varieties.

One of the many who recommend this book is M. L. Thayer, a rabbit expert of the highest standing. In the California Rural World he advises that the man starting to raise rabbits get some literature before buying stock. He recommends this book.

AN EXPERT'S OPINION OF THE BOOK—What the Ex-President of The National Pet Stock Association of America Has to Say About It.

Dear sir:—The copy of "The Rabbit Culture and Standard" has been received and read entirely through. I wish to compliment the Editors on producing the first real good work on Rabbits in the United States, which should be a great help to all those seeking accurate knowledge. I was greatly impressed by the Foreword which emphasizes the possibilities of the meat industries which very few seem to realize and which must soon come into favor in this country same as it has in all of those on the other side. This book explains it in a much clearer way than it has ever before been my privilege to read. It will prove that rabbit meat is worth per pound just as much as poultry, pork, mutton or beef, in fact, very few realize what a nice delicate meat it is when cooked. The demand has always been greater than the supply, and with this good book explaining the way, it should be more simple for the beginner to see the right path. Yours very truly,

WILLIAM I. LYON.

### A Great Rabbit Boom Is Now On

Americans are thoroughly awake to the wonderful value of Rabbits and Hares as meat food to replace beef and pork. Easily bred and quickly raised, very prolific, requiring little space, easily prepared for the table—no other animals today so thoroughly meet our needs. Europeans have used them for many years and esteem them highly.

#### Breed Hares and Rabbits

The demand is greater than the supply. One breeder recently received 32 inquiries and orders in four days. Most of these he could not fill. WILL YOU? It's Patriotic, Pleasant and Profitable. "Rabbit Culture and Standard" will guide you.

Mailed Postpaid for 50 cents, paper cover; Cloth, \$1.00

POULTRY KEEPER, Quincy, Illinois

## CLASSIFIED ADVERTISING

The classified advertisers in **POULTRY KEEPER** are coining money fast this year. This is what one of them says:

My \$3.00 ad. in your classified department last spring sold 1800 eggs. P. K. leads them all.

GROVER DEEGE.

We could quote you dozens, yes hundreds of others, but believe these will prove to you that classified advertising in **POULTRY KEEPER** pays. The reason is we guarantee thirty thousand circulation every issue, but actually print thirty-five to forty thousand copies per issue, thus giving you more than your money's worth.

It pays to keep your announcement before the people. That is the way to establish a reputation for your business. Why not go after the people, get good prices, and make more money this year?

### RATES:

Rates for Ads. Classified Under Proper Headings Are as Follows:

|          |              |
|----------|--------------|
| 1 month  | 5c per word  |
| 2 months | 9c per word  |
| 3 months | 12c per word |
| 4 months | 15c per word |
| 1 year   | 36c per word |

### ANCONAS

**SHATTO'S S. C. ANCONAS**—Fine breeding cockerels, \$3 and \$5 each. Guy Shatto, Dunkirk, Ind.

**SINGLE COMB ANCONA PULLETS**, April hatched, \$2.50. June hatched, \$1.75. Year old hens, \$2.25. Satisfaction guaranteed. Joseph Hughes, Irving, Illinois.

**MY WINTER LAYING ANCONAS** cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write, Geo. Hecker, Earlville, Iowa. 2-12

**SHEPPARD STRAIN R. C. Ancona** cockerels, March and April hatched. Some fine birds, cheap, if taken at once. Mrs. E. J. Crawford, Owatonna, Minn.

**ANCONAS, SINGLE COMB**—331 egg strain, cockerels, \$2.50. Hens, \$2.50. Satisfaction guaranteed or money returned. Strasburg Poultry Yards, Strasburg, Illinois. 8-12

### BUCKEYES

**BUCKEYES—230 EGG RECORDS**. Mahons and Deems blood. Cockerels, \$2.25 each. W. G. Yearly, Granite Falls, Minn. 9-2

### WHITE LEGHORNS

**PURE BRED FERRIS STRAIN S. C.** White Leghorn Cockerels, \$1.50 each. Mrs. Harry Moler, Owanoco, Ill. 9-2

**BARGAIN**—Blanchard-Wyckoff Single Comb White Leghorns breeders; \$1.25 each. worth \$2.00. Prospect Hill Farm, Glenellyn, Ill.

**200 EGG STRAIN**—Egg bred cockerels. Single Comb White Leghorns. Priced right. Chick-a-good Farm, Geo. Weber, Prop., Genoa, Ill.

### BROWN LEGHORNS

**KULP'S BIG ROSE COMB (260)** and Single Brown, 260 records. Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

**KULP, 260 EGGS R. C. Brown Leghorn** cockerels, \$2.00 each. W. G. Yearly, Granite Falls, Minn. 9-2

### MINORCAS

**SINGLE COMB BLACK MINORCA** Cockerels for sale. Bred from heavy layers and grand champion male, Ill. State Minorca meeting. Grover Deege, 815 Jefferson, Quincy, Ill. 6-12

### PRESERVE EGGS FOR WINTER

The water glass method is the easiest and cheapest way to preserve eggs for home use. Water glass is a somewhat alkaline substance that can be bought at a feed or drug store. When diluted it will not injure the hands. It should cost about forty cents a quart, or a dollar a gallon provided you furnish your own container. A gallon will preserve from 80 to 85 dozen eggs.

Use infertile eggs preferably, and preserve within twenty-four hours after laying if possible. The fresher the egg, the better the result. Use clean eggs, but do not wash them.

A five gallon jar will hold about fifteen dozen eggs. Sterilize the jar with hot water. Mix the water glass with water that has been boiled and then cooled to an ordinary temperature. Some recipes call for one part of water glass to nine parts of water. In many instances a proportion of one to fourteen has been found to be successful. Be careful to mix thoroughly since failure often comes from careless mixing. Many people use an egg beater for mixing. If the jar is about half full of the diluted water glass, a few eggs may be added each day until the jar is full. Have about two inches of the preserving solution above the top layer. Keep in a cool dry place.—Exchange.

### RHODE ISLAND REDS

Origin and history of both the Rose Comb varieties. How to mate for best results, by leading breeders of R. I. Reds. Edited by D. E. Hale, judge and breeder. Color plate and feathers by F. L. Sewell. 88 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

### RABBITS

**FLEMISH GIANTS** with pedigree. Jamec Foytik, Swartz Creek, Mich. 2-12

**BELGIAN HARES**—Full grown breeding stock, \$2.00 each. Philip Condon, Westchester, Ohio. 3-12

**THOROUGHBRED BELGIAN HARES**. J. T. Alexander, 1814 Darrow, Evanston, Ill. 9-4

**RAISE BELGIAN HARES**—Just the thing for your winter's meat supply. Choice stock for sale. Prices quoted on application. Willaman's Rabbitry, Dept. X, Orrville, Ohio.

### PIGEONS

**I OFFER MATED HOMERS** in any quantity at \$1.25 per pair. Beautiful Pure White Homers, \$2 per pair. Squab Companies challenged to produce better stock at twice this price. Get my prices on Runts, Carneaux, Maltese Hens and save dollars. Squab Manual 25c. Charles B. Gilbert, 2210 Almond St., Philadelphia, Pa.

### PRINTING

**POULTRYMEN'S PRINTING**—Noteheads, envelopes, cards, tags, labels, 100 either 65c; 250, \$1.10; 500, \$1.65; 1000, \$2.75; prepaid. Circulars, postcards, everything. Cuts furnished. Stamp brings elegant samples; money saving price list. Model Printing Company, Manchester, Iowa. 9-12

**EVERY POULTRYMAN** should have his own printed stationery. We specialize in this line. 100 Letterheads, 100 Billheads, 100 Envelopes, 50 Noteheads, in two colors, all for \$1.95. Samples free. Hawthorne Press, Yonkers, N. Y.

### BUFF LEGHORNS

**"BUSINESS BEAUTY" BUFFS**—Extra layers, large white eggs. Outbred, pedigreed. Breeders mature hens, choice males, catalog. Joseph Benedict, Chevy Chase, Maryland.

**EGGBRED BUFF LEGHORNS**. (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

**SINGLE COMB BUFF LEGHORN** cockerels. Fine, healthy, solid golden buff birds. Prices reasonable. Arthur Worthington, R. 3. Two Rivers, Wis. 9-4

### BLUE ORPINGTONS

**BLUE ORPINGTON STOCK** for sale reasonable. John Unangst, Freeport, Ill.

### BUFF ORPINGTONS

**200 EGG STRAIN**—Egg bred cockerels. Single Comb Buff Orpingtons. Priced right. Chick-a-good Farm, Geo. Weber, Prop., Genoa, Ill.

### BARRED ROCKS

**PRATT'S CACKLER STRAIN** Barred Plymouth Rocks. Bred for eggs. 200 egg type. Foundation Park's and contest winners. Young and old stock reasonable. Geo. W. Pratt, Cropsey, Ill.

**BARRED ROCK EGGS** from selected layers, \$1.50 per 15; \$4.50 per 50; \$8.00 per 100. Special matings, \$5.00 per 15. Ralph E. Little, Fairmount, Indiana.

**BRADLEY BARRED ROCK COCKERELS**, from prize winning stock, \$3.00, \$5.00, \$10.00 each. Satisfaction guaranteed. R. O. Hazen, What Cheer, Iowa. 2-12

### RHODE ISLAND REDS

**200 EGG STRAIN**—Egg bred cockerels. Rose and Single Comb Rhode Island Reds. Priced right. Chick-a-good Farm, Geo. Weber, Prop., Genoa, Ill.

### BUFF WYANDOTTES

**EGGBRED BUFF WYANDOTTES**, Winners last National Club Show. Records to 246 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Illinois.

### WHITE WYANDOTTES

**WHITE WYANDOTTE** hatching eggs, \$6.50 per 100; \$1.50 per 15; special pens, \$2.00. William Remmert, St. Peter, Ill., Route 2. 2-12

### SILVER WYANDOTTES

**SILVER WYANDOTTES**. Hundreds of choice breeders and exhibition birds for sale. Also eggs from trapnested bred-to-lay hens. Write for circular. Satisfaction guaranteed. C. F. Schroeder, St. Peter, Ill. 2-12

### DOGS

**RABBIT HOUNDS**, Fox Hounds, Coon, Opposum, Skunk, Squirrel Dogs. Setters, Pointers. Brown's Kennels, York, Pa. 9-12

### MISCELLANEOUS

**HOW DO JOCOBUS WASTE-NOT** Feed Hoppers save feed? Circular tells. M. R. Jacobus, Box 5-K, Rldgfield, N. J. 8-12

**WANTED**—A man as partner that knows how to handle chickens, one with ambition to work up. Will give free house, will furnish cow & two, free pasture, land for garden with privilege of working 15 acres land on shares. Close to thriving town. Good place for right party. Can give possession any time. Have 125 Wyandottes. Best references. References asked. Send letter to M. S., Care Poultry Keeper, Quincy, Ill.

### AGENTS

**AGENTS MAKING \$200 WEEKLY!** Everyone wants it. Formulas for 200 beverages to be made at home. Book Form. Send \$1.00 for copy and territory proposition. Act quickly. Buyers Export Agency, Inc., 487 Broadway, New York.

## ILLUSTRATED BREEDERS CARDS

Ads. inserted under their respective headings and illustrated with a cut of the breed. **RATES:** Eight cents a word per insertion. Four months or longer, six cents a word per insertion. No illustrated breeder cards accepted that contains less than 30 words.



# TRY THE NEW WAY TO KILL LICE

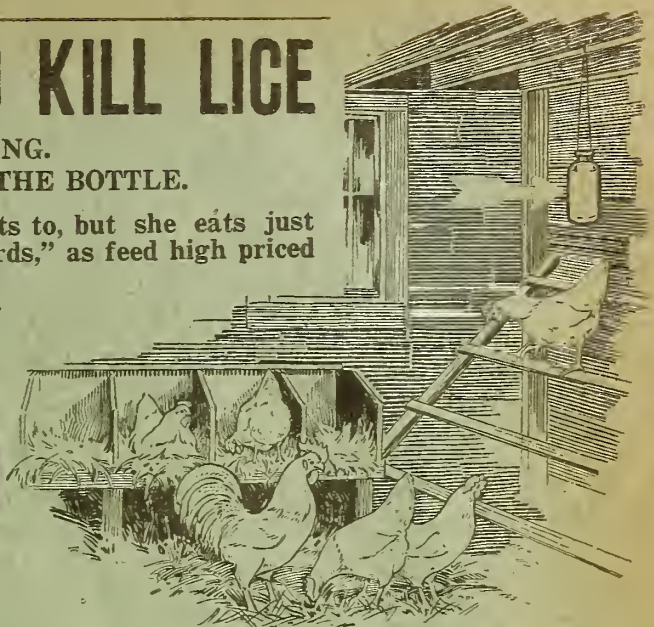
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

## Licecil

**Kills Lice**



### READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

### GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

### VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$1.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$1.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russell, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you sometime ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

"Received a bottle of your LICECIL some time ago and think it is all right. I am anxious to buy more. Have you an agent in Spokane from whom I can get it?" W. H. Wooster, Post Falls, Idaho.

### HOW TO USE LICECIL

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

Bottle, 75c; 3 Bottles for \$2.00, Prepaid.

AMERICAN SUPPLY COMPANY Dept. P. K. Quincy, Illinois



# FERRIS WHITE LEGHORNS

## BRED 20 YEARS FOR EGGS AND EXHIBITION



**ORDER NOW**—The prices quoted in this ad apply only for stock purchased for shipment not later than October 31. After that date the prices of all grades of heavy laying stock will be increased about \$1.00 for hens and pullets and about

### LAYING STOCK

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers. We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

#### We Ship C. O. D. and On Approval

We ship on approval, allowing you to return within three days any birds that are not entirely satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them send us enough money to guarantee express charges one way and we will ship C. O. D. with privilege of examination. \$1.00 will cover the express charges on a single bird, \$2.00 on a trio or pen of five, and \$3.00 on ten or twelve birds.

#### Laying Pullets for September and October Delivery

Thousands of pullets from our heavy laying strains are now ready for shipment. These pullets will more than pay for themselves this fall and winter and will make splendid breeders next spring. Following prices for September and October only:

|             | 200-230 Strain | 230-264 Strain |
|-------------|----------------|----------------|
| 12 Pullets  | \$45.00        | \$50.00        |
| 25 Pullets  | 90.00          | 95.00          |
| 50 Pullets  | 170.00         | 185.00         |
| 100 Pullets | 325.00         | 365.00         |

#### Yearling Hens for Laying and Breeding

We have several thousand hens of unusual quality to sell at very reasonable prices. Place your order now and let us reserve the number you want. Prices for September and October only:

|          | 200-230 Strain | 230-264 Strain |
|----------|----------------|----------------|
| 12 Hens  | \$40.00        | \$50.00        |
| 25 Hens  | 80.00          | 95.00          |
| 50 Hens  | 150.00         | 185.00         |
| 100 Hens | 285.00         | 365.00         |

#### Early Cockerels and Cock Birds

Hundreds of choice cockerels, March hatched, from our very best matings, will be disposed of this fall at the following prices. Also a number of yearling cock birds that we have used in our breeding pens at the same prices—from 200-230 strain, \$7.00, \$8.00 and \$10.00. From 230-264 strain, \$10.00, \$15.00 and \$20.00.

Breeding and laying stock will be scarce next winter, for eggs will be so high that it will not pay to sell the layers. It will pay you to buy now—and buy all you have room for. The prices quoted in this ad are considerably less than the birds are worth but we need the room.

### EXHIBITION STOCK

We can furnish cocks and cockerels hatched directly from our Chicago Coliseum winners at \$25.00 and up. Hens and pullets, \$12.50 and up. These birds will win anywhere. They have splendid low tails, good heads, wonderful shape in every section and pure white plumage. We have hundreds of early hatched cockerels and pullets to select from. For several years Ferris Leghorns have been winners at the Chicago show, winning in 1915 three firsts and numerous other prizes, including Silver Cup for best display and silver cup for five best cockerels. In 1916 we won all specials, all first and second prizes, and in 1917 we won three first prizes and sixteen other prizes. In December, 1918, we won first, second and fourth old pens, second and fourth young pens, first cock and silver cup for best display, so no matter where you wish to show, we have the birds that will win for you. To demonstrate conclusively the superior show qualities of Ferris Leghorns, we exhibited at eight large shows last season, winning 29 first prizes and 69 other prizes—a total of 98 prizes.

Every cockerel and pullet that we have this fall is sired by one of the 20 following Blue Ribbon males:

- 1st cock, New York, 1919.
- 1st cock, Chicago, 1918.
- 1st cock, South Bend, 1919.
- 1st cockerel, South Bend, 1919.
- 1st cockerel, Grand Rapids, 1919.
- 1st pen cock, South Bend, 1919.
- 1st cock, Grand Rapids, 1919.
- 1st cockerel, Chicago Coliseum, 1917.
- 1st cock, Chicago Coliseum, 1917.
- 1st cockerel, Grand Rapids, 1917.
- 1st cockerel, West Mich. State Fair, 1917.
- 1st Cock, Missouri State Fair, 1918.
- 1st cockerel, Michigan State Fair, 1918.
- 1st cock, Michigan State Fair, 1918.
- 1st cockerel, South Bend Fair, 1918.
- 1st cockerel, West Mich. State Fair, 1918.
- 1st cock, West Mich. State Fair, 1918.
- 1st cock, Tennessee State Fair, 1918.
- 1st cockerel, Tennessee State Fair, 1918.
- 1st cock, Chicago Coliseum, 1918.
- 1st pen cock, Chicago Coliseum, 1918.

### Eggs and Chicks

We have several pens of our choicest exhibition stock now mated on our Florida farm. If you want eggs or chicks this fall or early in the winter before our northern pens are mated, remember we can supply them promptly. Write for prices and particulars.

### Eight-Weeks Pullets

We will have 1,000 8-weeks pullets a month for shipment in December, January and February. These pullets, hatched on our Florida farm this fall, can be shipped safely to any part of the United States. From 230-264 strain only, 10 pullets, \$35.00; 100 for \$300.00. Book your order now.

### THOUSANDS OF CUSTOMERS ARE GETTING RESULTS LIKE THIS:

May 6, 1919.  
From the stock we got of you last season we have 201 pullets, and during April they laid 5,250 eggs, an average of 175 per day. We have several pullets that tested better than 260 eggs. I don't believe the Leghorns exist that can beat Ferris Leghorns.

MYRON FULLER, Jackson, Mich.

May 22, 1919.  
I have 100 Ferris birds now that have netted me \$299.87 in the last 8 months. These hens are now laying over 60 eggs a day.

C. A. ROBBINS, Batavia, N. Y.

July 9, 1919.  
I got 10 pullets from you last fall and I have one that laid one egg on Sunday, two on Monday, two on Thursday, one on Friday and two on Sunday. I did not believe my wife, but I was home Sunday and caught her in the nest. I have all trapsets.

OTTO LEHNHARDT, Detroit, Mich.

May 1, 1919.  
My 50 Ferris hens laid 1,061 eggs during April. Sold at 43c a dozen—\$38.00. Feed cost, \$11.25. Profit, \$26.75.

G. H. TINKHAM, Willow Springs, Ill.

March 15, 1919.  
Last year I made a clear profit of \$145.00 on 31 Ferris Leghorn hens. In December I got 480 eggs.

ERNEST THOMAS, San Antonio, Tex.

### Fall Eggs and Chicks

We can ship eggs and day-old chicks any time this fall and winter from our Florida farm. Eggs from 230-264 strain are \$5.00 per 15, \$25.00 per 100, \$200.00 per 1,000, by parcel post or prepaid express. Shipped safely anywhere in United States. Day-old chick prices are \$13.50 for 25, \$50.00 per 100, \$400.00 per 1,000, postpaid. We can ship safely to any part of the south, including Texas, and to any of the northern states east of the Mississippi.

### THIS FREE CATALOG TELLS THE WHOLE STORY

Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla. Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. A postal brings it.



## GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICH.

Issued on the first of  
Every Month.

Price, 50 Cents  
a Year.

# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTICULARLY TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

OCTOBER, 1919.

No. 7.

## Better Poultry— More Meat



IN a southern community, following the introduction of well-bred poultry for breeding, there was noticeable improvement in the size of the next generation of the fowls. The average weight of the birds marketed was 25 per cent greater than previously, according to the observation of an experienced poultry buyer.—U. S. Department of Agriculture.

POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.

# SAVE MONEY

*I am in a position to save you considerable money*

## ON YOUR SUBSCRIPTIONS

I have a special low price with nearly all publications and am willing to divide my profit with you. Here are twelve clubbing offers. If you do not see what you want, write me. Make up your own club and ask me to make you a special money saving price.

### Club No. 1

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$0.75</b> |
| Illinois Farmer ..... | .50    |                 |
| Home Instructor ..... | .25    |                 |

### Club No. 7

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.00</b> |
| Mother's Magazine ..... | 1.00   |                 |

### Club No. 2

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.00</b> |
| McCall's .....       | 1.00   |                 |

### Club No. 8

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.25</b> |
| Illinois Farmer .....      | .50    |                 |
| Home Instructor .....      | .25    |                 |
| Semi Weekly Republic ..... | 1.00   |                 |

### Club No. 3

|                                |        |                 |
|--------------------------------|--------|-----------------|
| Poultry Keeper .....           | \$ .50 | } <b>\$1.00</b> |
| Illinois Farmer .....          | .50    |                 |
| Green's Am. Fruit Grower ..... | .50    |                 |

### Club No. 9

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.25</b> |
| Illinois Farmer ..... | .50    |                 |
| McCall's .....        | 1.00   |                 |

### Club No. 4

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.00</b> |
| Illinois Farmer ..... | .50    |                 |
| Farm & Home .....     | .25    |                 |
| Farm & Fireside ..... | .25    |                 |

### Club No. 10

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.50</b> |
| McCall's .....             | 1.00   |                 |
| Semi Weekly Republic ..... | 1.00   |                 |

### Club No. 5

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.00</b> |
| Semi Weekly Republic ..... | 1.00   |                 |

### Club No. 11

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.50</b> |
| Mother's Magazine ..... | 1.00   |                 |
| McCall's .....          | 1.00   |                 |

### Club No. 6

|                               |        |                 |
|-------------------------------|--------|-----------------|
| Poultry Keeper .....          | \$ .50 | } <b>\$1.00</b> |
| Am. Poultry Advocate .....    | .50    |                 |
| Western Poultry Journal ..... | .50    |                 |

### Club No. 12

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.50</b> |
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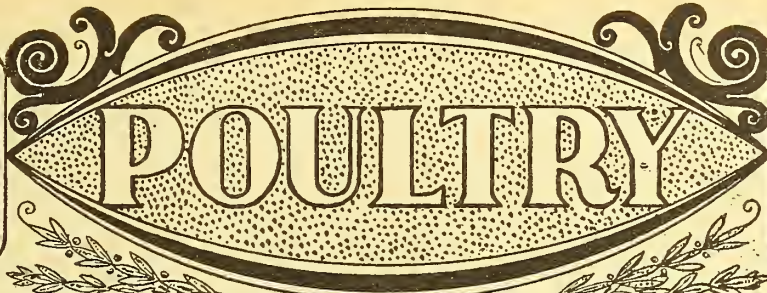
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POULTRY KEEPER

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A JOURNAL FOR  
EVERYONE  
INTERESTED

# KEEPER

IN MAKING  
POULTRY  
PAY

VOL. XXXVI.

OCTOBER, 1919.

No. 7

**C**ALIFORNIA Fruit growers can successfully sell their products in eastern markets in competition with eastern fruit because they pick, grade and pack carefully and in accordance with up-to-date methods, thereby overcoming the handicap of the 3,000-mile haul to market. What is applicable to the production and marketing of fruit applies with equal force to the selling of market poultry. Fowl which are properly fattened, killed, cooled, dressed, and offered on the market in the best condition, command a premium price, while other birds—although they are in good condition of flesh, often sell at discounted prices because they are poorly picked and do not look well.

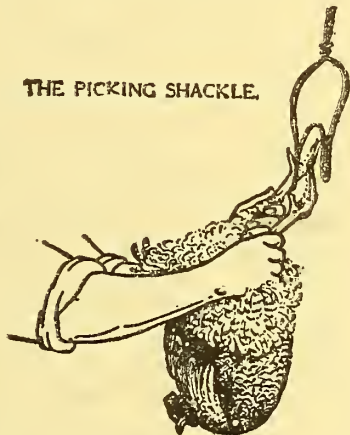
### Improper Picking

It isn't merely a case of fine feathers making fine birds, but it is a case of the improper removal of what may have been fine feathers, rendering the bird so unattractive to the purchaser as to cause him to dock the price. Badly picked chickens not only cause material losses to small flock owners, but they also react injuriously to the net profits of the commercial packers. Such unseemly evidences of improper picking as torn skins, "burnt" wings and legs, the result

## Poorly Dressed Poultry Materially Increases Losses To Flock Owners

of continued and rough "stripping," pin feathers that showed discolored necks because the neck feathers were pulled first instead of last, can and should be prevented by the practice of proper picking. Considerable losses also result from "roughing" when the quills and most of the soft feathers are removed. The feathers, pins, and down remaining should be removed by the "tipper" or "pinner." Proper braining is essential to easy dry picking—it makes dry picking as easy as "scalding."

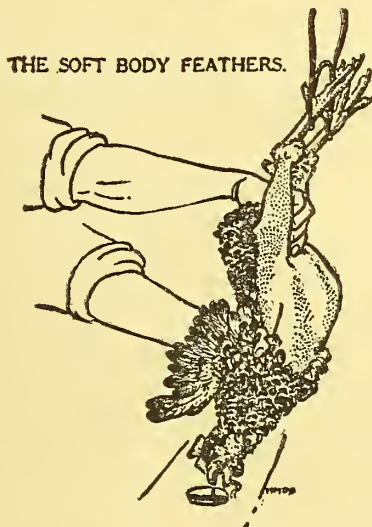
The proper procedure in dressing a fowl features the use of a picking shackle made of galvanized iron one-eighth inch in diameter which is suspended from a support by a cord. The feet of the bird are placed in the shackle at such a height that the wings with the elbow are level with the elbow of the picker. As soon as the throat vein is cut and the brain punctured, the operator should grasp the wings in his left hand, being sure not to clasp the neck. With his right hand he should grasp the tail—thumb down—then turn the wrist and twist out the feathers as the fist turns upward. This done he should next pull the large feathers by holding the hand with the thumb upward and grasping



THE PICKING SHACKLE.



PREVENTING TORN SKINS.



THE SOFT BODY FEATHERS.



WING EDGES AND WEBS.

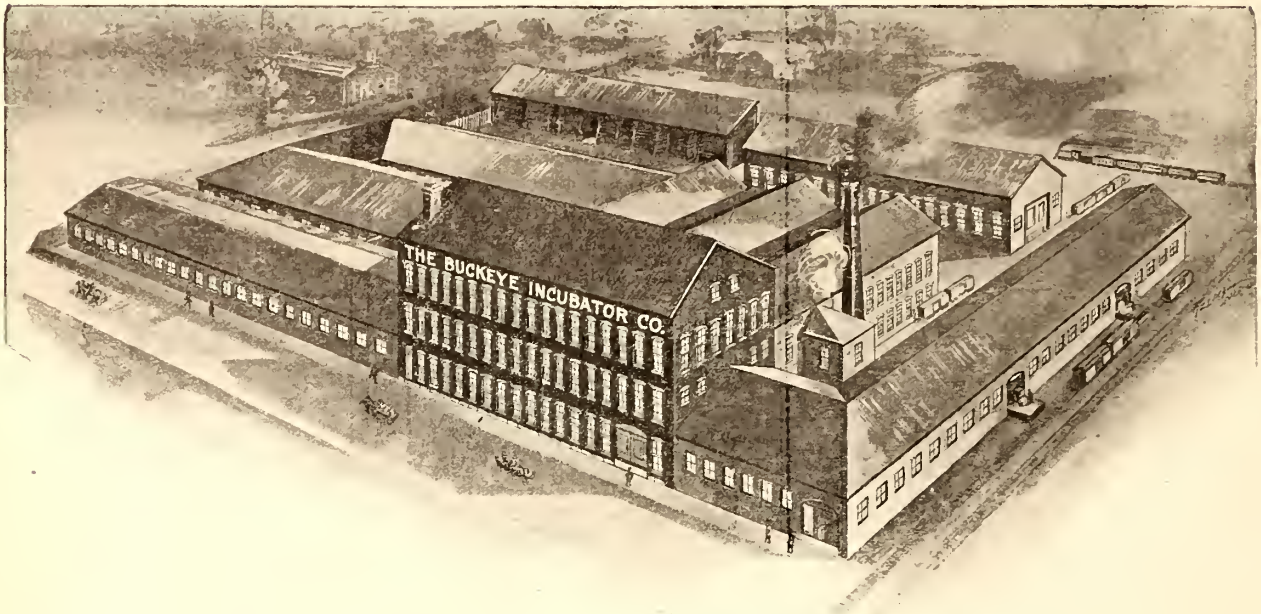
FOUR IMPORTANT POINTS IN PICKING A CHICKEN

With the feet in the picking shackle, wings of the fowl should be level with your elbows; to prevent torn skins, work up to thighs, taking large fistfuls of feathers, pulling upward and twisting the forearm outward; as the shackle holds the legs apart, it is easy to slip the hand between them and pull these soft body feathers; with thumb and forefinger moving downward against feather setting, remove small feathers on edge and web, the stiff feathers and fans being pulled one at a time by bending sharply downward and jerking quickly.

(Prepared by the United States Department of Agriculture.)

(CONTINUED ON PAGE 9)

# Buckeye Sales Pass the Million Dollar Mark



THE MAMMOTH BUCKEYE FACTORY

During the past twelve months we have had the extreme gratification of watching the sales on Buckeye Incubators and Brooders pass the unprecedented figures of a million dollars—by far the largest demand for incubators and brooders that has even been created by any manufacturer. It therefore gives us very great pleasure to congratulate our dealers throughout the United States and Canada on their remarkable achievement—and, at the same time, extend our most sincere thanks for their splendid cooperation.

Every Buckeye dealer has good reason to share the honor of our joint accomplishment, for without the united support of our dealers and the men behind the counter our ambition never could have been realized.

Our achievement only goes to prove, however, that the poultry public appreciates quality and are willing to pay a better price for incubators and brooders that can be depended upon to produce results. Poultry raisers generally have learned to know that incubators and brooders are technical devices that require something more than so many feet of lumber and so many pounds of metal to produce their chicks and raise them.

Never before in our history have we received so many flattering reports from our products as during the past year. Thousands upon thousands of men and women have succeeded so far beyond their expectations, that the name "Buckeye" is being eternally linked up with success. Over half a million boosters are a mighty powerful asset, and when it's all said and done, it is the personal recommendation

of the satisfied user that creates the demand.

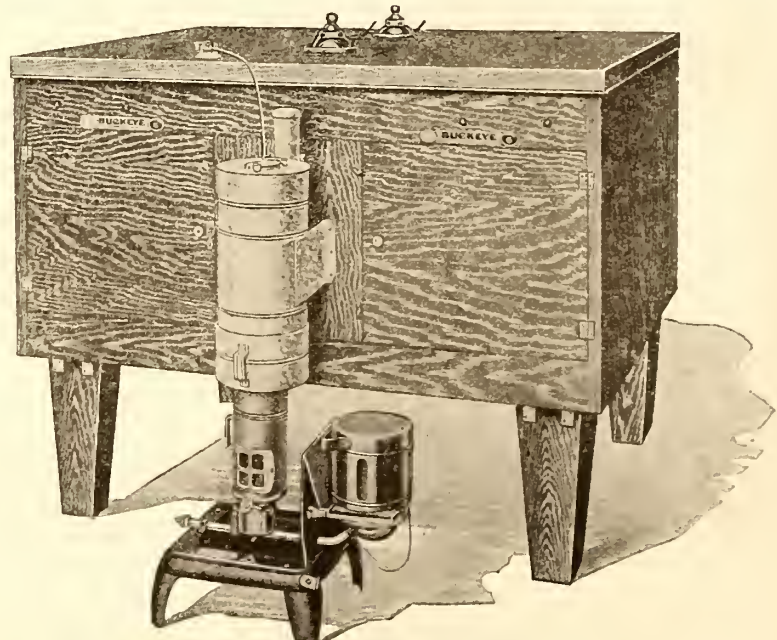
### Keeping Up the Quality

Despite the unusual conditions which existed during the great World War, we permitted nothing to stand in the way of keeping up the quality on our entire line. There were times when we found it extremely difficult to secure the quality of raw materials that we insist upon building into our machines, but knowing the importance of using nothing but those materials which had stood the test of time, we absolutely refused to use any substitutes or make any changes in our product that might, by any

possibility, affect their efficiency.

Many of our dealers will remember the unheard-of prices that we were obliged to pay for zinc, and yet it never occurred to us to substitute another kind of thermostat which we might have bought for one-tenth of the price.

We sometimes wonder whether our dealers fully appreciate the tremendous advantage of the metal thermostat which we place in all Buckeye Incubators. Up to this time we have installed over 100,000 of these metal thermostats in Buckeye machines without having had a single complaint from any of them. Many of our dealers will remember



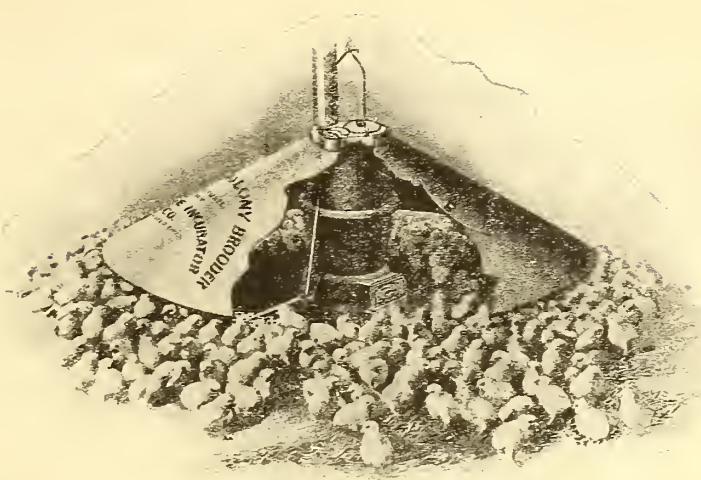
New Buckeye Incubator that has made good.

the frequent complaints that always followed the use of the older type of thermostat which are so generally used on incubators of other brands, and it certainly must be a relief to our dealers to know that the Buckeye metal thermostat can always be depended upon to maintain that accuracy of temperature which is so necessary to the success of an incubator.

It must also be a source of satisfaction to our dealers to know that we have practically eliminated all possibility of leaking tanks. Since we adopted the method of tank construction which we are now using, we never hear of an incubator arriving at destination with a leaky tank.

We have also made a change in the weight of the material of which our steel tanks are constructed. As a matter of fact, it has been almost a year since we started to build our steel tanks out of 22-gauge metal, which is nearly twice as heavy as the metal which we formerly used.

We will not attempt to rehearse all of the features which have helped to create the tremendous demand for Buckeye Incubators, but if each dealer will look back over his incubator business and call to mind the general satisfaction which "Buckeye" Incubators have given, we must all come to the conclusion that our policy of building the best incubators first, and then fixing the



The Buckeye Colony Brooder.

price afterward, has been absolutely sound.

**Coal-Burning Brooders**

Our customers will be gratified to learn that during the recent past we have absorbed the MacKay Colony Brooder Co., of Syracuse, N. Y., and the United Brooder Co., of Trenton, N. J. We purchased both of these concerns outright with all of their assets, which included all of the coal-burning brooder patents which were issued to John F. MacKay and Clement V. Hill.

The acquisition of these patents

has given us the unquestionable and exclusive rights to the "Standard" design of coal-burning brooder, which has proven so eminently satisfactory during the past few years.

Our dealers must have been more than gratified with the remarkable demand for Standard Coal-Burning Brooders during the past year—despite the difficulty of securing anthracite coal. These wonderful brooders have been so invariably satisfactory that we now have over 100,000 satisfied customers telling

(CONCLUDED ON PAGE 11)

**CAUTION:** Any Bone Cutter claiming to be MANN'S without F. W. MANN CO. cast on its surface, is an imitation. The genuine MANN'S is made only in Milford.



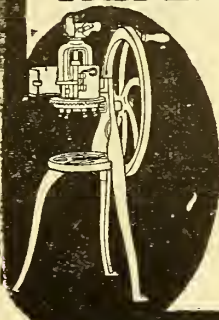
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# Feeding for Egg Production

By **H. L. KEMPSTER**

Of University of Missouri

## VARIETY

Variety in the ration should not be overlooked. Any surprises assist materially in keeping the birds happy and more inclined toward egg production. There should, however, be no quick changes in the ration. A decided change in the method of feeding may throw the hen into a molt. Variety can be maintained without necessitating any marked change. Supplying green food in different forms, the occasional feeding of wet mash, green cut bone and other delicacies will assist materially in the production of more eggs.

## RATIONS

The following are suggested rations for egg production the parts being given by weight, not volume:

### Ration 1

- |                  |                              |
|------------------|------------------------------|
| Scratch Food     | Mash (ground food)           |
| <i>In Winter</i> | 1 part bran                  |
| 1 Part wheat     | 1 part middlings (shorts)    |
| 2 parts corn     | 1 part corn meal             |
| <i>In Summer</i> | 1 part commercial beef scrap |
| 2 parts wheat    |                              |
| 1 part corn      |                              |

### Ration 2

- |                   |                     |
|-------------------|---------------------|
| Scratch Food      | Mash (ground food)  |
| <i>In Winter</i>  | 6 parts corn meal   |
| 6 parts wheat     | 6 parts middlings   |
| 3 parts corn      | 3 parts bran        |
| 3 parts oats      | 1 part alfalfa meal |
| 3 parts buckwheat | 1 part oil meal     |
| <i>In Summer</i>  | 5 parts beef scrap  |
| 6 parts wheat     |                     |
| 6 parts corn      |                     |
| 3 parts oats      |                     |

### Ration 3

- |                                       |  |
|---------------------------------------|--|
| Scratch Food                          | Mash   |
| Early morning and night, cracked corn | 3 parts bran   |
| At noon, equal parts wheat and oats   | 1 part middlings                                     |
|                                       | 1 part corn meal                                     |
|                                       | 1 part meat scraps                                   |
|                                       | Occasionally 1 part oil meal is added to this ration |

### Ration 4

- |                  |   |
|------------------|---|
| Scratch Food     | Mash                                    |
| <i>In Summer</i> | Ground oats                             |
| 1 part corn      | Buttermilk or sour skim milk as a drink |
| 2 parts wheat    |   |
| <i>In Winter</i> |   |
| 2 parts corn     |   |
| 1 part wheat     |   |

### Ration 5

- |                  |                    |
|------------------|--------------------|
| Scratch Food     | Mash               |
| 6 parts corn     | 2 parts bran       |
| 6 parts wheat    | 1 part corn meal   |
| 4 parts oats     | 1 part gluten meal |
| 2 parts barley   | 1 part ground oats |
| 1 part kafir     | 1 part middlings   |
| 1 part buckwheat | 1 part beef scrap  |

### Ration 6

- |                  |                     |
|------------------|---------------------|
| Scratch Food     | Mash                |
| <i>In Summer</i> | 4 parts bran        |
| 1 part corn      | 8 parts shorts      |
| 2 parts wheat    | 8 parts corn meal   |
|                  | 8 parts ground oats |
|                  | 8 parts beef scrap  |
| <i>In Winter</i> | 4 parts gluten meal |
| 1 part corn      | 1 part oil meal     |
| 1 part wheat     |                     |



In all the foregoing rations grit, oyster shell and water are kept before the birds all the time. In addition, green food is fed frequently.

Approximately twice as much grain (scratch feed) as ground feed (mash) is fed. Where beef scrap is mentioned in the ration it can be eliminated, provided the hens are fed all the sour milk they will drink.

**METHOD OF FEEDING**

The practice of poultry feeding, while governed largely by circumstances, should as far as possible be confined to a regular routine. Regularity is one of the keynotes to success. The hens very soon learn when to expect their daily feed and if they are disappointed, the effect may be noticed in the egg basket. In addition, the poultry feeder should learn the characteristic needs of his flock and cater as much as possible to its desires. He should attend to his duties in a quiet manner, avoiding any action which might frighten the hens or cause them to become excited. He should also gain their confidence and make them feel that he is their friend. This can be easily done by displaying interest in their welfare. By occasionally feeding them some grain from the hand, pets will soon be created, making the keeping of hens a little more interesting—and also influencing the egg yield.

In the morning grain should be fed—a small amount in the litter. This should be buried deep. Clean water should be provided. The grit and shell hopper should be kept filled. At noon the dry mash should be fed by opening the hopper or by placing it in troughs.

Any green food should be fed at this time. At night more grain should be fed—enough so that no bird goes to roost hungry. Every bird should have a good full crop when it goes to roost. If the feeder has any doubt, a visit to the hen house after the birds have gone to roost and an examination of the crops will indicate whether the correct amount has been fed. There is no set rule as to how much should be fed. A hen eats approximately 3 or 4 ounces a day, or about six pounds a month. The amount fed each day varies with the appetite of the bird. There is no danger of overfeeding, providing the birds are compelled to take sufficient exercise. The aim in poultry feeding is to feed all that the bird can consume and yet be kept busy. Approximately twice as much grain should be fed at night as in the morning. In the morning feed half a handful to each bird; at night double this amount. If the birds do not appear hungry at the next feeding, too much has been fed. If they are unusually eager at the next feeding, too little was fed at the last feeding. The amount also varies with the time of the year, more being eaten in the winter, especially if the birds are unable to get food from the yards upon which they run.

**EXERCISE**

The success of egg production depends largely upon the activity of the bird. The reason the Leghorns excel in egg production is largely because they keep themselves in good physical condition. They exercise. The hen that is inactive and shows long toe nails is seldom a good producer. The hen that is first off the roost in the morning, keeps busy during the day and is the last to go to roost at night is the profitable hen. Some birds have the disposition to take exercise; others have to be forced. This is especially true of heavier breeds. Strains of Rocks and other breeds are inclined to be lazy and in a short time get so fat that they cannot produce eggs in satisfactory quantities. The circulation of blood to the ovary is restricted by the excessive fat. This unquestionably interferes with the normal functioning of the ovary and reduces egg production. Exercise can best be encouraged by not overfeeding. The poultry house should be bedded with a foot or more of straw and the grain buried in this. The skill of the poultry feeder is tested by the manner in which he compels the hens to exercise. Over-feeding causes inactivity, which will be manifest by no holes being dug in the straw. Egg production is quite largely dependent upon keeping the birds in condition. In summer it can be encouraged by sowing the yards and letting the hens dig up the grain.

**SUMMARY**

1. Grain (scratch food) and ground feed (mash).
2. Animal food, such as beef scrap or sour skim milk.
3. Grit and oyster shell.
4. Green food.
5. Clean, fresh water.
6. Liberal feeding.
7. Plenty of exercise.
8. Regular attention.

The essentials of successful poultry feeding are:

Hens eat from five to eight pounds of food a month, or sixty to eighty pounds a year. The daily food eaten by a hen is from three to four ounces. The daily ration for 100 hens is from nineteen to twenty-five pounds.

Hens drink about six pounds of milk a month. One hundred hens drink two and one-half gallons of milk daily.

On limited range a laying hen eats two pounds of grit and three pounds of oyster shell in a year.

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For Poultry, Pigeons, Dogs, Cats, Rabbits, Parrots, Canary and other birds or pet animals, Germozone is a universal and safe remedy for colds, snuffles, roup, sore throat, loss of voice or singing, influenza, bowel trouble, distemper, sore eyes or ears, canker, gleet, loss of fur or feathers, sores, wounds, skin disease, or other affections of skin or mucous membrane.

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MAKE POULTRY PAY  
Made of pure, sound grain—clean, sweet, wholesome. No dirt, grit, weed seeds, or any other filler. All food. No waste. Fully guaranteed. Freight prepaid. Write now for full free particulars.  
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Do away with the bother by using **Succulenta Tablets**  
They are better, cheaper and more relished by all fowl. Simply dissolve one tablet in one quart of drinking water. Succulenta Tablets are not a drug nor a remedy, but a food—wholesome and harmless. They make chicks grow. **A FULL EGG BASKET IS ASSURED**  
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Only \$3.00 per 100 lb. Sack

Oyster Shells, other bone, grit and charcoal not necessary when feeding "HEN-E-TA."

Use of beef scraps optional.

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"OCULUM" will put your flock in the pink of condition for winter. SCIENTIFIC eggmen buy it in gallons, and have been for 13 years.

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**H. C. Miller,** Akron, O.,  
Judge American P. Assn.

"I doubled my egg yield in 23 days with 'OCULUM.'  
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Salem, Va.

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by **GEO. S. PHILLIPS**

Sprouted oats are now universally recognized as the best green feed obtainable.

With a modern sprouter—there are a number of them on the market—oats can be sprouted to a height of four or five inches in a week's time. The sprouted grains are best for feeding when they are only two or three inches high. The operation is very simple. It requires very little time and a very small amount of labor.

To prepare the grains for sprouting judgment should be exercised in selecting only ripe clean oats and they should be placed in a large bucket or receptacle in the evening and left until morning entirely submerged in water. Luke warm water should be used in cold weather.

Place the wet grains in the trays in the morning about three-quarters of an inch or an inch in depth. Too many oats in the trays tends to cause the grains to mould.

The machine should be run at a temperature of about 70 to 75 degrees at first. More rapid growth may be produced by increasing the temperature to about 80 or 85 degrees after the operator understands the machine sufficiently to maintain proper sprouting conditions.

The grains in the trays should be moistened once or twice a day. Do not use water for sprinkling the grain that is too hard or that has too much alkali or salt in it. Don't keep the grains too wet. They will neither sprout nor grow under water. Use judgment.

The grains should be stirred thoroughly morning and evening until the roots and the sprouts become thoroughly matted. Thorough stirring of the grains will eliminate the possibility of the grain moulding through the process of sprouting.

Give the hens all the sprouted oats they want to eat after they become used to eating sprouted grain. Thus your grain ration is greatly reduced and a considerable saving effected.

Sprouted oats can be produced at a cost of from fifteen to twenty-five cents per bushel, depending on the cost of the grain. A good sprouter will positively triple the quantity and it is a well known fact that the quality is vastly improved.

Providing a nice poultry house and plenty of corn is not all that is necessary if you expect your hens to produce a profit in the winter season. If you would have your hens produce eggs in the winter months, you must produce spring conditions in your laying hens. Feeding sprouted oats will also materially benefit the fertility of eggs for early hatching. You owe it to yourself, to your hens and to the poultry industry in general in these war times to give your hens a chance.

I consider a good grain sprouter to be the most practical and the greatest profit-producing appliance that has been offered the poultry-raising public since the invention of the incubator.

### INSPECT SHIPMENTS OF EGGS

Interstate shipments of eggs are being watched closely during the hot summer months by Federal Food Inspectors of the Department of Agriculture in order that appropriate action may be taken when such shipments violate the law.

Shipments containing eggs which have yolks stuck to the shell, moldy eggs, black spots, mixed rots, addled eggs, and any other eggs which are filthy, decomposed or putrid are in violation of the law.

Careful candling before shipment will enable dealers to eliminate the bad eggs. The elimination of the

spoiled or partially spoiled eggs before shipment not only removes the hazard of violating Federal and State food laws, but it is economical in that it saves shipping charges on eggs likely to be rejected at place of receipt. A number of states have laws or regulations specifically requiring the candling of all eggs placed on sale.

Directions as to how to candle eggs as well as information regarding the best methods of packing, shipping and storing eggs will be sent, upon request to the U. S. Department of Agriculture, Washington, D. C.

## SPROUTED OATS—WINTER EGGS

### CLOSE TO NATURE GRAIN SPROUTERS



SPROUTED OATS FROM ONE BUSHEL OF GRAIN



Cut down the Feed Bill—Run up the Egg Yield. Change high-priced grain into cheap green feed. Our vapor-bath machines produce the succulent sprouts, the vegetable milk and the grape sugar that bring the big egg yields.

We are the originators of the grain sprouter and its largest manufacturers and make three kinds and many sizes from one-fourth bushel to eight bushels—a few hens to 1,000. Write us at once for circulars and prices.

**CLOSE-TO-NATURE CO.**

20 Front Street COLFAX, IOWA

# QUESTIONS & ANSWERS

RUSSEL T. BARR.

### Soft Shelled Eggs.

I wish you would advise me through the columns of Poultry Keeper what can be done to make the egg shells harder. I am bothered quite a little with the shell breaking on the end of the eggs. What can I do for this condition?

E. M. H., California.

You do not intimate in your letter whether your chickens have free range or are confined in yards. Usually the matter of shell making material needs no special attention where the hens have free range, as they pick up the essentials, but where the hens are confined it becomes very necessary to supply the hens with the proper ingredients for manufacturing shells. Soft shelled eggs are due either to the absence of sufficient lime salts in the feed, or to a diseased condition in the lower part of the oviduct which results in too little secretion of lime salts. The first thing to do is to make sure that the hens have access to oyster shell. Usually this will take care of the situation, if it does not then the hen, or several of them, may have some abnormal condition of the oviduct. In the heavier breeds this trouble may be caused by the hens getting too fat which relaxes the muscles of the abdomen and causes the egg to pass on too rapidly for the proper amount of lime salts to be deposited en route to make a normal shell when the egg is expelled. Try to locate the hen or hens laying the soft shelled eggs and see if you can't determine what the trouble is. If too fat reduce the feed so that they may get back into normal condition. The laying of eggs with defective shell is attended with danger to the hen, as such an egg may be easily crushed in the oviduct which always is dangerous. I hope what has been said may help you to trace up and remedy the trouble.

### White Diarrhea—Alcohol

Please let me know through your Question and Answer Department what strength alcohol is used to disinfect eggs against white diarrhea in the chicks hatched from same?

G. K. H., Ohio.

The writer is not aware that an alcohol solution could be used successfully for this purpose. The shell of an egg is very porous and since alcohol will coagulate albumen, it would seem a very risky thing to use it at all in treating eggs which were supposed to hatch. I would certainly try some other method than this, especially if I valued my eggs and hoped to get chickens out of them. There is a good deal of misunderstanding about the subject of white diarrhea and the majority of poultrymen are fighting it in the wrong way. Don't lose sight of the fact that an ounce of prevention is worth a truck of cures when it comes to handling the white diarrhea in an effective way. In the first place see that the eggs you set are from healthy chickens, then when the

chicks are hatched keep them from getting chilled for the first two weeks or so. The great enemy of infection in chicks, as well as in children, is the avoidance of chill. Forget about the germs, keep the chicks warm and you will have success

while others all about you are in trouble with this dread disease. Now I don't mean that you should not disinfect brooders, coops, etc., in an effort to avoid infection, but remember that even though everything is clean your chicks can develop white diarrhea and die by the hundreds if you permit the tender little things to become chilled so that the circulation of the blood in their little bodies is disturbed. A depressed circulation in the body of a baby chick is always disastrous and usually the trouble takes the form of white diarrhea.

*Eggs Untouched from Start to Finish in the*



**The Perfected Machine offered by the Inventor who made the Mammoth possible**

Every good feature of last season's mammoths PLUS five new exclusive devices that put the Wishbone as far ahead of last season's as last season's was ahead of the incubators of ten years ago!

- You put in the eggs, and you don't touch them till you take out the chicks.
- you have no heavy trays to lift, nothing to be done a child can't do.
- you can burn any fuel.
- you have automatic egg-turning and heat-and-moisture regulating at its highest state of perfection.
- You have new scientific construction that permits easy removing of trays and moisture-pans without tipping, and a removable bottom

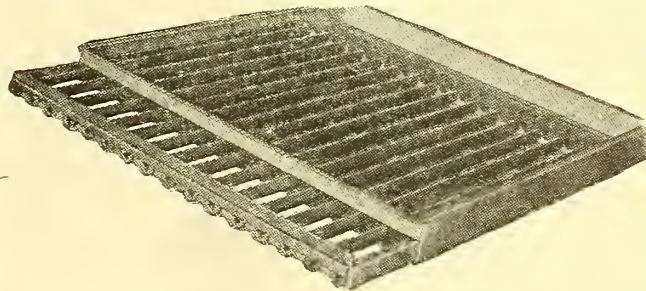
to facilitate cleaning.

These are the reasons a man and his helper can operate a Wishbone Hundred Thousand.

These are the reasons incubator operators everywhere welcome the Wishbone as a means of getting increased capacity at a saving of cost and labor.

These are the reason YOU want Wishbones for your additional equipment or for replacement.

This is the Famous New all-metal Wishbone Turning and Hatching Tray. Hitherto it has always been necessary on the 19th day to transfer the eggs laboriously to a hatching tray. This tray makes that unnecessary—on the 19th day the separate free-sliding roller section is gently and quickly withdrawn, leaving the eggs on the wire bottom of the tray.



Write for

**“What Do Your Chicks Cost per Thousand?”**

A new Wishbone book every incubator operator should see and study. Written by an experienced operator and sent free. You'll be glad to get it.

**WARNING:** The Wishbone is the only incubator licensed to be made under the famous patents, Nos. 1,259,726 and 1,283,402. Not only makers but also USERS of incubators illegally embodying devices covered by these patents are liable to prosecution. Be careful when you buy.

HAROLD L. WATSON, President

**American Incubator Manufacturing Co.**  
299 CORTLANDT STREET BELLEVILLE, N. J.

**WISHBONE PRICES ARE LOWER**

Wishbone Incubators cost you substantially less per machine, less per compartment, less per thousand-egg-capacity than any Mammoth on the market! There are 4 reasons: (1) Exceptionally low overhead; (2) Manufacturing efficiency gained from long, pioneer incubator manufacturing experience; (3) Content with small profit per machine for the sake of developing the industry; and (4) the fact that there's no outside inventor's royalty to pay.

Remember this yourself and tell it to your neighbors.

**Contemplates Poultry Business**

I am thinking about going into the chicken business on a good scale. If you will answer definitely the following four questions I will know how much land to purchase and finance the undertaking. (1) About how many out of 1000 baby chicks live to maturity?

G. B. W., S. C.

(1). Manifestly it is impossible to answer this question with any definiteness at all for the simple reason that it depends upon a lot of factors which it is impossible to determine in advance. Some men would succeed in raising 1000 chicks to maturity with little or no loss, while another might lose the whole 1000 in a week's time. The same man might have splendid success one season and fall down badly another season, because of adverse conditions with which he had to contend, even though the man himself had had considerable experience with chickens. There is one thing that can be stated with great certainty, however, and that is that no man who had not had a good deal of experience and much liking for the business could hope to raise 1000 chicks to maturity without heavy loss. The undertaking involves so many small units and the risks incurred are so great that the novice is sure to get left if he plunges in where the experienced find the problem difficult enough.

**How Many Pullets?**

(2). About how many pullets will there be in a group of 1000 baby chicks and can anything be done to regulate the number of pullets and cockerels?

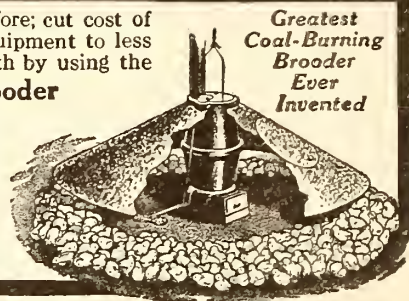
(2). In an average lot of baby chicks the pullets would probably run from 60 to 70 per cent, though

**Turn Your Losses into Profits**

Grow three chicks where one grew before; cut cost of operation to less than half; cut cost of equipment to less than half; reduce labor to less than a fourth by using the **STANDARD Colony Brooder**

**Guaranteed** to raise more and better chicks than any brooder on earth. Broods 100 to 1000 at a guaranteed cost of less than 6 cents a day. Burns hard or soft coal—simple, safe, everlasting. Endorsed by all Agricultural Colleges and experiment Stations. More than 30,000 satisfied users in U.S. Money back any time in 30 days if not satisfied. Catalog free.

**THE BUCKEYE INCUBATOR CO.**  
1518 Euclid Avenue - Springfield, Ohio



**Greatest Coal-Burning Brooder Ever Invented**

this might vary. There have been a good many fancy schemes set forth for regulating the sexes in poultry, but it is not considered that any of these are practical. Nature looks after such matters and little improvement has been made on her plans for regulating the sexes.

**Cost of Feed.**

(3). Please advise me the average cost of the feed required to raise 1000 chicks to maturity, bringing them up in the best condition for practical use.

(3). The answer to this question would vary greatly depending on many factors—breed of chickens handled, locality, housing methods, etc., but chiefly the cost of the necessary ingredients would be a determining factor. At the present price of wheat for instance, if that grain was used in making up your ration, you can readily see that the cost for feed would be far greater than two years ago, so that practically all estimates that might have been reliable

**ROOST**

No lice, no mites, fill hollow roosts with oil or dip. Write **ALLION PERCH CO., Willis, Mich.**

two years ago would now be entirely unsafe to rely on. It is therefore quite impossible for me at this distance to give you any exact figures which you could rely on in undertaking a venture like this. If you wish more definite information on the subject of feeding costs in your state, I would suggest that you take the matter up with the state agricultural experiment station of South Carolina. They are familiar with conditions in your part of the country and will be glad to help you in the matter, I am sure. But you will have to give them pretty definite information as to just what you plan to do, I mean what breed you will keep and everything else which might have a bearing on the question. Also advise them of the extent of your experience. Of course there is money to be made in the chicken business, but no man who has not had several years of experience can hope to make money by keeping chickens in large numbers. The novice who plunges in because somebody told him big money could be made always fails and hits bottom hard. Many of the stories of wonderful profits made in some "system" of poultry keeping are greatly overdrawn, beware of them and do not "bite" without due consideration. No "system," however good has much chance of succeeding in the hands of a wholly inexperienced person. The best plan for the amateur is to start in a small way and find out by experience what he can do in the business, then grow as the experience grows. Talk with people in your own locality or your own state who are succeeding in the business because they are better able to inform you about the conditions you will have to meet than any one at a distance. With feed prices soaring as they are now you will not be likely to feed a chicken for a year for much less than \$1.75 as a minimum, and the cost may be more. However, consult your own state authorities in the matter and make your plans accordingly.

The Mediterranean or egg breeds are: Leghorn, Minorca, Ancona, Spanish and Blue Andalusian.

**DR. HESS INSTANT LOUSE KILLER**

**KILLS LICE ON POULTRY AND STOCK**

Don't let your hens be pestered with lice during the moult. They will need all their strength and vitality then. You can rid them of lice easily, certainly, quickly, by using Dr. Hess Instant Louse Killer, the dependable, guaranteed remedy. Dr. Hess authorizes every one of his 28,000 dealers to sell it on a money-back guarantee. Sprinkle on roosts, in coops, sift in feathers, put it in the dust bath and your hens will do the rest. For lousy colts and other stock, stroke the hair the wrong way with one hand, with the other sift in the Louse Killer.

1 lb. Can, 30c; 2 1/2 lb. Can, 60c (except in Canada)

**Dr. HESS & CLARK, Ashland, Ohio**



### POORLY DRESSED POULTRY MATERIALLY INCREASES LOSSES TO FLOCK OWNERS.

(Continued from Page 1).

as many feathers as he can in one hand. He should jerk them out with a sharp, quick downward movement. Experts follow this rule of one grab for small birds—two for large poultry.

#### Prevent Torn Skins

The feathers on the breast and sides are next to be removed. Beginning at the wishbone the attendant seizes a large handful of feathers in his fist, thumb upward, and pulls up and out, twisting the forearm outward. Then he starts operations upon the thighs, removing large fistfuls of feathers, in each instance pulling upward and twisting the forearm outward as the twisting motion always prevents torn skins. As soon as the one side is completed, the feathers from the other should be removed. Then operations are shifted to the legs. The attendant grasps the leg firmly at its base, keeping the thumb upward and moving the closed hand along the leg pressing hard enough to strip the feathers. It is essential to work in the direction of the feathers setting and to strip only once over the same region. Any feathers which remain should subsequently be pulled. The bird is in such a position as a result of the use of the shackle that the operator can easily remove all the waft, down, body feathers by pulling upward and inward toward his own person.

There is a certain trick or knack to removing the back and hip feathers, which is accomplished by grasping the feathers with the back of the hand outward and then rotating the forearm inward, the resultant scraping movement causing the feathers to come out. The small feathers between the shoulders should be plucked out with the thumb and forefinger. Then the neck should be stripped by clasp the neck, thumb upward, around the base and stripping it by sweeping downward. In some instances it requires two sweeps—one on the upper and the other on the lower half of the neck. Any feathers remaining must be picked out.

#### Care With Wing Feathers

Care must be exercised in working over the small wing feathers near the body. The wing should be stretched and then the medium-sized soft feathers on the broad surfaces should be picked with the thumb and forefinger. Care and caution must be practiced in order not to tear the skin as this injury results usually where the feathers are removed in large bunches. Then the operator should hold the wing in a vertical position with the thumb and forefinger, pinching the second joint from the body. With the thumb and forefinger moving downward against the feather setting, he should remove the small feathers on edges and web. Subsequently, the stiff feathers and fans

may be pulled one at a time by bending sharply downward and jerking quickly.

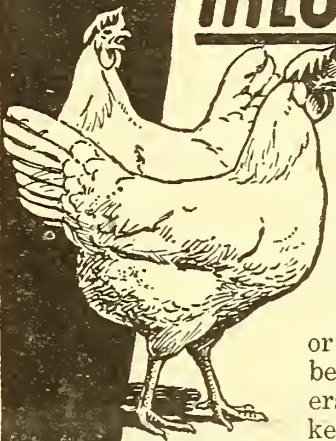
#### SCOTT'S REDS WIN

C. P. Scott, of Peoria, Illinois, won first, third and fourth on cocks, first and second on hens, first on cockerels, third and fourth on pullets, first on old pen, first on young pen with his Single Comb Rhode Island Reds at the Illinois State Fair. Mr. Scott

is a consistent advertiser in Poultry Keeper. We are always glad to recommend his birds and their continued winnings in the show room justifies our recommendation. We recommend his birds to any of our readers who want S. C. R. I. Reds. Address him C. P. Scott, R. 7, Box D, Peoria, Illinois.

Given the same care and feed, pure-bred fowls make a greater profit than mongrels.

# Turn Loafing Hens Into Laying Hens



**T**HE profits you make out of this Fall's egg prices naturally depend on *how many* of your hens lay and *how often*.

You know that, but what are you doing about it? Are you leaving it to the hens to decide whether they'll loaf or lay—how big your profits will be? Or are you turning the loafers into producers—making and keeping all your hens laying? *You can!* It's easy. Just give them


## Pratts Poultry Regulator

Successful poultrymen everywhere have been using this guaranteed poultry tonic for nearly fifty years. They have found that it sharpens the appetite — insures sound digestion — puts hens in a condition where, with the right food, they simply must lay regularly and regardless of the season.

Keep your hens from catching colds, catarrh, roup—use

## Pratts Roup Remedy

This remedy not only overcomes but *prevents* all these disorders common to bad weather. And to be on the safe side, against other germ diseases as well as roup — use Pratts Poultry Disinfectant.



Packed in bags, pails and handy packages

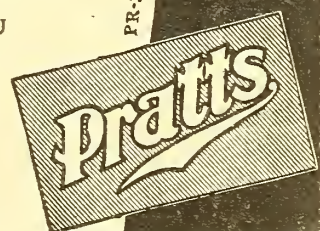
**"Your Money Back if YOU Are Not Satisfied"**

Sold by 60,000 dealers. There's one near you.

Write for Pratts NEW Poultry Book—Free

**PRATT FOOD CO.**  
Philadelphia Chicago Toronto

PR-3



**LESSON IN POULTRY FEEDING  
MAY BE LEARNED FROM  
NATURE**

The nutriment in the feed of laying hens serves a twofold purpose—to repair waste and furnish heat to the body and to supply the egg-making materials. As only the surplus over what is needed for the body is available for egg production, the proper feeds should be fed in sufficient quantities to induce this production.

In supplying feed to fowls there are three kinds of constituents which should be present in certain fairly well fixed proportions if the desired results are to be obtained most economically. These constituents are mineral, nitrogenous and carbonaceous, all of which are contained in corn, wheat, oats, and barley, but not in the right proportions to give the greatest egg yield. In addition some animal feed and green feed should be supplied.

In feeding poultry a valuable lesson may be learned from nature. In the spring the production of eggs on the farm is an easy matter. Fowls which are at liberty to roam find an abundance of green and animal feed on their range, which with grain furnishes a perfect ration for laying hens. In addition to this they get plenty of exercise and fresh air. So far as lies within his power, then, the feeder should aim to make the winter conditions springlike.

**DEEGE MAKES CLEAN SWEEP**

Grover Deege, Quincy, Ill., certainly won his share of ribbons at the Illinois State Fair. His Single Comb Black Minorcas won as follows: First, second, third, and fourth on cockerels, first, third and fourth on pullets. This speaks well for Mr. Deege's Minorcas. We knew he had good stock and of course it is a matter of satisfaction to Poultry Keeper to know that our advertisers have a grade of stock that pulls down the ribbons in all kinds of competitions.

**Takes All Risk out of Hatching**



SEVEN SIZES  
65 to 600 eggs  
Sold by  
6000 dealers.

The Buckeye takes all the gamble out of the chicken business. We *Guarantee* that it will hatch *more chicks and better chicks* than any other incubator on earth. That's why it is known as

**THE WORLD'S BEST INCUBATOR**

That's why it is used by more than half a million successful poultrymen and endorsed by every Experiment Station and Agricultural College.

Try a Buckeye in the same room with any other incubator and if it doesn't hatch more chicks and better chicks *the first time you use it*, we'll take it back.

Write for Buckeye Catalog and proof of superiority. The Buckeye Incubator Co. 1517 Euclid Ave. Springfield, O.



**Nothing Cheap—But Worth the Money**  
SOLD ON A MONEY-BACK GUARANTEE.

**Southern Guard and "Marine" Game Fowls**

The greatest fighting generals that ever used steel and as game as death, choice 3 month old trios \$10. Eggs \$5 per 15.

Also Genuine English Bloodhounds two months old \$100 each, pair \$150. Best American and English Fox Hounds, trained on Deer, Bear or any game you like, \$100 each.

ALFRED F. GRAHAM, Cameron, N. C.

**FOR THOSE WHO CAN USE HAMMER AND SAW**

Built and Used by Poultrymen Is a 96-page book; paper bound; contains 108 illustrations, fully describing various styles of poultry houses for the large farm, as well as the back yard. Poultry house equipment, including roosts; trap-nests food boxes and hoppers; drinking founts; fences, both permanent and movable; metal fence posts; brooders, both fireless and heated; brood-coops; covered chick yards; poultry catchers, the popular stove-pipe hopper, and many other useful appliances that can be made at home and money saved. For the man who enjoys making his own poultry appliances, building his own coops, houses, etc., this book is of especial value. Labor-saving and money-saving devices are fully explained and illustrated so that the man who can use a hammer and saw can make any of them. Price, 50 cents. Address Poultry Keeper, Quincy, Ill.

**GET MORE EGGS.**

A great many people do not realize the small amount of work necessary to provide sprouted oats as a poultry feed. The feeding of this green feed during the winter months means greater fertility of winter laid eggs and this means healthier chicks. To the poultryman who is engaged in raising eggs for hatching purposes, this is a matter well worth his careful consideration. He can take one bushel of oats, wheat or rye and in a very short time make three bushels of tempting egg-making feed. Not only will it increase the fertility of the eggs but will increase the egg yield and at the same time make quite a saving in the cost of feed.

The Des Moines Incubator Company, 565 Third street, Des Moines, Iowa, is making a splendid offer on a sprouter in our advertising columns. They have issued a booklet entitled, "How to Raise Forty-eight Out of Fifty Chicks" which they will send to any party interested for the small sum of ten cents. We feel sure you will appreciate this book and we think it is well worth your attention.

**Get 50 Per Cent More Eggs**

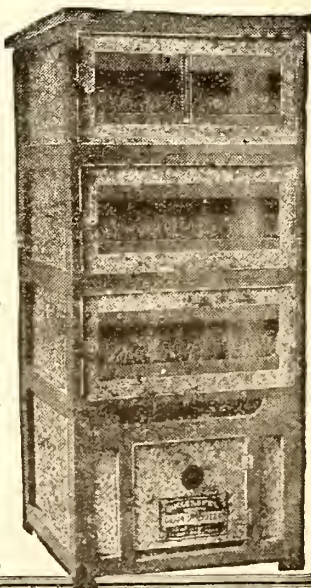
**Feed Sprouted Oats** Easily—quickly—cleanly—economically produced in "Successful" Sectional Metal Grain Sprouter. Get greater fertility in winter laid eggs—earlier chicks. Make three bushels of tempting egg-making feed from one bushel of oats, wheat or rye—increase the egg yield at least 50 per cent—and at same time save one-third feeding cost. Write for catalog and offer we make on the—

**"SUCCESSFUL" SECTIONAL ALL-STEEL GRAIN SPROUTER**

Made with double steel walls—metal trays—nothing in it to warp, shrink, swell or mold the food. Fireproof. Lasts a lifetime. Large glass doors. Made in sections so you can add more sections as your needs grow. There's a size for your needs whether you keep 50 or 600 hens. Thousands of poultry raisers say they would not be without this wonderful food maker. The newest, most reliable construction ever made in a grain sprouter. Not only turns idle hens into industrious layers but supplies feed for growing chicks—protects health—prevents chick loss. Booklet—"How to Raise 48 Out of 50 Chicks" 10 cents.

Write today for catalog and full details of 1919 offer

DES MOINES INCUBATOR CO., 565 Third St., Des Moines, Iowa



**THE ORPINGTONS**

Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeders' opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drenstedt, Breeder and Judge. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.

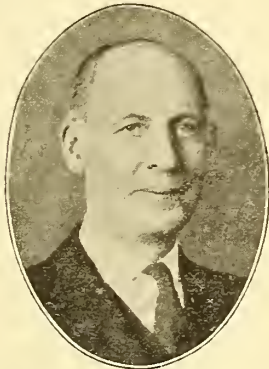
**THE CHICK BOOK**

Guide to success in rearing chicks. Experienced poultry raisers furnish information on all problems connected with the breeding, rearing, developing and fattening of chicks. Article and chart on line breeding. The day-old chick business, etc. 80 pages, 9x12, illustrated. Price, 50c. Address Poultry Keeper, Quincy, Ill.

## THE HORNER POULTRY FARM

One of the best situated poultry farms around here is that of E. G. Horner at Twenty-eighth and Broadway, Quincy, Ill. In building, Mr. Horner was guided by years of experience and study with the result his plant is modern and practical in every way. His pens face the south and the extra lots which he owns gives plenty of range and shade that is so much desired.

Mr. Horner's specialty is Rhode Island Reds and his birds have always been prize winners at the State Fair and also the Quincy Shows. This is saying a great deal for the competition is always warm at both of these shows.



E. G. HORNER.

Mr. Horner's flock this year is exceptionally fine. His young stock is true to type and has splendid color and markings. His eggs were strong in fertility last spring with the result his customers have fine stock also. We feel safe in saying to Poultry Keeper subscribers that we never saw a nicer flock of young stock than Mr. Horner now has in his pens.

He is offering some of his old birds for sale—birds that will carry the ribbons right with them and which should be valuable for those wishing some good stock as a foundation for their flock. Write him for prices on both old and young stock.

## SPLENDID BARRED ROCKS.

We want to call particular attention to the ad of E. J. Barth in this issue. Mr. Barth has bred barred rocks for more than twenty years and his birds have always been winners at the Quincy and St. Louis Shows. Mr. Barth's birds are bred for laying as well as exhibition.

They are money makers the year round. We know Mr. Barth personally and know that he strives to give satisfaction in every case. Write him for prices and full particulars. His address is E. J. Barth, R. 1, Quincy, Illinois.

## BARTH'S BARRED ROCKS

Healthy, vigorous, farm-raised stock that will win in hot competition. Both light and dark marking. Satisfaction guaranteed. Prices reasonable.

E. J. BARTH, R. 1,

Quincy, Illinois.

## BREAKS EGG RECORD—SAVES FEED

100 Hens Laid from 200 to 304 Eggs in One Year. 75 Hens Made a Cash Profit of \$6.15 Per Hen in Nine Months. Flock of 160 Earned \$1,392.67—a cash net profit of \$976.67. All these fed and cared for under personal direction of Prof. T. E. Quisenberry. Tells How he did it.

How would you like to make a clear profit of \$6 to \$10 per year from each of your hens? If you knew how to care for and feed your hens to make each lay from 200 to 304 eggs per year, you would make a great deal more than that, as egg prices will average higher this year than ever. You will make big money if your hens only lay from 150 to 190 eggs each—that is, if you do not waste feed by misfeeding methods.

Prof. Quisenberry made a profit of \$6.15 per hen from 75 layers during the past nine months. Another flock of 160 on the American Poultry Experimental Station cleared him \$976.67 in ten months. Besides increasing egg yields and breaking world's laying records, he actually saved feed, thereby further increasing net profits. Improper feeding methods always result in fewer eggs, wasted feed—loss and disappointment.

Officially recognized as one of the world's very greatest poultry authorities and most successful poultry farmers, Mr. T. E. Quisenberry, whose post office address is Department 4013 Kansas City, Mo., has just published a 16-page bulletin on

"How to Get More Eggs and Save Feed." He will give one of these bulletins to readers of Poultry Keeper who write him before they



Lady Victory, hen No. 1101, broke world's record in American Laying Contest by producing 304 eggs in 12 months.

are all gone. Don't delay. Send no money. In fact a post card will do. This bulletin tells how to feed breeders and layers to hasten the moult and prepare them for laying quickly.

## POULTRY HOUSES AND FIXTURE

Brand new edition—right down to date. Locating and planning houses—principle of poultry house construction—Back yard poultry houses and many other subjects, suggested by the title of the book. Over 200 illustrations. Price, \$1.00 postpaid. Address Poultry Keeper, Quincy, Ill.

## BUCKEYE SALES PASS THE MILLION DOLLAR MARK!

(CONCLUDED FROM PAGE 3)

their friends how much easier it is to raise chicks with a "Standard" Coal-Burning Brooder, and how much faster the chicks will grow.

We all realize that "Standard" Brooders have been the means of saving millions of chicks during the past five months, but at the same time it is a mighty fine thing to have our satisfied customers talking about it, instead of having to do so much talking about it ourselves.

## Buckeye Brooders

The demand for Buckeye Oil-Burning Brooders during the past season showed a very substantial increase, and on the whole they gave excellent satisfaction. We did have some lamp trouble reported, however, from a few sections where

the refiners were distributing low-grade kerosene. When high-grade Kerosene was used, however, these wonderfully efficient little brooders have proven to be eminently satisfactory.

We learn that the new method of extracting gasoline from the crude oil is responsible for the low-grade kerosene which is now on the market in certain sections, and since we have no way of preventing the sale of low-grade kerosene, we found it advisable to change the construction of the lamp-chamber on these brooders so they might be operated with reasonable security when low-grade kerosene is used.

The new construction to which we refer separates the lamp-bowl from the burner entirely, and even when the highest-grade kerosene is used, we would consider the new construction to be highly desirable. As a matter of fact, we think so much of this improvement that we have applied for a patent on it and expect to make it one of the exclusive "Buckeye" features.

## DUCKS AND GEESE

A complete guide to profitable Duck and Goose rearing. Articles by foremost breeders. Complete instructions on breeding, rearing, feeding, housing, marketing and exhibiting these profitable fowls. 104 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

# POULTRY KEEPER

520 Hampshire Street.  
Quincy, Illinois.

Issued the First of Each Month.

A Journal for Everyone Interested in Making Poultry Pay.

## Subscription Price:

Fifty Cents a Year; Single Copies 5c.  
Foreign Postage; Thirty-six Cents a Year  
Additional.  
Quincy, Ill., delivery, 75c; R. F. D., 50c.  
Canadian subscription 75c, a year.

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Remittances should be made by Draft,  
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Poultry Keeper.

Advertising rates made known on applica-  
tion.

Poultry Keepers readers are cordially invited  
to express their opinions on any subject of  
poultry that will be of interest to our readers,  
give helpful talks to the inexperienced and ask  
questions in any department.

A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## RAISING HEALTHY CHICKENS

To be successful in raising chickens it is necessary to have healthy and vigorous breeding stock, for the lack of vigor in the newly hatched chicks is often traceable to weak parents. Only the most vigorous and the best grown birds should be put in the breeding yards. Each bird should be full of life and energy and free from any serious deformity. Yearling hens are usually better than pullets for breeders, for the reason that the hens are more mature and do not lay so many eggs during the early winter, and consequently do not reduce their vitality so much before the breeding season. Vigorous hens 2 to 4 years old can often be advantageously retained in the breeding yard. The male bird chosen should be young and active. An early hatched well-developed cockerel is usually satisfactory, or a good vigorous yearling or 2-year-old cock may be chosen. The hens used for breeding purposes should be given best care possible; they should be provided with large runs, and should not be forced for heavy egg production during the early winter.

## FEEDING FOR EGGS

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

# 160 HENS AVERAGE 180 EGGS IN 10 MONTHS



Professor R. F. Palmer—American  
Poultry School, Kansas City, Mo.

Can a living be made from Poultry? One hundred and sixty hens during a period of ten months, from November first 1918 to September first 1919, made a clear profit above feed, all of which was bought at high retail prices, of \$.326 per day.

Here is an example, dear reader, of what can be accomplished for a long period of ten months—a period which includes the three coldest months, and the three hottest months. This is your answer. This is positive proof that two, three, five hundred or more hens, if properly housed and cared for and if fed good plain wholesome grains, mixed up and proportioned correctly, will make any man or woman—any family, a good living and provide a healthful occupation, besides one can have the pleasure of knowing he is building a business and a steady income for himself.

These one hundred and sixty hens were young pullets last fall. They started laying in November. Every pound of food they consumed was charged against them. Every egg of marketable quality was credited to them at the regular market price for which it was sold. Since last November our market eggs have brought an average of 58 cents per dozen.

Twenty eight thousand seven hundred and ninety four marketable eggs or 2,399 and 1/2 dozens were produced by the one hundred and sixty hens in ten months. \$1392.67 was received for these eggs. The actual cost of all food consumed by these 160 hens in the ten months was \$45.00 which left a net profit

over feed cost of \$976.67 for ten months.

It cost 26 cents per month or almost one cent per day to feed each of these hens. Against this the average earning per day from eggs sold was two and two thirds cents per hen, or a clear net profit, for each day of the ten months of over two cents.

The food given the flock of hens was bought at retail and was mixed and proportioned by us so that each hen secured food that could be made into an equal number of egg yolks and egg whites. In this manner no food was wasted and we could maintain the hen in better health.

Over fifty different breeders from all sections of the United States, Canada, and three foreign countries own one or more of the 160 hens. Thus they represent no one line of breeding, no one strain. In fact this flock of 160 hens is made up of ten different varieties which are represented in the American Egg Laying contest conducted by the American Poultry School at it's poultry Farm and Experiment Station in Leavenworth, Kansas.

The feed formula for these hens is the best known to Prof. T. E. Quisenberry and differs slightly from time to time depending only upon the changing in price of one article of food stuff or another as we aim always to use a ration as low in cost as possible and still one that balances out to an equal number of yolks and whites.

A White Leghorn hen from Pennsylvania took the lead for individual honors up to date by the scant margin of one egg over the White Orpington hen from Ohio. The latter has produced 249 eggs in ten months while the record of the former is 250.

The best layer for the month of August was a White Leghorn from Nebraska which made a perfect score of 31 eggs, however, she was closely pressed by several, each with a monthly record of 30 eggs.

White Leghorns lead in pen record of five females for ten months. Their best record being a pen from Pennsylvania with a production of 1117 eggs. This pen is closely followed by a White Leghorn pen from Washington with a record of 1115 eggs. The high record for a pen of other varieties is held by five White Wyandottes from Canada. Their record to date is 938 eggs.

A pen of Mottled Anconas layed 113 eggs; a pen of White Leghorns 124 eggs and a pen of White Wyandottes 101 eggs in August. None of the other varieties had a pen in the contest that passed the 100 mark for the month. There are three hens in this contest with splendid chances of reaching or passing the 300 egg mark. All these are still in splendid condition and laying strong.



MRS. HARTMAN SELLS.

We have just received word that Mrs. Joe Hartman, Loraine, Illinois well-known breeder of S. C. Buff Orpingtons, has sold her flock to Edward Witt, Sidney, Illinois.

Mrs. Hartman writes that this year's stock appears to be the finest she has raised. Already some of her cockerels only six months of age weigh practically nine pounds, and have splendid type and color. Some of her pullets of the same age weigh almost seven pounds and are ready to come into laying and are a promising lot of young birds.

Mrs. Hartman's birds have always been winners and she hatches and raises every bird she shows. She has entered birds in Quincy and also



MRS. JOE HARTMAN

in Chicago, since 1912, and has never failed to come home with her share of blue ribbons. Some years she wins as high as three firsts out of five entries. She won Grand Champion in 1915, best shape and best color specials. She won also diploma of distinction in A. P. A. for best cock in the show.

She entered one young pen and one single pullet at the Illinois State Fair this year and won first on both.

Breeders of Single Comb Buff Orpingtons will do well to look at the ad of Edward Witt in this issue. Mrs. Hartman has been a consistent advertiser in Poultry Keeper and we hear nothing but praise from our subscribers who purchase stock or eggs from her. It is the purpose of Mr. Witt to continue this policy and we want to commend him highly to our readers.

ENCOURAGE LAYING HENS TO TAKE EXERCISE FREELY

During the spring season fowls having free range get abundant exercise. Close confinement without exercise is not conducive to the best results, although the feed provided may be the best, for idle hens soon grow too fat to lay. It is almost impossible to give laying hens

# MOULTING HENS



Don't let nature take its own time to revive the dormant egg organs after the moult. Feed a tonic. Dr. Hess Poultry Pan-a-ce-a will start your pullets and moulted hens to laying promptly. It contains Nux Vomica and Quassia—tonics that promote digestion and tone up the dormant egg organs. It has iron for the blood and internal antiseptics. It makes poultry healthy—helps to make hens lay.

Buy Pan-a-ce-a according to the size of your flock—a penny's worth for each hen, to start with. The dealer will return your money if it does not do what we claim. 30c, 75c and \$1.50 packages. 25-lb. pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

**Dr. HESS & CLARK, Ashland, Ohio**

## DR. HESS POULTRY PAN-A-CE-A



**My Victory Strain of Barred Rocks Continue to Win.**

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

**Eggs** From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices. Write for what you want.

**J. T. FRENCH, 838 West Grove Place, Toledo, Ohio**

which are confined too much exercise. The fowls may be encouraged to exercise in various ways, such as feeding corn on the cob, suspending cabbage heads, beets, etc., so that the birds have to jump for them, and scattering grain in the litter. The litter should be from 4 to 8 inches deep, and may consist of straw (either cut or whole), hay, leaves, buckwheat hulls, shredded corn fodder, or any convenient material of this nature. The hens should be kept hungry enough so that they will work diligently all day for the grain scattered in this litter, which should be removed whenever it becomes damp or soiled.

**"OCULUM OVERCOMES PREJUDICE**  
Says Everybody's Poultry Magazine Publishing Co.

Hanover, Pa., Aug. 14, 1919.  
Mr. H. H. Winget, York, Pa.

Dear Sir—Your letter received. Would suggest you write to the H. I. Co., Inc., Salem, Va., for their circulars describing "OCULUM." This remedy has been on the market for several years and at first we, like many others, were a little skeptical as to the results guaranteed by its manufacturers, but this prejudice



**OLD TRUSTY INCUBATORS & BROODERS**

Used successfully by over 800,000 owners. Write for "Poultry Know How" Catalog. H. H. Johnson, "Incubator Man" M. M. Johnson Co., Clay Center, Neb.

has been battered down, and we now are firm believers in "Oculum" and all that its manufacturers claim for it.

Yours very truly,  
Everybody's Poultry Magazine Publishing Co.

Send 10c and the Company will mail you enough for 240 feeds.

**THE WYANDOTTES**

A complete text book and instructive treatise. Tells how to select breeders and how to mate for best results. Care, feeding and management fully discussed. Edited by J. H. Drenstedt, breeder and judge. Three color plates by F. L. Sewell. 160 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.

Pure-bed poultry means uniformity of products. Uniformity of products means increased profits, if products are properly marketed.



1st Cock, New York

# FERRIS WHITE LEGHORNS

BRED 20 YEARS  
FOR

EGGS AND EXHIBITION



1st Cock, Chicago

**ORDER NOW**—The prices quoted in this ad apply only for stock purchased for shipment not later than October 31. After that date the prices of all grades of heavy laying stock will be increased about \$1.00 for hens and pullets and about

### LAYING STOCK

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers. We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

#### We Ship C. O. D. and On Approval

We ship on approval, allowing you to return within three days any birds that are not entirely satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them send us enough money to guarantee express charges one way and we will ship C. O. D. with privilege of examination. \$1.00 will cover the express charges on a single bird, \$2.00 on a trio or pen of five, and \$3.00 on ten or twelve birds.

#### Laying Pullets for September and October Delivery

Thousands of pullets from our heavy laying strains are now ready for shipment. These pullets will more than pay for themselves this fall and winter and will make splendid breeders next spring. Following prices for September and October only:

|                       | 200-230 Strain | 230-264 Strain |
|-----------------------|----------------|----------------|
| 12 Pullets . . . . .  | \$45.00        | \$50.00        |
| 25 Pullets . . . . .  | 90.00          | 95.00          |
| 50 Pullets . . . . .  | 170.00         | 185.00         |
| 100 Pullets . . . . . | 325.00         | 365.00         |

#### Yearling Hens for Laying and Breeding

We have several thousand hens of unusual quality to sell at very reasonable prices. Place your order now and let us reserve the number you want. Prices for September and October only:

|                    | 200-230 Strain | 230-264 Strain |
|--------------------|----------------|----------------|
| 12 Hens . . . . .  | \$40.00        | \$50.00        |
| 25 Hens . . . . .  | 80.00          | 95.00          |
| 50 Hens . . . . .  | 150.00         | 185.00         |
| 100 Hens . . . . . | 285.00         | 365.00         |

#### Early Cockerels and Cock Birds

Hundreds of choice cockerels, March hatched, from our very best matings, will be disposed of this fall at the following prices. Also a number of yearling cock birds that we have used in our breeding pens at the same prices—from 200-230 strain, \$7.00, \$8.00 and \$10.00. From 230-264 strain, \$10.00, \$15.00 and \$20.00.

**\$2.00 each for males.** Breeding and laying stock will be scarce next winter, for eggs will be so high that it will not pay to sell the layers. It will pay you to buy now—and buy all you have room for. The prices quoted in this ad are considerably less than the birds are worth but we need the room.

### EXHIBITION STOCK

We can furnish cocks and cockerels hatched directly from our Chicago Coliseum winners at \$25.00 and up. Hens and pullets, \$12.50 and up. These birds will win anywhere. They have splendid low tails, good heads, wonderful shape in every section and pure white plumage. We have hundreds of early hatched cockerels and pullets to select from. For several years Ferris Leghorns have been winners at the Chicago show, winning in 1915 three firsts and numerous other prizes, including Silver Cup for best display and silver cup for five best cockerels. In 1916 we won all specials, all first and second prizes, and in 1917 we won three first prizes and sixteen other prizes. In December, 1918, we won first, second and fourth old pens, second and fourth young pens, first cock and silver cup for best display, so no matter where you wish to show, we have the birds that will win for you. To demonstrate conclusively the superior show qualities of Ferris Leghorns, we exhibited at eight large shows last season, winning 29 first prizes and 69 other prizes—a total of 98 prizes.

Every cockerel and pullet that we have this fall is sired by one of the 20 following Blue Ribbon males:

- 1st cock, New York, 1919.
- 1st cock, Chicago, 1918.
- 1st cock, South Bend, 1919.
- 1st cockerel, South Bend, 1919.
- 1st cockerel, Grand Rapids, 1919.
- 1st pen cock, South Bend, 1919.
- 1st cock, Grand Rapids, 1919.
- 1st cockerel, Chicago Coliseum, 1917.
- 1st cock, Chicago Coliseum, 1917.
- 1st cockerel, Grand Rapids, 1917.
- 1st cockerel, West Mich. State Fair, 1917.
- 1st Cock, Missouri State Fair, 1918.
- 1st cockerel, Michigan State Fair, 1918.
- 1st cock, Michigan State Fair, 1918.
- 1st cockerel, South Bend Fair, 1918.
- 1st cockerel, West Mich. State Fair, 1918.
- 1st cock, West Mich. State Fair, 1918.
- 1st cock, Tennessee State Fair, 1918.
- 1st cockerel, Tennessee State Fair, 1918.
- 1st cock, Chicago Coliseum, 1918.
- 1st pen cock, Chicago Coliseum, 1918.

### Eggs and Chicks

We have several pens of our choicest exhibition stock now mated on our Florida farm. If you want eggs or chicks this fall or early in the winter before our northern pens are mated, remember we can supply them promptly. Write for prices and particulars.

### Eight-Weeks Pullets

We will have 1,000 8-weeks pullets a month for shipment in December, January and February. These pullets, hatched on our Florida farm this fall, can be shipped safely to any part of the United States. From 230-264 strain only, 10 pullets, \$35.00; 100 for \$300.00. Book your order now.

### THOUSANDS OF CUSTOMERS ARE GETTING RESULTS LIKE THIS:

May 6, 1919.  
From the stock we got of you last season we have 201 pullets, and during April they laid 5,250 eggs, an average of 175 per day. We have several pullets that tested better than 260 eggs. I don't believe the Leghorns exist that can beat Ferris Leghorns.

MYRON FULLER, Jackson, Mich.

May 22, 1919.  
I have 100 Ferris birds now that have netted me \$299.87 in the last 8 months. These hens are now laying over 60 eggs a day.

C. A. ROBBINS, Batavia, N. Y.

July 9, 1919.  
I got 10 pullets from you last fall and I have one that laid one egg on Sunday, two on Monday, two on Thursday, one on Friday and two on Sunday. I did not believe my wife, but I was home Sunday and caught her in the nest. I have all trapnests.

OTTO LEHNHARDT, Detroit, Mich.

May 1, 1919.  
My 50 Ferris hens laid 1,061 eggs during April. Sold at 43¢ a dozen—\$38.00. Feed cost, \$11.25. Profit, \$26.75.

G. H. TINKHAM, Willow Springs, Ill.

March 15, 1919.  
Last year I made a clear profit of \$145.00 on 31 Ferris Leghorn hens. In December I got 480 eggs.

ERNEST THOMAS, San Antonio, Tex.

### Fall Eggs and Chicks

We can ship eggs and day-old chicks any time this fall and winter from our Florida farm. Eggs from 230-264 strain are \$5.00 per 15, \$25.00 per 100, \$200.00 per 1,000, by parcel post or prepaid express. Shipped safely anywhere in United States. Day-old chick prices are \$13.50 for 25, \$50.00 per 100, \$400.00 per 1,000, postpaid. We can ship safely to any part of the south, including Texas, and to any of the northern states east of the Mississippi.

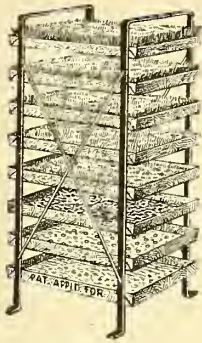
### THIS FREE CATALOG TELLS THE WHOLE STORY

Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla. Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. A postal brings it.



**GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICH.**

**STEVENS**



**Evergreen Oats Sprouter**

All Metal Lamless

- 8 Pan 11x15 in. \$5.00
- 5 Pan 11x15 in. \$4.25
- 8 Pan 11x30 in. \$8.75
- 5 Pan 11x30 in. \$6.75

Guaranteed to please. Order direct from this adv. or get our circular. Dealers and Agents wanted.

H. A. Stevens & Co.,  
Aurora, Ill.

**QUINCY SHOW**

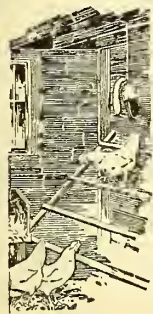
The thirteenth annual exhibition of the Quincy Poultry Association will be held in the Armory at Quincy on November 25th to 30th, 1919, with J. C. Johnston and D. E. Hale as judges. We are opening a day earlier than formerly in order to release Judge Johnston for his judging engagement at the Coliseum. Judge Johnston will judge all Barred Rocks, Single Comb White Leghorns, White Rocks and Single Comb Reds before his departure.

**NEW ZEALAND, RED RABBITS AND RUFUS RED BELGIAN HARES**

Eight page pamphlet on rabbits free  
J. E. JOHNSON,  
Marionville, Missouri.

**TRY THE NEW WAY TO KILL LICE**

NO DUSTING, NO DIPPING, NO PAINTING, HANG UP THE BOTTLE.



"Enclosed please find money order for another bottle of LICECIL. I find it the best and easiest to use. My birds were lousy when I put LICECIL in the house, but they were soon free from pests. I wanted to make sure so put other lousy birds in the same house with the same results. That is good enough for me."

George W. Goode,  
Thornton, Wash.  
Likes It Very Much.  
Lacey, Iowa.

Gentlemen: Please find enclosed \$2.00 for three bottles. Have used one bottle and like it very much.

Everett E. Whitehill.

**HOW TO USE LICECIL**

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. WILL NOT INJURE CHICKS.

Bottle, 75c; 3 bottles for \$2.00. Prepaid. Money Back if it fails.

AMERICAN SUPPLY COMPANY,  
Dept. Quincy, Ill.

Judge Hale will judge the rest. Other judges will be hired in the event of larger classes.

Quincy is well known as the best sales show in this territory and we challenge any association to give the breeder any better treatment than he receives here. Besides the regular cash prizes we will again give \$10.00 in gold to winner of best displays in all varieties, and we will again distribute free official and marked catalogs to everybody.

We are cooperating with the Adams County Farm Bureau and will put on a big corn show in connection with our poultry show; also a rabbit repartment with C. S. Gibson of Detroit as judge. Put Quincy on your list. We won't have to ask you the second time. You will be anxious to show here.

Whether you attend the show or not send your birds. You are sure of a square deal whether you show one bird or 100.

Catalog will be ready October 10th. Be sure to write A. D. Smith, Sec'y., Quincy, Ill., for copy.

**POULTRY AT ILLINOIS FAIR**

The Illinois State Fair poultry department, just closed was the greatest exhibition of poultry ever caged at the fair. Over 2,000 head of top notch quality was shown and the judges gave perfect satisfaction. The Rocks, Reds, Wyandottes and Orpingtons were out in good numbers and exhibitors were busy selling birds all the time.

Breeders in Illinois will eventually wake up to the fact that the State Fair is a real sale place, and eradicate the idea from your mind that the buyers want cheap birds. The writer sold birds as high as \$50 a piece. For exhibitors \$15 to \$25 for birds was common. The Funk Farm alone sold over \$500 worth of Leghorns. Even geese, ducks and turkeys were in good demand.

At the summer meeting of the Illinois State Poultry Association, Mr. P. Sciarra, proprietor of Hillview Farm, knowing how hard the State Association was working to get an experimental farm started for poultry in Illinois made the association an offer to furnish the land, buildings and equipment for a genuine egg-laying contest for standard bred poultry. Needless to say his most generous offer was accepted and committees formed to have plans made and a full report made at the annual meeting held during the State Show at Galesburg, Ill., January 6th to 10th, 1920.

The State meeting of the Single Comb Rhode Island Red Club was held the same day and the members voted unanimously to hold the State Meet at the State Show. Six beautiful silver cups were donated, one for best cock, hen, cockerel, pullet and young pen. These are donated

**CLASSIFIED ADVERTISING**

The classified advertisers in POULTRY KEEPER are coining money fast this year. This is what one of them says:

My \$3.00 ad. in your classified department last spring sold 1800 eggs. P. K. leads them all.

GROVER DEEGE.

We could quote you dozens, yes hundreds of others, but believe these will prove to you that classified advertising in POULTRY KEEPER pays. The reason is we guarantee thirty thousand circulation every issue, but actually print thirty-five to forty thousand copies per issue, thus giving you more than your money's worth.

It pays to keep your announcement before the people. That is the way to establish a reputation for your business. Why not go after the people, get good prices, and make more money this year?

**RATES:**

Rates for Ads. Classified Under Proper Headings Are as Follows:

|          |              |
|----------|--------------|
| 1 month  | 5c per word  |
| 2 months | 9c per word  |
| 3 months | 12c per word |
| 4 months | 15c per word |
| 1 year   | 36c per word |

**ANDALUSIANS**

**S. C. BLUE ANDALUSIANS.** First at St. Louis, Chicago and Peoria. Show-birds and breeders for sale. \$3.00 to \$50.00. G. F. Kramper, St. Libory, Ill. 10-3

**BUCKEYES**

**BUCKEYES—230 EGG RECORDS.** Mahons and Deems blood. Cockerels, \$2.25 each. W. G. Yearly, Granite Falls, Minn. 9-2

**MINORCAS**

**SINGLE COMB BLACK MINORCA** Cockerels for sale. Bred from heavy layers and grand champion male, Ill. State Minorca meeting, Grover Deege, 815 Jefferson, Quincy, Ill 6-12

**LANGSHANS**

**BIG BLACK LANGSHANS,** greatest laying strain, utility and show stock. Guaranteed to suit. H. Osterfoss, Hedrick, Iowa. 10-12

**WHITE LEGHORNS**

**275-288 EGG WHITE LEGHORNS.** Early hatched, vigorous cockerels and pullets that will make splendid breeders for coming season. Ernestine Bott, Brighton, Ill., Box 5 10-3

**YOU WANT HIGH EGG PRODUCTION.** My pedigreed and trap-nested S. C. W. Leghorn males are guaranteed to increase your egg production or your money back. M. M. Jacobs. Dept. K, Fairbury, Ill. 10-3

**BARGAIN—** Blanchard-Wyckoff Single Comb White Leghorn breeders: \$1.25 each. worth \$2.00. Prospecthill Farm, Glen Ellyn, Ill.

**PURE BRED FERRIS STRAIN** S. C. White Leghorn Cockerels, \$1.50 each. Mrs. Harry Moler, Owanoco, Ill. 9-2

**BUFF LEGHORNS**

**"BUSINESS BEAUTY" BUFFS—**Extra layers, large white eggs. Outbred, pedigreed. Breeders mature hens, choice males, catalog. Joseph Benedict, Chevy Chase, Maryland.

**EGGBRED BUFF LEGHORNS,** (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

**SINGLE COMB BUFF LEGHORN** cockerels. Fine, healthy, solid golden buff birds. Prices reasonable. Arthur Worthington, R. 3. Two Rivers, Wis. 9-4

**ILLUSTRATED BREEDERS CARDS**

Ads. inserted under their respective headings and illustrated with a cut of the breed. **RATES:** Eight cents a word per insertion. Four months or longer, six cents a word per insertion. No illustrated breeder cards accepted that contains less than 30 words.

**BREEDER'S CARDS**

**BROWN LEGHORNS**

**KULP'S BIG ROSE COMB** (260) and Single Brown, 260 records, Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

**KULP, 260 EGGS** R. C. Brown Leghorn cockerels, \$2.00 each. W. G. Yearly, Granite Falls, Minn. 9-2

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A word about Galesburg where the next show will be held will be of interest to all breeders. The association is a live, hustling aggregation of poultry breeders, headed by Mr. Hawkinson, Galesburg's mayor; A. J. Lieber, president of the association; P. W. Ballard, the White Breeder; Earl Emery, John Bridges, E. L. Kelly, Wm. Boutelle, city clerk, and a host of others and all are working hard that the next Illinois State Show will be larger than any ever held.

The White Rose Club, Buff orpington Club, White Wyandotte Clubs have already accepted our offer and will meet at Galesburg, and all Specialty Club secretaries are requested to write A. D. Smith, Quincy, Ill., for their offer.

Judges for the State Show are J. C. Johnston, D. E. Hale, Geo. Heyl, J. A. Leland, O. L. McCord, D. T. Heimlich and others.

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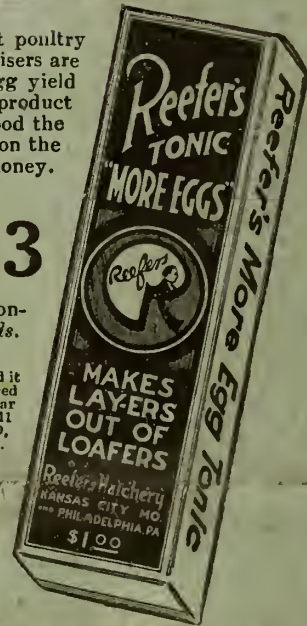
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Vol. XXXVI

NOVEMBER, 1919

No. 8.

## Poultry Keeper Calendar

Poultry Keeper this year will put out a fine art calendar. The illustration is an army and navy girl drawn by that noted artist, Earl Christy. It is a work of art that will be appreciated by everyone. Send this notice with fifty cents for a new or renewal subscription and a copy of this calendar will be sent you free of charge. Address Poultry Keeper, Quincy, Illinois.

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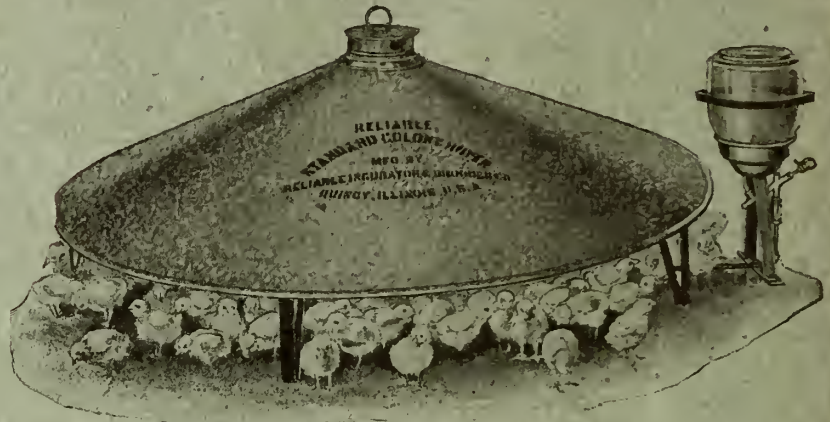
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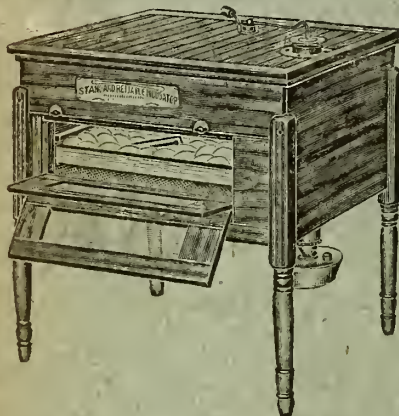
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IN MAKING  
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VOL. XXXVI.

NOVEMBER, 1919.

No. 8

## Standard Bred Poultry

### Characteristics of the Meat Breeds

We realize that Poultry Keeper is read by a great many breeders who are not raising standard bred poultry. We are of the opinion that there is much more profit in standard bred than in mongrel stock. In order to bring the characteristics of of the various breeds prominently to the attention of our readers, we are going to publish a series of articles from the standard varieties of chickens with every variety illustrated.

The breeds of chickens included in the Asiatic, English, and French classes are in the main of a relatively large size, and have been developed primarily as meat breeds. They are not so commonly kept in this country as either the general-purpose or the egg breeds. The best known meat breeds in the United States are those of the Asiatic class. However, the breeds of the English and French classes, while averaging somewhat smaller in size than those of the Asiatic class, were developed for their table qualities and therefore are popularly grouped among the meat breeds. In the opinion of many persons the Sussex and Orpington breeds, both English, are general-purpose breeds. The Orpington, in particular, is a fairly common and popular farm fowl in the United States.

The best known section of the United States in which large table fowls of superior quality are produced in considerable quantities is the South Shore district of Massachusetts, near Boston.

The chicks are hatched in the fall or early winter, and both males and females are grown to a good size and marketed as South Shore roasters. The males usually are caponized, but are marketed as roasters rather than capons, and the pullets are marketed before they begin to lay.

In size the meat breeds average larger than the general-purpose breeds, such as the Plymouth Rock, and these in turn are larger than the egg breeds. The larger breeds and varieties of the meat

class in particular are somewhat more phlegmatic in temperament and are comparatively easy to keep confined. When given their freedom they do not range so far and are not so good foragers as

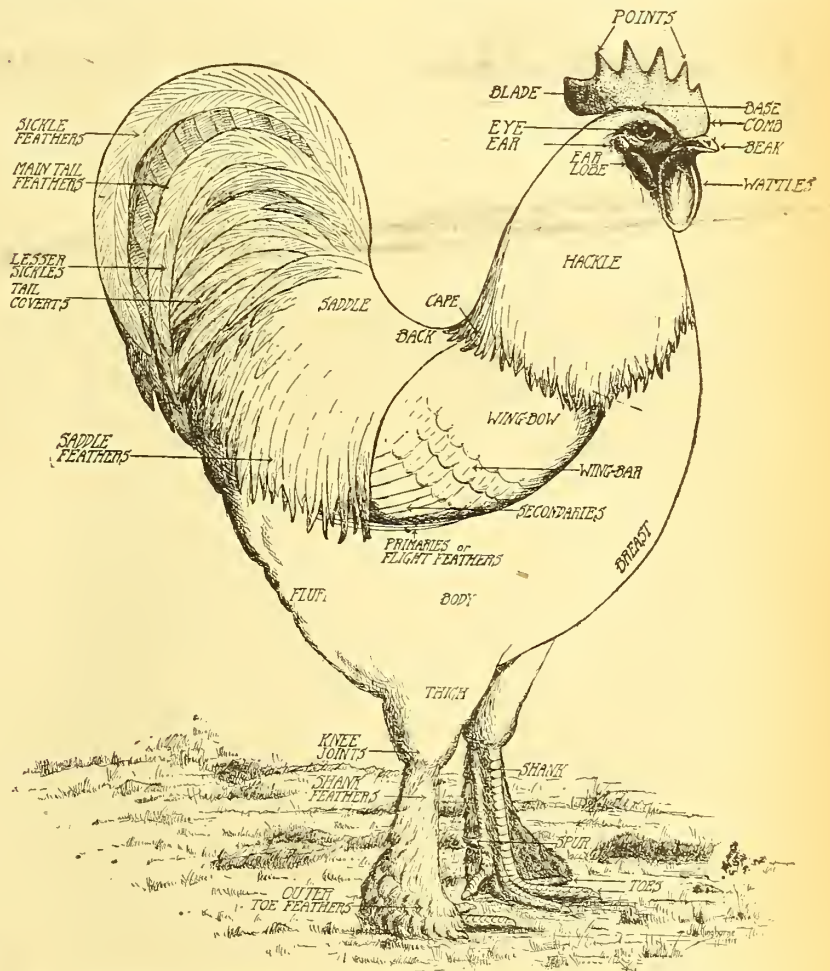


Fig. 1—Glossary Chart giving the names of the various sections of a male fowl.

either the general-purpose or the egg breeds. The meat breeds also mature more slowly than the smaller breeds. There is a decided tendency for them to become too fat, as is also the case with some of the general-purpose breeds, which necessitates careful feeding to prevent excessive weight. All grain should be fed in a litter of straw or other scratch material, to make the hens scratch for it and thereby exercise.

All the meat breeds except the Red Cap, La Fleche, Crevecoeur, and Houdan are sitters and make good mothers. Some of those with feathered legs, however, are inclined to be clumsy and are apt to step on their chicks. All these breeds lay brown-shelled eggs except the Red Cap and the Dorking, which lay white or tinted eggs, and the La Fleche, Chevecoeur, and Houdan, which lay white eggs.

Some of the breeds have feathered shanks or toes, some are clean-legged, some have yellow skins and legs, and still others have white skins and legs.

**Breeds and Varieties**

Following are the standard breeds and varieties of meat fowls:

Standard breeds and varieties of meat fowls.

**Asiatic Class**

| Breed.               | Variety | Standard weight. |                 |                           |                   |
|----------------------|---------|------------------|-----------------|---------------------------|-------------------|
|                      |         | Cock.<br>Pounds. | Hen.<br>Pounds. | Cock.<br>erel.<br>Pounds. | Pullet<br>Pounds. |
| Brahma.              |         |                  |                 |                           |                   |
| Light                | .....   | 12               | 9½              | 10                        | 8                 |
| Dark                 | .....   | 11               | 8½              | 9                         | 7                 |
| Cochin.              |         |                  |                 |                           |                   |
| Buff                 | .....   | 11               | 8½              | 9                         | 7                 |
| Partridge            | .....   | 11               | 8½              | 9                         | 7                 |
| White                | .....   | 11               | 8½              | 9                         | 7                 |
| Black                | .....   | 11               | 8½              | 9                         | 7                 |
| Langshan.            |         |                  |                 |                           |                   |
| Black                | .....   | 9½               | 7½              | 8                         | 6½                |
| White                | .....   | 9½               | 7½              | 8                         | 6½                |
| <b>English Class</b> |         |                  |                 |                           |                   |
| Dorking.             |         |                  |                 |                           |                   |
| White                | .....   | 7½               | 6               | 6½                        | 5                 |
| Silver-gray          | .....   | 8                | 6½              | 7                         | 5½                |
| Colored              | .....   | 9                | 7               | 8                         | 6                 |
| Red Cap              | .....   | 7½               | 6               | 6                         | 5                 |

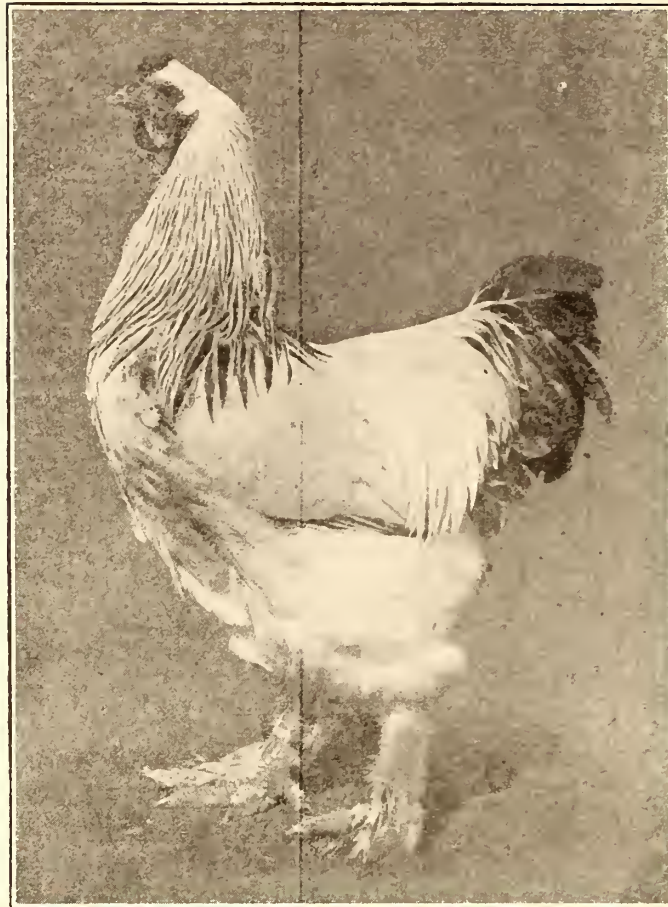


Fig. 2.—Light Brahma Male.

|                     |       |    |    |    |    |  |  |
|---------------------|-------|----|----|----|----|--|--|
| Orpington.          |       |    |    |    |    |  |  |
| Buff                | ..... | 10 | 8  | 8½ | 7  |  |  |
| Black               | ..... | 10 | 8  | 8½ | 7  |  |  |
| White               | ..... | 10 | 8  | 8½ | 7  |  |  |
| Blue                | ..... | 10 | 8  | 8½ | 7  |  |  |
| Cornish.            |       |    |    |    |    |  |  |
| Dark                | ..... | 10 | 7½ | 8  | 6  |  |  |
| White               | ..... | 10 | 7½ | 8  | 6  |  |  |
| White-Laced Red     | ..... | 8  | 6  | 7  | 5  |  |  |
| Sussex.             |       |    |    |    |    |  |  |
| Speckled            | ..... | 9  | 7  | 7½ | 6  |  |  |
| Red                 | ..... | 9  | 7  | 7½ | 6  |  |  |
| <b>French Class</b> |       |    |    |    |    |  |  |
| Houdan.             |       |    |    |    |    |  |  |
| Mottled             | ..... | 7½ | 6½ | 6½ | 5½ |  |  |
| White               | ..... | 7½ | 6½ | 6½ | 5½ |  |  |
| Crevecoeur—Black    | ..... | 8  | 7  | 7  | 6  |  |  |
| La Fleche—Black     | ..... | 8½ | 7½ | 7½ | 6½ |  |  |
| Favorolles—Salmon   | ..... | 8  | 6½ | 7  | 5½ |  |  |

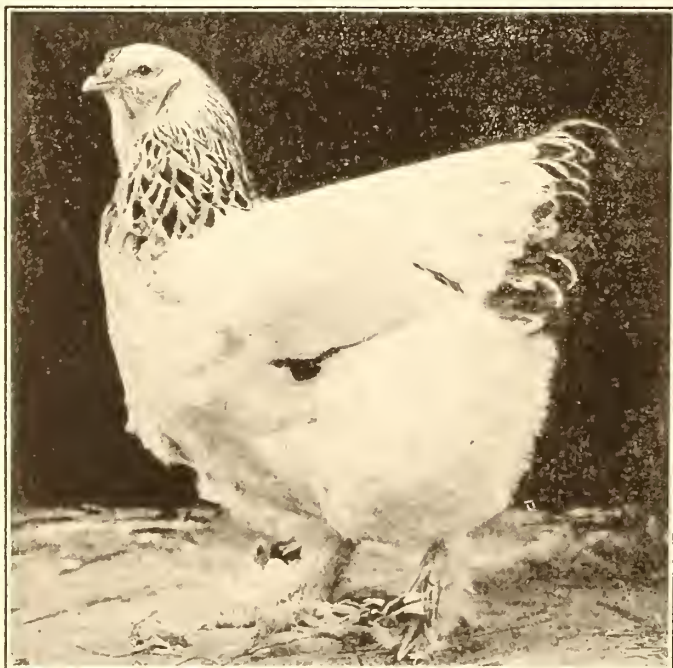


Fig. 3.—Light Brahma Female.

In describing these breeds and varieties it is the intention to give only a general statement of their appearance and characteristics. For a detailed description of standard exhibition specimens the reader is referred to the American Standard of Perfection, a book published by the American Poultry Association, which is the guide used in judging at all poultry shows in the United States. The breeds are discussed here in the order in which they appear in the American Standard of Perfection. (The Poultry Keeper will fill orders for this book at the regular price, \$2.50).

**Brahma**

The Brahma is one of the oldest standard breeds in this country. It is of Asiatic origin and was first imported into the United States from India. This breed has been kept and bred more extensively in New England than in any other section of the country.

The Brahma is characterized by its large size and by its appearance of strength and general substantiality. The body is broad and deep, and of good length. The female appears somewhat lower set on the legs than the male. The tail is car-

ried moderately low. The head has a massive appearance in both sexes, the skull overhanging the eyes. The Brahma has a pea comb, which gives the breed a characteristic appearance.

The feathering is abundant and rather loose, but still the fowl has a smooth appearance. The feathering extends down the outer side of the shanks and along the outer and middle toes of each foot. The shanks are yellow or dusky yellow and the skin is yellow. The hens lay large, brown eggs and are especially reputed as winter layers. The light variety averages a pound more in weight than the dark variety.

Light Brahma.—The Light Brahma is the variety of this breed which is best known in this country and most extensively bred. The coloring is very attractive and is the same as that of the various Columbian varieties of other breeds. In general the color is white, the hackle feathers being black with a narrow edging of white, the main tail feathers black the tail coverts black with distinct white lacings. The primary feathers of the wing are almost black, and the secondary feathers about half black, but this black is hidden when the wings are folded. The feathers of the shanks are white and black, and those of the outer toes also white and black, the black feathers being laced with white. The undercolor in both sexes is bluish slate, shading into a bluish white in the breast as the surface is approached. The standard weight of cocks is 12 pounds, hens 9½ pounds, cockerels 10 pounds, pullets 8 pounds.

(Continued in December Issue).

**FEEDING FOR EGGS**

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

**IN CULLING POULTRY, KEEP THE GOOD PULLETS**

Every well-developed, early-hatched pullet in good health is a potential egg layer. Just as there is no method of judging the speed of a horse before he has been raced, or of determining the butter-fat record of a heifer before she has freshened, so there is no accurate means of telling how many eggs the pullet will lay until she has been given a trial. T. S. Townsley says that as a rule most pullets which start laying before cold weather will lay at least enough eggs to pay for their feed

during their first laying season. All mature, vigorous pullets should be kept. Any weak, undersized, late-hatched, or deformed pullets should be culled out in the fall. Other methods of estimating the future egg production of pullets are inaccurate and their use is not advised.

The real problems in culling a poultry flock are found with hens that have finished one or two laying seasons. The general rule with pullets is to keep practically all, and with aged hens to dispose of all, but with all yearling hens and with two-year-old hens of the lighter breeds some should be sold and others

kept. To cull hens of these ages every bird must be studied to determine her value. Nature has marked the poor producer, and the poultry keeper should be able to recognize the marks. They are explained in Extension Circular 70 of the University of Missouri College of Agriculture, Columbia. The circular is free.

Subscribe for one or more Good Poultry Papers.

Egg shells, filled with plaster of paris, make first-class nest eggs.

**MAMMOTH OPERATORS—WRITE FOR THIS BOOK**

**HOW** much do your chicks cost per thousand? How much will they cost if every hand operation is eliminated in operating your mammoth? Write for this book and find out.

The wishbone cuts cost of operation unbelievably low, and yet costs substantially less than the ordinary, old fashioned mammoths. It is splendidly built to last a lifetime,—scientifically perfect, embodying all the hitherto known worth-while features of mammoths, plus five brand new marvelously efficient devices here used for the first time. It puts quantity incubating on a new basis of low-cost efficiency—eliminates all handling of eggs—leaves nothing to be done a child can't do.

*1600 to 50,000 Egg Capacities and Up*

**The 5 New Devices:**

1. Combination metal turning and hatching tray, eliminating all transferring of eggs. (See page 4 of the catalogue).
2. Device for connecting turning mechanism on third day without moving the tray or touching the eggs. (See figure 2).
3. Removable bottom, facilitating cleaning. (See page 6).
4. Construction permitting easy removal of moisture pan without tipping or spilling. (See figure 2 and 6).
5. Sectional heater with convertible firing box for coal, gas, or oil interchangeably. (See figure 10 and 11).

**WARNING**—The Wishbone is the only incubator licensed to be made under the famous patents, Nos. 1,259,726 and 1,283,402. Not only makers, but also USERS of incubators, illegally embodying devices covered by these patents are liable to prosecution. Be careful when you buy.

Harold L. Watson, Pres.

**American Incubator Manufacturing Co.**  
300 Cortlandt Street, Belleville, N. J.

**RAISE VIGOROUS CHICKS**

Editor Poultry Keeper.

I have just been reading the July number of the Poultry Keeper and am amused at something written by Geo. E. Adams, of Wisconsin. He says the White Leghorns are the best egg machine on earth while the Browns, the Wyandottes, the Anconas and Minorcas are all equally as good. Now I have had some experience with poultry myself. My favorite breed is the old reliable Barred Plymouth Rocks.

Mr. Adams talks about broilers at one or two pounds. Can he produce a three pound White Leghorn at three months old? I would ask Mr. Adams to come out to God's country and see some real chickens. I have a bunch of Barred Plymouth Rock pullets four months old that will weigh four pounds each and a cockerel that weighs five pounds at four months of age.

I read the boy's letter about raising chicks. I hatched about five hundred this season and lost only five, one by white diarrhea and four smothered. Can you beat that? I believe I can take a flock of birds and produce chicks that will hatch ninety per cent and raise every chick.

The fact is that most people let their chickens run and don't look after them. I have a notion that to produce vigorous birds, one wants to take the first hatched. There is always a loss in every bunch of chicks. One wants to mark that chick and follow up year after year always pick the aggressive fowl for the breeder. R LeFever.

Washington.

**SPROUTED OATS—WINTER EGGS**  
**CLOSE-TO-NATURE GRAIN SPROUTERS**



Cut down the Feed Bill—Run up the Egg Yield. Change high-priced grain into cheap green feed. Our vapor-bath machines produce the succulent sprouts, the vegetable milk and the grape sugar that bring the big egg-yields.

**SPROUTED OATS FROM ONE BUSHEL OF GRAIN**

We are the originators of the grain sprouter and its largest manufacturers and make three kinds and many sizes from one-fourth bushel to eight bushels—a few hens to 1,000. Write us at once for circulars and prices.

**CLOSE-TO-NATURE CO.**  
 20 Front Street COLFAX, IOWA



**Nothing Cheap—But Worth the Money**  
 SOLD ON A MONEY-BACK GUARANTEE.

**Southern Guard and "Marine" Game Fowls**  
 The greatest fighting generals that ever used steel and as game as death, choice 3 month old trios \$10. Eggs \$5 per 15.  
 Also Genuine English Bloodhounds two months old \$100 each, pair \$150. Best American and English Fox Hounds, trained on Deer, Bear or any game you like, \$100 each.  
**ALFRED F. GRAHAM, Cameron, N. C.**

**GET MORE EGGS; SAVE FEED**

Egg prices are high and going skyhigh—higher than ever before. Those who know how and what to feed to get the most eggs all winter and spring will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed—loss and disappointment. Prof T. E. Quisenberry, Director-in-Chief of the great American Egg Laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." He will mail this bulletin to readers of Poultry Keeper who will write him without delay. Send no money. Over a thousand hens under Quisenberry's

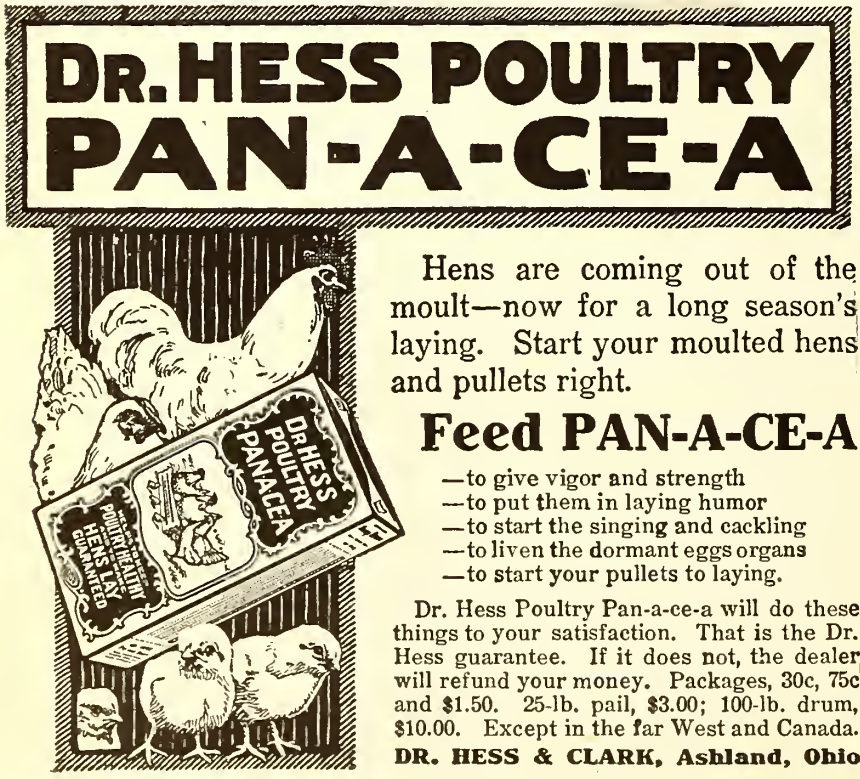
direction laid from 200 to 304 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him today for his free bulletin, addressing care of American Poultry School, Dept. 4015, Kansas City, Mo.

**TEACHING THE CHICKS TO ROOST**

Where a large number of chicks are being raised in one brooder house difficulty is often experienced in preventing the birds from piling up at night after the heat is removed, causing serious losses, says T. S. Townsley of the University of Missouri College of Agriculture. To prevent this overcrowding the birds should be taught to roost as early as possible. If roosts are made out of one by three inch strips placed flat so as to provide a three inch roosting surface, and these are placed twelve to fifteen inches from the floor, the birds can easily be taught to go to roost. If the chicks do not go up on the roost of their own accord they should be gently placed on the roosts after dark for one or two nights until they get the roosting habit.

**Look Out For Mites.**—This season of the year a constant lookout should be kept by all poultry keepers for mites in the houses and coops. A mite is very small and difficult to see unless special search is made. They are usually found in cracks near the roosts. They appear as minute, gray or reddish specks. When present in large numbers they often have the appearance of dust. Mites reproduce very rapidly and are a great source of annoyance to the hens when present in large numbers. The mites live by sucking blood from the hens. A severe attack of mites will cause the hens to loose flesh and stop laying, and will oftentimes produce death. To get rid of mites the houses must be carefully cleaned and then painted or sprayed with repellent material.

**DR. HESS POULTRY PAN-A-CE-A**



Hens are coming out of the moult—now for a long season's laying. Start your moulted hens and pullets right.

**Feed PAN-A-CE-A**

- to give vigor and strength
- to put them in laying humor
- to start the singing and cackling
- to liven the dormant eggs organs
- to start your pullets to laying.

Dr. Hess Poultry Pan-a-ce-a will do these things to your satisfaction. That is the Dr. Hess guarantee. If it does not, the dealer will refund your money. Packages, 30c, 75c and \$1.50. 25-lb. pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.  
**DR. HESS & CLARK, Ashland, Ohio**

# QUESTIONS & ANSWERS

RUSSEL T. BARR.

## Meat Food

Tell me about the use of green bone in poultry feed and how often it should be fed. Also do we have to use meat scrap when green bone is fed to the chickens. Hope you will answer through the columns of your excellent paper.  
A. E. F., New Hampshire.

Under free range conditions chickens will get enough worms and bugs, etc., to pretty largely meet their requirements for animal food, but when they are confined it is necessary to supply this need in some artificial way and this is usually done by feeding either raw meat, meat scraps or green bone. It is not necessary to feed more than one of these, because they supply the same need. In an egg producing ration it is safe to feed anywhere from 5 to 10 per cent of the total feed in some form of meat food. The exact percentage could not be stated unless one knew the exact analysis of the meat food used and the character of the other feeds entering into the ration. Meat is best fed in combination with a dry mash so that it may be before the birds all the time. They will not eat more than they need when it is fed in this form, and they must have meat food in order to lay as they should.

## Pullet Acts Queer

Have some White Leghorn pullets that have just begun to lay. One of them seems to have the tail broken and carries its head and neck on one side as if it might be blind. Can you tell me what is wrong with it and what to do?  
F. B. W., Virginia.

Your description is hardly enough in detail to enable one to decide just what the trouble is, as the symptoms you name might be due to various causes. Could it be possible that the pullet had been injured in any way by some physical accident? This might account for the trouble, or it may be actually blind in one eye, better examine the eye carefully and see whether there is any trouble there. If there are no symptoms indicating some internal trouble, I think the bird may have been mistreated in some way. At any rate put the bird in a coop by itself and observe developments. Feed light food for a few days.

## Fighting Mites.

Here in Texas we have to fight insects of one kind and another all the time. I can keep down the blue bugs that we have here, but I wish you would tell me the best way to keep mites from getting a start and troubling chickens.  
F. W. B., Texas.

If you have figured out a good method of keeping down the blue bugs that trouble poultrymen in the South you ought to be more than a match for mites. The presence of mites is usually indicated by the ruffled unthrifty appearance of the chickens, if their presence is not made known in some other way. These insects do not stay on the body of the bird during the day as lice do, but they suck the blood of

the fowl at night and hide in the house by day. This habit of the insects makes them rather easy to deal with, provided one is willing to take the pains necessary to overcome such a pest. Thoroughly spray the house and perches with some good disinfectant taking care that the liquid gets into every crev-

ice and corner, as this is where the mites will be in hiding during the day time. It takes good, honest, careful work to beat lice and mites at their game, but it can be done if one will take the trouble. The column of this magazine has advertisements of some excellent preparations for this purpose.

## Book on Diseases

I think every poultryman has disease difficulties of one kind and another coming up all the time and should be in position to handle the situation himself as far as possible. I am writing to ask whether you can not recommend to me some book on poultry diseases that would help me in handling the little difficulties as they come up, so there may be no delay?  
C. K. C., Pennsylvania.



**M. M. Johnson**  
Inventor of Old Trusty

## Let Me Send You My 1920 Free Book

This is our seventeenth annual book and, I think, tells more than any book we've published before. Tell me if you want a copy and I'll be glad to mail it free.

As most Johnson customers know, we write and print our own catalogs. But this book, I think, gives more practical, common sense information about poultry raising than ninety-nine out of a hundred of the usual poultry books and incubator catalogs.

## Bigger Profits Than Ever for You in 1920

Eggs are now 60 to 65 cents in local markets. With prices like these it doesn't take much time for a good sized flock to bring a fat income. The demand for poultry and eggs was never so great. If you ever expect to make money with poultry, don't miss your opportunity this winter. Start hatches early. Raise a big flock next year. My book tells the "Know How."

Mail a postal or a letter and ask for this book. Do it today so you won't forget. Tell us your poultry troubles.

Yours truly, HARRY JOHNSON, the "Incubator Man."

**M. M. Johnson Co., Clay Center, Neb.**

**850,000 Customers** say you cannot beat Old Trusty construction. I'd sooner build and sell ten good incubators than turn out a thousand poor ones, but I am making prices this year on a quantity production and am sure will get your order.

**START HATCHES EARLY**—You can't start them too early for Old Trusty Incubators and Brooders. Make several hatches this winter for money-making flocks.



**Has Copper Heating System**

# Old Trusty

## Incubators and Brooders

To begin with let me say that no poultryman is in a safe position unless he is able to treat his flock at once for the common ailments from which chickens suffer. Success often depends on prompt action and the safety of the whole flock may be endangered by the delay of a few days. It is not the policy of this Department, as a rule, to refer to any book or product by name where there are numerous such books or products on the market, all of which may be very good, but the problem of handling poultry diseases is of such great importance to the poultry industry and prompt action of such vital importance that certainly no harm can be done by our mentioning here by name a book which will prove of great value to any poultryman who is interested in keeping his flock in the best condition by prompt action in case of sickness. I am therefore glad to recommend the book entitled "Poultry Diseases" by E. J. Wortley. The aim of the author in writing this book was to put into the hands of poultrymen concise instructions for determining the various diseases of poultry and for preventing the introduction and spread of the contagious diseases that year by year destroy so many birds and limit steady and profitable production. No attempt is made in this book to go into the scientific side of the questions discussed because this phase of the question does not interest the practical polltrman—what he wants is to get results. Best of all this book is full of valuable illustrations which will greatly help you in recognizing the disease and in quickly applying the proper remedy. Those who are interested in having such a book may obtain it from Poultry Keeper by sending your order with \$1.00.

### QUINCY SHOW

The Quincy, Ill., poultry show this year will be free to the public due to the hearty co-operation of the business men of Quincy and the County Board of Supervisors. We propose to give the breeders of poultry in Illinois the finest free poultry show ever held in the state by a local association. The judges are D. E.

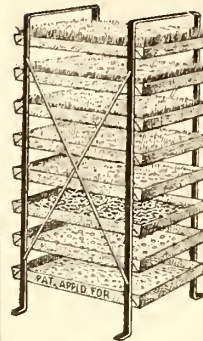
Hale, J. C. Johnston and O. L. McCord and the best bird will win you can rest assured of that. C. S. Gibson will judge the rabbits and cavies. We will again have gold specials for best displays and both marked and official catalogs free to everybody. We are co-operating with the farm advisers in all countries surrounding us and will have a big corn show in connection with our poultry. Quincy has always been a good sales town and this year promises to be better than ever. Better treatment, we guarantee, you cannot get anywhere.

Catalog is ready. Write A. D. Smith, Quincy, Ill., for copy.

### SUPPLYING GREEN FEED FOR POULTRY IN WINTER

If the best results are to be obtained with poultry they must be furnished with a plentiful supply of green feed. Where fowls have unlimited range on a farm they will secure green feed during the spring, but during the winter it must be supplied for them. The question of how to supply the best feed at the least cost is one that each poultry keeper must decide largely for himself. It will probably make but little difference what kind of green feed is supplied, provided it is relished by the fowls. Cabbages, turnips, beets, potatoes, etc., are suitable for this purpose. The larger roots and the cabbages may be suspended by means of a wire or string, or they may be placed on the floor, in which case it would be well to split the turnips or beets lengthwise with a large knife. Potatoes and turnips should be fed cooked. The mangel is an excellent root for feeding raw. Cut clover soaked in boiling water fed alone or with the mash is good. Clover meal and ground alfalfa make very good feeds for this purpose. Where the fowls are yarded and not enough green feed is furnished by the yard, a small patch of clover, alfalfa, or rape may be sown. Any one of these if frequently mowed, will furnish a great quantity of green feed in a form which is relished by the fowls. Canada field peas may also be sown for this purpose, and when fed in a

## STEVENS



### Evergreen Oats Sprouter

All Metal Lamless

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| 8 Pan 11x15 in. | \$5.00 |
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H. A. Stevens & Co.,  
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**BEES PAY.** Easy, interesting work, with honey for home use. Send 50c today for 24 page Bee Primer and six months subscription to the American Bee Journal. Catalogs of supplies sent free.

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tender, crisp condition are eaten readily.

### THE PLYMOUTH ROCK STANDARD AND BREED BOOK

The most complete poultry book ever published. Four hundred and ninety-two pages solid reading matter. Five hundred thirty-five beautiful illustrations of every breed of Plymouth Rocks recognized by the American Poultry Association, and the Standard of Perfection. Every breeder of fowls, whether a breeder of Plymouth Rocks or not should have a copy of this wonderful poultry book. We now have this book in stock and can fill your order promptly. Kindly remember the book is issued by the American Poultry Association. Price only \$3.00, postpaid. Order at once. Address, Poultry Keeper, Quincy, Ill.

### GET MORE EGGS; SAVE FEED

Sky-high prices for eggs this winter will make big profits for those who know how and what grain mixtures to feed. Improper methods mean big loss. Prof T. E. Quisenberry made a thousand hens in the American Egg-Laying Contest lay 200 to 304 eggs each in a year. Another big flock cleared for him \$6.15 per hen in nine months. His methods are explained in a new bulletin, "How to Get More Eggs and Save Feed." Get this free bulletin by writing Quisenberry today, addressing care American Poultry School, Dept. 4015, Kansas City, Mo.

**CAUTION:** Any Bone Cutter claiming to be MANN'S without F. W. MANN CO. cast on its surface, is an imitation. The genuine MANN'S is made only in Millford.

## Make Hens Lay

### READ THE BOOK THAT TELLS HOW

Tells you how to **make hens lay**. Gives you in a nutshell the whole matter of right feeding. Read it if you want to know the **real value** of fresh, raw bone, which contains four times the egg-making ingredients that grain has. You **must** feed raw, green bone to promote **growth, development and laying**. It doubles your profits in number of eggs, fertility, strong chicks, large fowls. It is easily and quickly prepared with

### MANN'S Latest Model Bone Cutter

It cuts all green bone with all adhering meat and gristle; wastes nothing and never **clogs**. Automatically adjusts cutting to your strength. Any one can turn it. We'll send you one on **10 Days' Free Trial**. **No money**

down. If not satisfactory return at our expense. Send for book today.  
F. W. MANN CO. Box 57, Millford, Mass.



# Solve it

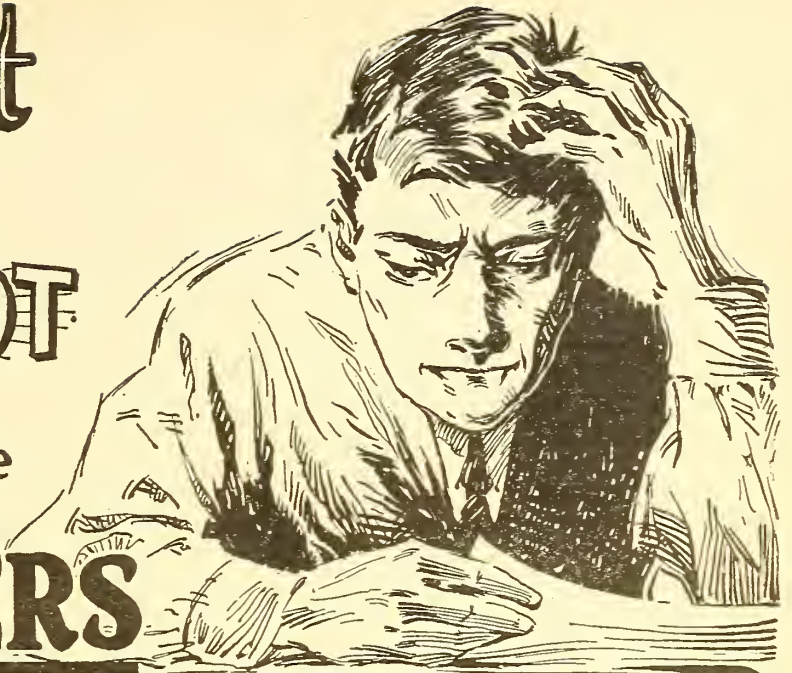
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BLUE FLAME  
WICKLESS  
OIL GAS LAMP



## Wickless, Blue Flame, Oil Gas HEATERS

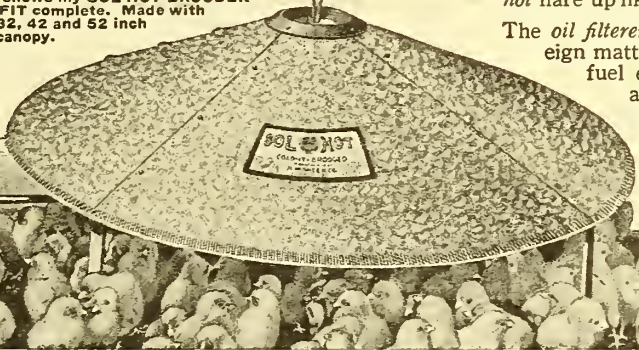


**Mr. Poultryman:** I will solve that brooder or hatching problem that is *bothering you*. No need to *puzzle* your brain a moment longer.

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For instance, my SOL HEATERS are *wickless*—give an intense *blue flame* that is so perfect in combustion it is *absolutely fumeless* and *odorless*. There's *no soot—no smoke*, and they are *self-regulating*. *No wicks to trim*.

They have a *visible oil feed*. That means the flow of oil to the burner can *always be seen*. It is *automatically* controlled by a thermostat, which shuts off or opens up the oil needle valve, *regulating the size of flame* according to weather conditions. *Flame does not nor can not flare up* like a wick burner. A mighty valuable feature.

The *oil filterer* is another special advantage. No dirt or foreign matter can *clog* the valve, hence no trouble, greater fuel efficiency and uniformity of heat is assured.

Then there is the famous Acme Compound Wafer Thermostat, which means *absolute* regulation of flame and temperature. The *glass oil container* is a great convenience — always shows amount of oil in reservoir.

**SAFETY.** Here again the SOL HOT is a winner — *it cannot overheat*.



This shows SOL HOT HEATER for incubators. Bracket screws on to side of machine.

## Sol Hot Heaters for Brooders and Incubators



"Your colony brooder with Sol Hot Lamp is ahead of anything I ever used or saw." — H. Fisher, Philippi, W. Va.

"Am so well pleased with your Sol Hot Incubator lamp I would not run a machine without one. Saved 8 quarts of oil first batch." — W. D. Sheaffer, Reading, Pa.

"The brooder fixtures I purchased from you last year have proven the best I ever used." — H. Dielen, Manville, Ill.

"Sol Hot Heater for brooder stove works fine." — A. O. Wright, Round Hill, Va.

SOL HOT HEATERS are made to fit any style of Incubator, and are fastened to machine with a suitable bracket. Throw away your old, dangerous wick lamp—get a Sol Hot—safer and better. Also furnished complete as a Colony Brooder, including canopy as shown above, and Baby size shown below.

My GIANT SOL HOT HEATERS (see illustration below) are especially made for use in Coal Burning Colony Brooder Stoves. Burner fits in base of stove and furnishes more heat, better heat and perfect atmospheric conditions under the hover. No ashes—no gases—no fires to go out—no soot—no smoke—no fumes. If you have a coal burning brooder stove get a GIANT SOL HOT HEATER and say "good-bye" to your old troubles, labor and muss. My 1919-20 prices will surprise you. Write for my new Folder-Catalog—just out, fully describing these wonderful time and money-saving heaters.

Ask about my MUL-TI-DEK BABY MAMMOTH INCUBATORS equipped with SOL HOT HEATERS. A surprise and revelation in small mammoth incubators—250 to 3000 egg capacity. Don't buy any hatching or brooding equipment until you get my latest catalog. Write for it today.

H. M. SHEER, Proprietor

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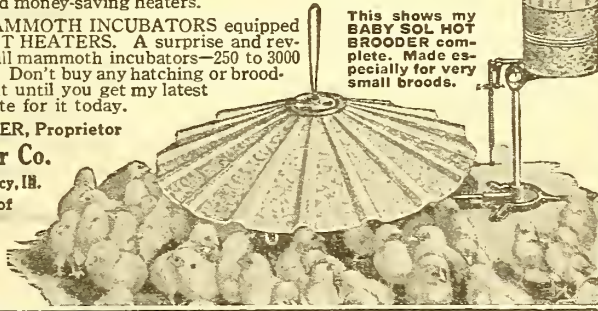
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Manufacturers of Incubators and Brooder Appliances for over 25 years. Still at it.

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This shows my BABY SOL HOT BROODER complete. Made especially for very small broods.



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give helpful talks to the inexperienced and ask  
questions in any department.

A. OTIS ARNOLD, Editor.

THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## "EGG SUBSTITUTES" ARE SPURIOUS

The so-called egg substitutes which under various names are being sold to housewives will in no sense take the place of eggs in baking or cooking, say the specialists of the Bureau of Chemistry, United States Department of Agriculture. They have analyzed and made baking tests with most of the preparations which are claimed by manufacturers to do the work of eggs.

These preparations are sold usually in small packages containing from one to four ounces and priced at from ten to thirty-five cents a package. It is claimed that each package will take the place of from twelve to forty-eight eggs. If these preparations would take the place of or do the work of even one dozen eggs, their purchase would help to reduce the high cost of living, but unfortunately for those who are misled by the alluring claims on the labels or in advertisements, they do not do the work of eggs in baking or cooking.

The average price paid by the consumer for the so-called egg substitutes is approximately six cents an ounce or at the rate of about one dollar a pound. Since these products consist essentially of starch or a powder "it would be remiss in its duty in connection with the enforcement of the Food and Drugs Act if it should recede from the position stated in Food Inspection Decision 140. Briefly stated, the object of the act is to protect the purchaser of any article within the scope of the act by making it as certain as possible that he receive the article for which he pays. If the purchaser makes no distinction between a cider or apple vinegar as defined in Food Inspection Decision 140 and one made from evaporated apple

products, there would appear to be no reason why the manufacturer should hesitate to plainly label or brand his product in such a way as to show the nature of the material from which it is produced. If the purchaser does make a distinction, whether from prejudice or other reasons, he has every right to receive an article of the kind and quality desired and paid for. I regret that our views on the subjects are so much at variance, but under the circumstances the duty of the bureau appears to be clear, and if necessary the matter will have to go to the courts for a decision."

## A NEW HEATER FOR YOUR IN- CUBATOR

We have received letters from quite a number of people who state that they would like to replace the heater in their incubator for one reason or another. It is about the first thing connected with an incubator that gives away and many incubators are thrown away which would be useful for many more years with the small outlay necessary to install a new heating system.

Mr. H. M. Sheer makes a specialty of manufacturing a heating system that can be readily attached to most any incubator when the heater gives out.

He has a page ad. in this issue of Poultry Keeper and if you are interested in this matter we suggest that you read his advertisement carefully. We know his heater is reliable and can be easily installed on most any incubator.

## INTENDS TO BUILD

Editor Poultry Keeper.

I intend to build a poultry house, as I have not got one on the place I moved to recently. I have got different books on poultry house construction, but have not found one to suit me yet.

My own idea is to build a house 7 feet wide and 12 feet deep; 7 feet high in front and 5 feet in rear. Put two sash 3 feet square, about 2 feet up from floor, in front, which will face south. Put door on east side and 2 feet from front of house. I intend to use ship lap or barn lumber for siding. This I think will make a good combination of chicken house and scratching shed for 14 hens. I intend to build it shed type. My present coop was 8 feet wide and 6 feet deep. This I think brings the roost too near the windows. It was well built, having no cracks and this is half the battle against vermin. For some reason or other there was always frost on the walls in winter. Had this coop 9 years. Before this I raised Barred Rocks mixed with mongrels in an old shed full of holes and cracks. But I have this much to say for that shed, I'll admit those mixed breeds in it were rather lousy, but not one of them were ever sick. I didn't know what rouse was. When hatching time came I always got 10 or 12 chicks out of 14 eggs.

but will go back to raising Barred Rocks in the spring, and my trouble with rousy hens will be over. Have got eleven Columbian Rocks, and from April until September, 5 months, they layed 1135 eggs. The moving to different quarters stopped them. I only get 3 a day now. This is a pretty fair record, but I think I could do as well with Barred Rocks, and besides I will not have to send so far away for new blood. You should see some of the scrawny, knock-kneed specimens some people send you. In most cases I killed and buried them, as I was ashamed to have them on the place.

Yours for a good healthy chicken.  
K. Dick Crowley.

Wis.

## NEARLY 6,000 EGGS FROM 35 LAYERS IN TEN MONTHS— SPROUTED OATS KEEP THEM LAYING EVEN DURING THE MOLT.

I want to advise you regarding the excellent results I have secured from Rhode Island Reds and Rhode Island Whites. During the last ten months I secured nearly 6,000 eggs from my 35 layers.

My hens even laid during the molting period and I believe that this is principally due to the daily feeding of sprouted oats.

I give each fowl a square inch of roots, grain and sprouts; growing the sprouts about 2 inches long.

Since feeding them this green food the hens are in much better condition and have laid much better all the way through.

With the modern sprouter I have on hand, it takes but a few minutes each day of my time to attend to same and no dirt to do the sprouting.

I am sure I would never raise chickens without giving them sprouted oats. Have no sick ones in my flock and in fact have not had a sick one since I began to feed this wonderful green feed.

There is always also plenty of clean litter in the poultry house in which nice clean grain is thrown in the morning to keep the fowls busy scratching. This keeps them active and healthy and in fine condition.

N. Y.

Chas. Brant.

Be sure that the male at the head of the flock is pure bred.

Send the late-hatched stock to bed with a full crop.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,  
Of the Poultry Keeper, Published monthly at Quincy, Illinois, required by the Act of August 24, 1912.

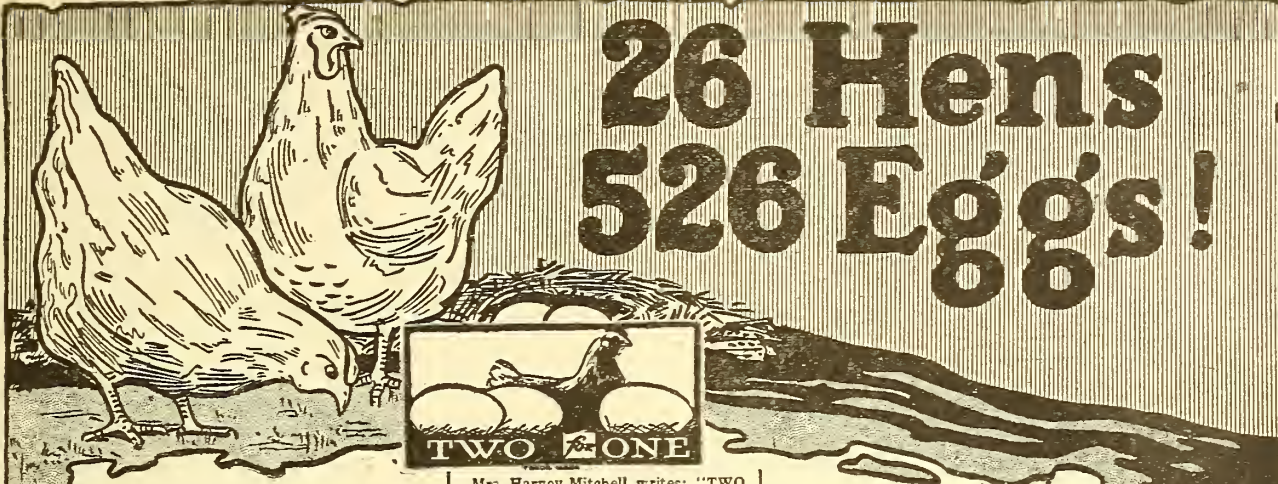
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Editor, A. Otis Arnold, Quincy, Ill.  
Managing Editor, A. Otis Arnold, Quincy, Ill.  
Business Manager, A. Otis Arnold, Quincy, Illinois.

Owner, A. Otis Arnold, Quincy, Ill.  
Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of the total amount of bonds, mortgages or other security. None  
Signed A. OTIS ARNOLD.  
Sworn and Subscribed before me this first day of October, 1919.

C. R. WARREN,  
Notary Public.

(My commission expires May 18, 1920).



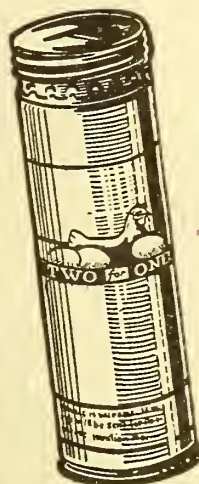


# 26 Hens 526 Eggs!



Mrs. Harvey Mitchell writes: "TWO for ONE" is the grandest tonic I have ever used. Last month I received 526 eggs from 26 hens."

## "NO SLACKER'S" IN A "TWO for ONE" HEN YARD EGGS FROM EVERY HEN



Poultry raisers who have not given some thought to increasing their egg production this fall and winter, are making a big mistake. Present indications are, the price of eggs will be sky high, and if the owners of laying hens do not make every effort to profit by these conditions they will regret it later, particularly when they hear of the large profits being made by their next door neighbor. If there ever was a time when a little extra attention should be given to the poultry yard now is the time. Do not delay. A few pennies spent wisely today will bring you back dollars tomorrow.

### "TWO for ONE" WORLD'S GREATEST EGG MAKER

"TWO for ONE" is the marvel of all egg tonics. It is the most remarkable producer of eggs ever known to the poultry world. "TWO for ONE" is making records every day in egg production that were never before believed possible. Flock owners all over the country are amazed with the results. The most experienced poultry experts say they have never seen the like of it. "TWO for ONE" is not a mere food. It is an egg tonic in the truest sense of the term—a scientific preparation in concentrated tablet form—the result of scientific research and experiment. Every factor entering into the matter of egg production was scientifically studied.

As a result you have in "TWO for ONE" a tonic that conditions the hen for the utmost in laying capacity—that builds muscle and bone—that stimulates active functioning of the hen's reproductive organs—that insures fertile eggs and 100% hatchings—that makes the laggard lay and increases the production of active layers. A tonic that gets more eggs for you winter, and summer than you ever thought possible.

## FREE EGG LAYING CONTEST

Have you entered our \$5000.00 egg laying contest? If not do so right away, free to all users of "TWO for ONE." You not only increase your egg production but you may win one of the 35 cash prizes we are giving every month. Write us today for particulars.

### ALL POULTRY RAISERS PRAISE "TWO for ONE"

**Tripled His Egg Supply**  
Please send me two more large boxes of "TWO for ONE" at once. One for my brother and one for a cousin. I told them how the tonic tripled my egg supply and they are anxious to try it. Enclosed find \$4.00.—J. P. Roberts, Missouri.

**Laid Eggs In the Coldest Weather**  
I used your egg tonic for the first time this winter and was truly surprised at the way my hens laid. In the coldest weather I was getting eggs every day.—Laura Higley, Michigan.

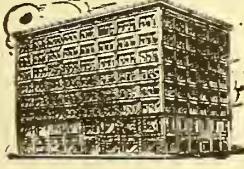
**11 Hens—192 Eggs—One Month**  
I gave one box of your "TWO for ONE" tonic to my hens and I got wonderful results. 11 hens laid 192 eggs in less than one month.—S. L. Chase, Kansas.

**112 Hens—3241 Eggs**  
Since giving "TWO for ONE" to my hens I got 3241 eggs from 112 hens in one month. My neighbors are jealous.—Clara Tobias, Ohio.

### Money-Back Guarantee

Don't take our word for it. Every box of "TWO for ONE" is sold under the distinct guarantee that if you are not entirely satisfied you get your money back. You take no risk. So take advantage of this offer and send in your order today.

Only \$1.00 a box, or, \$2.00 for large box containing as much as three \$1.00 boxes—enough for an entire season. This costs you 1-15 of a cent a day per hen, or less than 1c a dozen for the additional eggs you will receive from your flock.



**KINSELLA CO.**

1558 LeMoyn Building - CHICAGO

"The House That Returns Your Money If Not Satisfied."

### MAIL COUPON NOW—TODAY

**KinSELLA Co., 1558 LeMoyn Bldg., Chicago, Ill.**

Gentlemen—I want to increase the egg-laying ability of my hens, make more money out of my chickens and take advantage of the high prices that will be paid during the coming fall and winter. So please find enclosed \$\_\_\_\_\_ for a box of "TWO for ONE" as checked below:

(Check in squares opposite size wanted:)

Small Size (Including Tax) \$1.00   
Large Size (Including Tax) \$2.00

This order entitles me to an entry in your \$5,000.00 egg-laying contest, of which you are to send me full particulars, and my money is to be returned if I am not entirely satisfied with the tonic.

Name \_\_\_\_\_  
Address \_\_\_\_\_

## For Sick Chickens

Preventive and curative of colds, roup, canker, swelled head, sore head, chicken pox, lumber neck, sour crop, cholera, bowel trouble, etc. Mrs. T. A. Morley of Gallien, Mich., says: "I have used Germozone 17 yrs. for chickens and could not get along without it." Geo. F. Vickerman, Rockdale, N. Y., says: "I have used Germozone 12 years; the best for bowel troubles I ever found." Frank Sluka, Chicago, Ill., writes: "I have lost but 1 pigeon and no chickens in the 3 yrs. I have been using Germozone." C. O. Petrain, Moline, Ill., writes: "I never had a sick chick all last season." Bernard Hornung, Kirksville, Mo., says: "Cured my puniest chicks this spring." Ralph Wurst, Erie, Pa., says: "Not a case of white diarrhoea in 3 yrs. I raise over a thousand a year." Good also for rabbits, birds, pet stock.

GERMOZONE is sold generally at drug and seed stores. Don't risk a substitute. We mail from Omaha postpaid in new 25c, 75c and \$1.50 sizes. Poultry books free. GEO. H. LEE CO., Dept. 300 OMAHA, NEB.

## Potter Redybilt Poultry Houses

**Don't Build**

You can buy the famous Potter Portable Houses, Coops and Roosting and Nesting Equipment cheaper than you can build. Easy to set up and take down. Complete Hennerly Outfits (roosts, nests, etc.) \$3 up. Used over 10 years by thousands of successful poultry keepers. Makes it easy to start right. Get the best and save money. Send 4 stamps for 100-page book.

**POTTER & CO., 16 Forest Ave., Downers Grove, Ill.**

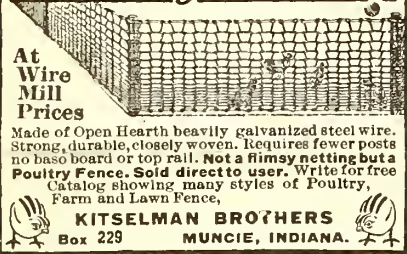


## Poultry Fence

At Wire Mill Prices

Made of Open Hearth heavily galvanized steel wire. Strong, durable, closely woven. Requires fewer posts no base board or top rail. Not a flimsy netting but a Poultry Fence. Sold direct to user. Write for free Catalog showing many styles of Poultry, Farm and Lawn Fence.

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See for yourself the money I save you on any fencing you need. WRITE today for my big new FREE Bargain Fence Book. Shows 150 styles. Low Factory Prices—Freight Prepaid. Also Gates, Lawn Fence, Barb Wire at bargain prices. Sample to test and book free, postpaid. THE BROWN FENCE & WIRE CO., Dept. 357 Cleveland, Ohio

**THE "BEST YET"**  
Aluminum Leg Bands  
Cannot come off. Five sizes, pigeon to turkey; State breed, 12-15c; 25-25c; 50-40c; 100-75c.

**COLORED LEG BANDS**  
Red, Green, Amber, Pink, Black, White, Yellow, Light Blue, Dark Blue; Pigeon and Baby Chick sizes, 12-10c; 25-20c; 50-35c; 100-60c. Poultry sizes, 12-20c; 25-35c; 50-60c; 100-\$1.00. Circular free.

**ALUMINUM MARKER WORKS,**  
Dept. N. Beaver Falls, Pa.



**\$10.95 Buys 140-Egg Champion Belle City Incubator**

Hot-Water, Copper Tank, Double Wall Fibro Board, Self-Regulated. With \$6.35 Hot-Water 140-Chick Brooder—both only \$15.95.

**Freight Prepaid** East of Rockies followed on express. Guaranteed. My Special Offers provide ways to earn extra money. Order Now, or write for book, "Hatching Facts."—It's Free and tells all. Jim Roban, Pres. Belle City Incubator Co., Box 145, Racine, Wis.

Over 740,000 Users



# A Simple Trap Nest For Poultry

Prepared by the Animal Husbandry Division, Bureau of Animal Industry, United States Department of Agriculture.

A trap nest is a laying nest so arranged that after a hen enters it she is confined until released by the attendant. The use of trap nests is essential in breeding poultry for both egg production and exhibition, where pedigree records are used in selecting either the males or females, and has a place in mass selection for increasing the egg production. Trap nests are of value in weeding out poor layers and increasing the average egg yield of a flock by selecting and breeding, but are not extensively used on account of the large amount of labor required to operate them. Some poultry breeders trap-nest their pullets during their first six months of laying and use this as a basis in selecting their breeders for egg production.

### How Trap Nests Are Used.

One nest should be provided for 4 to 5 hens kept in flocks of 50 or more, while more trap nests per hen are necessary in smaller flocks. The hens are banded with numbered bands, and a record is kept of their egg production. The nests should be visited at least three times daily, and preferably four or five times, frequent trips being especially necessary when the hens are laying and during hot weather.

The trap nest may be attached to the underside of the dropping board, with the front facing the pen and arranged so that it can be easily removed, or it may be placed on the walls of the pen. If the nest is placed under the dropping board, the latter will serve as a top for the nest, and the rear of the nest may be of wire to allow good ventilation in warm weather. If the nest is placed on the wall, slats or wire should be inserted from the front of the nest to the wall at a sharp angle to prevent the hens from roosting on the nest.

When the hen enters this nest, her back raises the door (c) (fig. 2), which releases the catch or trigger (a) and allows the door to shut. The catch should be set so that its edge just holds the door, which position is regulated by the screw or nail at the lower inside edge of the catch. A washer should be placed on the screw (d) between the catch and the side of the nest to prevent this catch from sticking. The guard (b) around the catch keeps the nesting material away from the catch. The length of the catch which supports the door and the triangular notch in the door may be varied slightly for very small or very large hens.

Directions for Constructing a Three-Compartment Trap Nest. Cut four 7/8-inch boards for ends

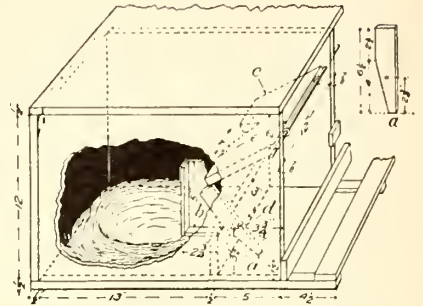


Fig. 1. Working plans for the trap nest.

and partitions, 12 inches wide by 19 inches long, enough 1/2-inch boards 39 1/2 inches long, laid lengthwise, to cover the top, back, and bottom, and 1 strip 39 1/2 inches long and 1 1/2 inches wide for the front of the nests. Cut 3 pieces of 3/2-inch boards 12 inches long and 3 inches high to insert in the nest to hold the nesting material away from the door. Nail the top, back, and bottom to the ends and partitions (see fig. 1), insert the 3-inch strips in the nests, and make the guard (b), nailing it to the left side of the nest. Bore a hole in the catch (a) large enough so that the catch will move freely when screwed into position on the side. Place a washer on the screw between the catch and the side of the nest. Place a screw at the lower edge of the catch to stop it when

## Don't Feed Green Food!

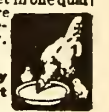
Do away with the bother by using

## Succulenta Tablets

They are better, cheaper and more reliable by all fowl. Simply dissolve one tablet in one quart of drinking water. Succulenta Tablets are not a drug nor a remedy, but a food—wholesome and harmless. They make chicks grow.

**A FULL EGG BASKET IS ASSURED**

|                                   |             |
|-----------------------------------|-------------|
| 100 large tablets by mail, \$0.50 | Your Money  |
| 250 " " " " " 1.00                | Back If Not |
| 500 " " " " " 1.75                | Satisfied   |
| 1000 " " " " " 3.00               |             |



Write for particulars, giving your feed dealer's name. SUCCULENTA CO., Dept. 4, NEWARK, N. J.

## Rheumatism

A Home Cure Given by One Who had it

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case.

I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but understand I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay Write today.

Mark H. Jackson, No. 694 F. Gurney Bldg., Syracuse, N. Y.  
Mr. Jackson is responsible. Above statement true—Pub.

set, so that the catch will just hold the door.

Make the doors (c) of 7/8-inch material, 12 inches by 6 inches, and cut a triangular notch in the center 4 inches wide. Put 2 screw eyes in the top of the doors and bore holes in the front of the nests 2 inches below the top (inside measurement) through which a 3-16-inch wire is run to support the doors.

Attach a narrow strip to the front of the nests for the hens to jump upon when entering the nests. Place a button or block of wood on the front of each partition to hold the door when the nest is closed.

If the nests are to be placed directly below the dropping board a wire top should be used on the nest, except for a 5-inch strip of wood on the front edge of the top to stiffen the nest.

**World's Poultry Congress**

In the early part of September, 1921, there will assemble at The Hague, Holland, the First World's Poultry Congress, on the invitation of the Netherlands government. Arrangements had previously been made for the holding of this Congress in 1916. Owing, however, to the outbreak of the European war it had necessarily to be postponed. With a renewal of the invitation from the Dutch government the project is now going forward.

An executive committee has been formed, consisting of representatives nominated by the Dutch Minister of Agriculture and the International Association of Poultry Instructors and Investigators, the latter society having been responsible for the steps leading to this invitation. A

meeting of this committee was held recently at The Hague, under the presidency of Dr. J. H. Louvink, Food Controller to the Netherland government, at which there was a full attendance. Proposals were considered as to the arrangements, program, etc. Dr. J. H. Louvink was appointed National President, and Mr. Edward Brown, F. L. S., International President. It is intended to hold during the period of the Congress a non-competitive display of breeds of poultry from as many countries as possible, so as to bring together a complete collection for the first time, and of appliances. In October, 1920, there will commence at The Hague a great International Laying Trial extending to September, 1921, at which it is hoped that representative pens of fowls from all the leading countries will be entered.

The Congress will include in its program all aspects of the poultry industry in every part of the world, embracing scientific and practical questions, instruction and investigation, breeding problems, production of eggs and poultry on distinctive lines and in associations with agriculture, the national and international trade in these products, diseases, etc. Invitations will in due course be issued inviting ministers and departments of agriculture and other public bodies (teaching institutions, experiment stations, poultry and agricultural societies, and trading societies, to appoint delegates to the Congress. Individual members will also be accepted. Further announcements will be made from time to time as arrangements are completed. It is hoped to form congress committees in many of the countries interested in this

**SOFT-HEAT**  
 Greatest Incubator Discovery in 50 Years. Insures Strong, Healthy Chicks from every good egg. Iron-Clad Guarantee.  
 Porter Soft-Heat Tubeless Incubator combines hot air and water. Automatic control of heat, moisture and ventilation. Centerheat plan, round nest, eggsturn semi-automatically without removing tray.—saves time and money. Simple, Safe, Sure. Express Prepaid.  
 Write for Big New Free Book.  
 PORTER INCUBATOR CO. Box 107 Blair, Nebraska

**30 YEARS' SUCCESS**  
 (Not an experiment.)  
 Practical Poultrymen use  
**Lambert's "Death to Lice"**  
 because they know it to be the BEST. It will rid your flocks of vermin quickly and effectively without injurious results to the birds. Especially invaluable for sitting hens. 100 oz., \$1.00; 48 oz., 50c; 16 oz., 25c. Large trial can with booklet by D. J. Lambert, 10c. The Klein-Lambert Co., Mfrs., Traders Bldg., Chicago

**RAISE FLOWERS FOR BIG PROFITS**  
 Our big FREE Flower Manual teaches you how to make \$100 to \$200 in your spare time every summer raising flowers on a very small patch of ground, back-yard, a corner. Learn this delightful business.  
 Send us your name and get Big Flower Manual FREE by return mail. American Horticulture Co. Dept. 55 Des Moines, Iowa

**YOUNG STOCK NOW READY**  
 Both Cockerels and pullets from my prize winning, high-class

**S. C. BUFF ORPINGTONS**  
 now ready for sale. A splendid lot of youngsters that will prove prize winners. Write for particulars.  
 EDWARD WITT, Sidney, Ill.

**Scott's Peas** KNOWN FROM COAST TO COAST  
 C.P. SCOTT PEORIA, ILL. ROUTE 7, BOX D

**Sprout Your Oats—Save on Your Feed Bill—Have 3 Bu. Feed Where You Had Only 1 Before**

**Feed Sprouted Oats**

MAKE three bushels of fresh, green, tempting feed from one bushel of oats, wheat or rye. Turn loafing hens into money-making egg producers—have eggs to sell when prices are highest—get fertile eggs for spring hatching—all at a big saving in feed cost. Every poultry raiser should have a "Successful" Sprouter. Saves its cost in a few days' feeding and then keeps on saving money and doubling up your profits for a lifetime service.

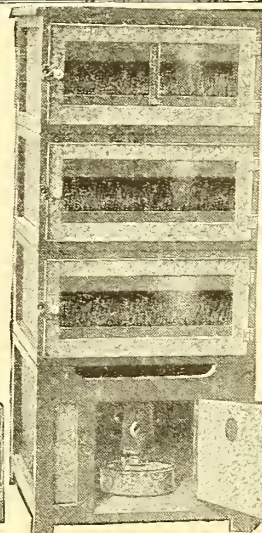
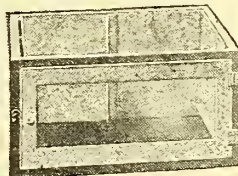
Just what's needed in fall and winter to keep hens laying and needed again in the spring to make chicks grow into lively profit-producing birds. Write at once for complete 1920 offer. Sold on trial and pays for itself before trial runs out.

**"SUCCESSFUL" GRAIN SPROUTER**

**Practically All Steel—Made In Sections**

Double steel walls—metal trays. Cannot be compared to wooden sprouters. Warp proof—shrink proof—swell proof—nothing in it to rot—food cannot mold. Glass doors. Each section a separate compartment. Start with enough sections for your needs and add more as you need them. Here is a money maker. It has increased egg yields 50 per cent—in some localities more. Takes only 15 minutes a day of your time. Sprouts oats in 24 hours and then grows an inch of crisp green sprouts every day. One feeding of sprouted oats at noon each day increases the egg yield, cuts feed cost one-third. Write for full details. Famous booklet, "Proper Care and Feeding of Little Chicks, Ducks, Geese and Turkeys," 10 cts. Write today.

**DES MOINES INCUBATOR COMPANY**  
 565 Third Street Des Moines, Iowa



**Test Seed Corn And Start Your Plants the Easiest and Surest Way with this Des Moines Grain Sprouter**



# TRY THE NEW WAY TO KILL LICE

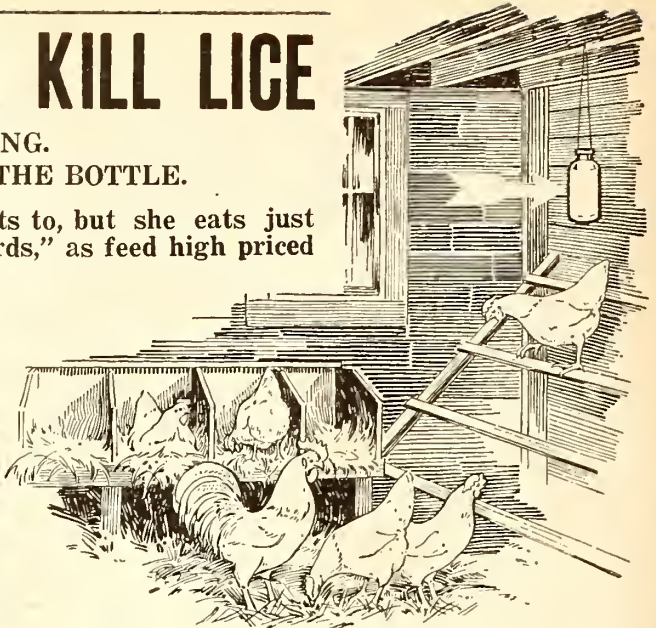
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

# Licecil

**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

## GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$2.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$2.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russell, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you sometime ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

"Received a bottle of your LICECIL some time ago and think it is all right. I am anxious to buy more. Have you an agent in Spokane from whom I can get it?" W. H. Wooster, Post Falls, Idaho.

## HOW TO USE LICECIL

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

Bottle, \$1.00; 3 Bottles for \$2.50, 12 Bottles, \$9.00. Prepaid.

**AMERICAN SUPPLY COMPANY Dept. P. K. Quincy, Illinois**

branch of food production, and to secure the presence of and contributions in the way of papers from the most eminent and constructive workers throughout the entire world. The general secretary is Mr. G. S. Th. Van Gink, 10, Koningin Mariastraat, The Hague, Holland, and Mr. Edward Brown, F. L. S. 31, Essex Street, Strand, London, W. C. 2, England, has the International organization in hand.

William A. Lippincott, Secretary International Association of Poultry Instructors and Investigators, Kansas State Agricultural College, Manhattan, Kan.

**POULTRY CULLS LAY NO EGGS**

A flock of Rhode Island Reds was culled for Robert Carpenter, DeKalb county, by the county agent. Sixty-six hens were sold and Mr. Carpenter gathered more eggs the next day from the remainder of the flock than he had previously gathered from the entire flock in one day. From V. R. Brand's flock 66 hens were culled and these laid one egg in four days. Mrs. Mott's flock was culled. The 99 hens culled laid two eggs in four days. In Perry county, the agent has handled 8,932 hens and more than half, or 5,079, have been culled. One woman with a flock of 100 hens, discovered she had no layers among them at all. Any farmer, reading Extension Circular 70 by the University of Missouri College of Agriculture, can learn to select the layers from his flock of hens and reduce the winters feed bill.

**AMERICA'S UNIQUE PUBLICATION**

The Youth's Companion prints week after week the best of everything that is worth while and for every age. No other source will give your family what The Companion furnishes, or so much for the price—less than 5 cents a week.

The Companion creates an atmosphere of loyalty to the family and to the country, of unselfishness and high purpose. It inspires, it suggests, but always entertains. It makes actual, normal life fascinating, and never panders to the trashy or worthless or worse.

No family should miss the pleasure of reading the delightful serial stories by Elsie Singmaster, Capt. Theodore G. Roberts, and others, to be published during the next year. If you subscribe at once you will receive all the extras mentioned in the following offer:

New subscribers for 1920 will receive:

1. The Youth's Companion—63 issues in 1920.
2. All remaining weekly 1919 issues.
3. The Companion Home Calendar for 1920. All the above for \$2.50.
4. McCall's Magazine for 1920, \$1.00—the monthly fashion authority. Both publications for only \$2.95. The Youth's Companion, Commonwealth Ave. & St. Paul St., Boston, Mass. New subscriptions received at this office.

**SOME VIEWS OF FERRIS WHITE LEGHORNS ON THE FLORIDA FARM**



ONE OF THE BROODER HOUSES



175 FT. HOUSE WITH 20 BREEDING PENS



FEEDING THE PULLETS

IN addition to his large farms at Grand Rapids, Mich., and South Bend, Ind., Mr. Ferris has established a 50 acre farm at West Palm Beach, Fla., to take care of his rapidly growing Southern trade, and to supply Northern customers who desire eggs, chicks and 8 week pullets at seasons when they cannot be supplied from Northern farms. Eggs for hatching can be furnished in any number during the fall and winter, and a 17,000 egg incubator will supply several thousand chicks a month, commencing in October. More than 1000 8 week pullets a month, from December to May, can be shipped safely to any part of the country.

**"EGG SUBSTITUTES" FRAUDS; MANUFACTURERS PROSECUTED**

The so-called egg substitutes which, under various trade names are being sold to housewives, will in no sense take the place of eggs in baking or cooking, say the specialists of the Bureau of Chemistry, United States Department of Agriculture. They have analyzed and made baking tests with most of the preparations which are claimed by manufacturers to do the work of eggs.

These preparations are sold usually in small packages containing from 1 to 4 ounces and priced at from 10 to 35 cents a package. It is claimed that each package will take the place of from 12 to 48 eggs. If these preparations would take the place of or do the work of even one dozen eggs, their purchase would help to reduce the high cost of living, but unfortunately for those who are misled by the alluring claims on the labels or in advertisements, they do not do the work of eggs in baking or cooking.

**Cost More Than Worth**

The average price paid by the consumer for the so-called egg substitutes is approximately 6 cents an ounce or at the rate of about \$1 a pound. Since these products consist essentially of starch or a powdered cereal product such as wheat flour,

sometimes artificially colored yellow to imitate the appearance of eggs, the consumer pays a price far in excess of their food value or intrinsic worth.

Baking tests showed that cakes made with these so-called egg substitutes are inferior to cakes made with water in place of the substitute, otherwise using the same recipe, are not nearly so good as cakes made with milk, and in no measure are comparable with cakes made with eggs. There is no doubt say the specialists, that most of these products do not really resemble eggs, neither can they take the place of eggs in baking and cooking, and further they do not serve any purpose in baking and cooking which is not equally served by the ordinary products daily used in the household.

A distinction should be made by the consumer between dried egg preparations, dried egg powders, and the like, which consist entirely or mainly of real eggs in powdered form, and the so-called egg substitutes which contain little or no egg in any form. Real egg powders, properly prepared, will answer most purposes of shell eggs in baking and cooking.

Prosecutions are now pending in the Federal courts against manufacturers of a number of the so-called egg substitutes on the charge that the preparations are misbranded un-

der the terms of the food and drugs act. Inspectors have been instructed to watch interstate shipments of such preparations and take appropriate action in cases where misbranding is found. The Federal food and drugs act does not apply, however, to preparations made and sold wholly within the state.

**BUFF ORPINGTONS**

Walter Goessling, Quincy, Ill., is advertising some splendid S. C. Buff Orpingtons in the breeders cards. He has some cockerels for sale that should prove good breeders.

**FOR BUILDING POULTRY HOUSES**

It is not necessary to build expensive houses for poultry, but they should be serviceable, fairly roomy, well lighted, and well ventilated without drafts. The house should be built with a view to simplicity, economy, and convenience, and should be constructed according to the location and climatic conditions.

The walls may consist of (1) one thickness of boards, matched or unmatched; (2) one thickness of boards, matched or unmatched, covered with one or two thicknesses of building paper or roofing; (3) one thickness of boards covered with paper, then shingled or covered with lapped siding or matched lumber, making a solid double wall; (4) double boards with dead air space between; (5) double boards with space between filled with straw, hay, or other similar material. The second and third methods are the most common.

**FOR THOSE WHO CAN USE HAMMER AND SAW**

Built and Used by Poultrymen Is a 96-page book; paper bound; contains 108 illustrations, fully describing various styles of poultry houses for the large farm, as well as the back yard. Poultry house equipment, including roosts; trap-nests, food boxes and hoppers; drinking fountains; fences, both permanent and movable; metal fence posts; brooders, both fireless and heated; brood-coops; covered chick yards; poultry catchers, the popular stove-pipe hopper, and many other useful appliances that can be made at home and money saved. For the man who enjoys making his own poultry appliances, building his own coops, houses, etc., this book is of especial value. Labor-saving and money-saving devices are fully explained and illustrated so that the man who can use a hammer and saw can make any of them. Price, 50 cents. Address Poultry Keeper, Quincy, Ill.

**RHODE ISLAND REDS**

Origin and history of both the Rose Comb varieties. How to mate for best results, by leading breeders of R. I. Reds. Edited by D. E. Hale, judge and breeder. Color plate and feathers by F. L. Sewell, 88 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

**You Can RELY on the BUCKEYE THE PERFECT INCUBATOR**



Thousands of professional and amateur poultry raisers have learned how to put an end to worry and doubt by insisting on the "Buckeye" label when buying poultry equipment. You cannot make a mistake in following their lead whenever you need an incubator or brooder.

**The Buckeye Incubator** built up to a standard, not down to a price,—has earned a national reputation by always hatching a vigorous chick from every hatchable egg. Because of this reputation over 6,000 leading dealers are glad to recommend and guarantee it. Operates in any temperature down to freezing. Requires no artificial moisture; very little attention. All sizes—60 to 10,500 egg capacity. For complete description and price, send for our big free catalog.

**STANDARD Colony Brooder**

This Brooder performs such wonders in raising every raisable chick, that we allow you to write your own money-back guarantee. We will sign any reasonable warranty you may care to write and stand back of it to the limit. The Standard is easy to operate. Cuts labor and expense. Burns soft or hard coal, coke or gas. Our new catalog fully describes the various sizes and quotes prices. Also contains letters from many of our 50,000 satisfied users. Sent free on request.

**BUCKEYE OIL-BURNING BROODER**

The Buckeye is a scientific Oil Burner that raises healthy, vigorous chicks. Dead air space insulates against cold. Fumes from oil burner never reach the air which chicks breathe. Low in price and very inexpensive in operation. Perfect satisfaction guaranteed. See catalog for details.



**The Buckeye Incubator Co.**  
15 Euclid Ave. (7) Springfield, O.



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## SAVE MONEY ON EVERY DRESS YOU MAKE

Fight the H. C. L.

Fight the H. C. L.

These days it is imperative that the housewife save every penny possible. How can you save money on your sewing? By using our money saving patterns. HOME INSTRUCTOR patterns are the only kind ever sold in this country for less than ten cents, and as the price of patterns at the stores have now advanced to sell from fifteen to twenty-five cents each, HOME INSTRUCTOR patterns mean a real saving. Thousands upon thousands of women have been using them for years. They give universal satisfaction. These patterns sell for eight cents each or two for fifteen cents. They are made by a reliable well known firm and correct in every detail.

### Big Fashion Book FREE!

As a special inducement to get you in touch with our money-saving patterns, we are offering our big Fashion Book free with a yearly trial subscription to HOME INSTRUCTOR. This big book illustrates hundreds of the latest styles. It contains illustrated lessons on dressmaking, and also illustrations showing the various kinds of stitches that are now in common use. And what is perhaps more important, we will sell you dress patterns of any style shown in the book at 8c each or 2 for 15c. We are making this special offer because we want you to read the

### HOME INSTRUCTOR FASHION MAGAZINE

It is bright, entertaining, clean and instructive—just the sort of paper you should have in your home. It has a department for every feature of home life. Its fashion department is illustrated entirely with our money-saving patterns. It gives you an opportunity to see the new styles each month as they come out and thus keeps you in touch with the latest in women's and children's wear.

### MY SPECIAL OFFER:

Send me twenty-five cents and I will send you the HOME INSTRUCTOR for one year, and will send my big Fashion Book to you free as a premium. Each issue for twelve months, HOME INSTRUCTOR will bring you the latest and best information about styles for women and children. Just think of the money it will save you. Stores are raising the price on patterns, and these money-saving HOME INSTRUCTOR patterns will mean much real money saved for you. I can sell them at this special price because I buy them by the thousands especially for our readers. I want your subscription to the Home Instructor, and I will save you all this money in return for getting your name on our subscription list.

Show this offer to your neighbors. Ask them to send in their subscriptions with yours. Don't put this offer by—send immediately.

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# FERRIS WHITE LEGHORNS



## BREEDING STOCK FROM TRAPNESTED STRAINS

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers. We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

### We Ship C. O. D. and On Approval

We ship on approval, allowing you to return within three days any birds that are not entirely satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them, send us enough money to guarantee express charges one way and we will ship C. O. D. with privilege of examination. \$1.00 will cover the express charges on a single bird, \$2.00 on a trio or pen of five, and \$3.00 on ten or twelve birds.

### Laying Pullets and Hens

Thousands of pullets and hens from our heavy laying strains are now ready for shipment. These birds will more than pay for themselves this fall and winter and will make splendid breeders next spring.

Your choice of pullets or hens at the following prices:

|                  | 200-230 Strain | 230-264 Strain |
|------------------|----------------|----------------|
| 4 Females.....   | \$ 16.00       | \$ 24.00       |
| 8 Females.....   | 32.00          | 48.00          |
| 12 Females.....  | 48.00          | 70.00          |
| 25 Females.....  | 95.00          | 135.00         |
| 50 Females.....  | 180.00         | 260.00         |
| 100 Females..... | 350.00         | 500.00         |

### Early Cockerels and Cockbirds

Hundreds of choice cockerels, March hatched, from our very best matings will be disposed of this fall at the following prices. Also a number of yearling cockbirds that we have used in our breeding pens at the same prices—from 200-230 strain \$8.00, \$10.00 and \$12.00. From 230-264 strain \$12.00, \$16.00 and \$20.00.

Males and females of the 200-230 strain are shipped from Grand Rapids only. The 230-264 strain can be shipped from Grand Rapids or from West Palm Beach.

We will ship from Michigan unless you specify otherwise, as we have only a limited number to spare from the southern farm.

## WINNINGS AT FIVE BIG FAIRS THIS FALL

### OHIO STATE FAIR

"The class of S. C. White Leghorns was unusually strong, and it is doubtful whether any better class of S. C. Whites was ever seen at the Ohio State Fair. Outside of first pullet Geo. B. Ferris won all firsts on as magnificent a string of birds as we have ever seen at a fall fair."—Poultry Press.

1st cock 1st, 2nd and 3rd cockerel  
1st old pen 1st young pen

### MICHIGAN STATE FAIR

At the same time we were winning at the Ohio Fair, we showed another string of birds at the Michigan State Fair, where with nearly 200 White Leghorns on display, we won as follows:

1st, 2nd, 3rd and 4th cock 1st hen  
2nd, 3rd, 4th and 5th cockerel  
1st, 2nd, 3rd, 4th and 5th pullet

### KENTUCKY STATE FAIR

We sent our birds more than 300 miles to this fair and did not send any one along to look after them, yet they won every first prize and special for best display.

1st and 2nd cock 1st and 2nd hen  
1st, 2nd, 3rd, 4th and 5th cockerel  
1st and 2nd pullet 1st old pen  
1st young pen

### WEST MICHIGAN STATE FAIR

This is the largest fair in Western Michigan and competition was very strong, there being large classes of cocks, hens, cockerels and pullets on display. Our winnings:

1st, 4th and 5th cock  
1st, 2nd, 3rd, 4th and 5th hen  
1st, 2nd and 3rd cockerel  
2nd, 3rd, 4th and 5th pullet  
1st old pen 1st young pen

### ALABAMA STATE FAIR

A remarkable winning because the birds were shipped nearly 700 miles from South Bend, with no one along to look after them.

1st cock 4th and 5th hen  
1st and 4th cockerel 1st and 2nd pen

### EXHIBITION STOCK

Cocks and cockerels hatched directly from our Chicago Coliseum winners at \$25.00 and up. Hens and pullets, \$12.50 and up. These birds will win anywhere. They have splendid low tails, good heads, wonderful shape in every section and pure white plumage. We have hundreds of early hatched cockerels and pullets to select from sired by the blue ribbon winners at top of this page and 15 others like them. For several years Ferris Leghorns have won best display at the Chicago show, and no matter where you wish to show, we have the birds that will win for you, and we will guarantee them to win. We exhibited at eight large shows last season, winning 29 first prizes and 69 other prizes—a total of 98 prizes.

## EGGS, CHICKS and EIGHT WEEKS PULLETS

It is not too early to place your order for eggs, chicks or 8 weeks stock for delivery next spring. The demand will be unusual and we may not be able to fill all late orders promptly, although we have greatly increased our capacity. The 200-230 strain can be shipped from Northern farm only; other grades from Northern or Southern farm as you prefer.

### Eggs For Hatching

|                | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|----------------|----------------|----------------|----------------|
| 15 Eggs.....   | \$ 3.50        | \$ 5.00        | \$ 10.00       |
| 50 Eggs.....   | 9.00           | 13.00          | 26.00          |
| 100 Eggs.....  | 17.00          | 25.00          | 50.00          |
| 500 Eggs.....  | 80.00          | 115.00         | 235.00         |
| 1000 Eggs..... | 150.00         | 225.00         | 450.00         |

Eggs sent prepaid anywhere at above prices. Fertility guaranteed. Shipment now from Florida; Feb. 15 to June 1 from Grand Rapids.

### Day Old Chicks

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 12 Chicks.....   | \$ 5.00        | \$ 7.50        | \$ 15.00       |
| 25 Chicks.....   | 9.00           | 14.00          | 28.00          |
| 50 Chicks.....   | 17.00          | 26.00          | 52.00          |
| 100 Chicks.....  | 32.50          | 50.00          | 100.00         |
| 500 Chicks.....  | 150.00         | 225.00         | 450.00         |
| 1000 Chicks..... | 285.00         | 425.00         | .....          |

Chicks sent postpaid at above prices. Safe arrival guaranteed. Shipment now from Florida; March 1 to June 20 from Michigan.

### Eight Weeks Old Pullets

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 4 Pullets.....   | \$ 10.00       | \$ 14.00       | \$ 24.00       |
| 8 Pullets.....   | 20.00          | 28.00          | 48.00          |
| 12 Pullets.....  | 30.00          | 40.00          | 70.00          |
| 25 Pullets.....  | 60.00          | 75.00          | 135.00         |
| 50 Pullets.....  | 115.00         | 145.00         | 260.00         |
| 100 Pullets..... | 225.00         | 285.00         | 500.00         |

Shipped express collect at above prices. Safe arrival guaranteed anywhere in United States or Canada. Shipment Jan. 1 to June 1 from Florida; May 1 to Aug. 1 from Michigan. Cockerels same price as pullets.

### Exhibition Eggs and Chicks

Several pens of our choicest exhibition stock now mated on our Florida farm. If you want eggs or chicks this fall or early in the winter before our Northern pens are mated, remember we can supply them promptly. Write for prices and particulars. Eggs from South Bend ready Feb. 1; chicks Mar. 1.

## THIS FREE CATALOG TELLS THE WHOLE STORY

Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla. Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices and guarantee on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. We want you to know why Ferris Leghorns are best.



**GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICHIGAN**



# Rabbits and Pet Stock

## DOES THE RABBIT BUSINESS PAY

Does the rabbit business pay?

How can I sell my stock if I raise a number of them?

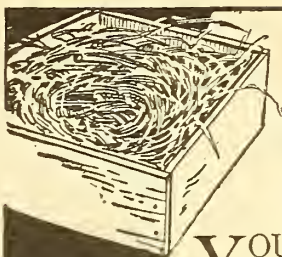
Does it pay to buy fine pedigreed stock?

These are some of the questions I am asked.

I will try and answer as fully as I can in one short article. It pays to raise rabbits even in a small way, because you can produce a certain number of pounds of the finest meat to be had at a less cost than by raising poultry, hogs or cattle, and you need only have a small space for the business, and if you wish to only raise your own meat you can do so with little expense.

You can sell your surplus stock at home or by advertising in poultry journals. You need not raise any less poultry because you have a few rabbits.

Now as to fine stock. I started with cheap, carelessly bred stock and discarded them all nearly five years ago and since that I have sought to obtain the best to be had and have as much as \$35 invested in one buck. I paid that much for him because he is a pedigreed registered buck and his father and grandfather are prize winners, winning silver cup prizes in competition with the best New Zealands in the United States. His mother and grandmother are mothers of prize winning stock, and this buck is nearer perfection than anything I have ever seen, both as to pure deep color and type and yet there are many people who could not see one single reason why this buck is worth a cent more than a common rabbit, unless I would carefully call their attention to the points in which he excelled. Now the meat of this buck is perhaps not a bit better than that of any other New Zealand I have, but a true fancier is striving for the best, or nearest perfection and it is the same with rabbits as with chickens and stock. The world owes much to the man who studies and strives and after much labor, failures and success as he develops some wonderful specimens. Thus we have the fine Shire, Percheron and Clidesdale horses, the Durum, Hereford and other breeds of cattle, the many fine breeds of chickens and it is so with rabbits and hares. A few extra dollars spent for the finest blooded stock is well spent



# Not Laying Yet? Start Them!

YOUR hens and pullets should be producing eggs—making profits—by now. Hens should be over their molt—pullets developed—both on the job. Egg prices are up—it's up to you to cash in now—and all Winter.



## Pratts Poultry Regulator

Invigorates and strengthens—hastens maturity—starts fowls laying weeks earlier. Prevents losses—economical to use—costs about a cent a month per hen. Test Pratts Poultry Regulator at our risk:



"Your Money Back if YOU Are Not Satisfied"

Sold by 60,000 dealers. There's one near you

Write for Pratts NEW Poultry Book--Free

**PRATT FOOD COMPANY**  
Philadelphia Chicago Toronto

Makers of Pratts Animal Regulator, Hog Tonic, Dip and Disinfectant Veterinary Remedies



## My Victory Strain of Barred Rocks Continue to Win.

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

**Eggs** From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices.

Write for what you want.

**J. T. FRENCH, 838 West Grove Place, Toledo, Ohio**

whether it is for horses, cows, hogs, chickens or rabbits, for they cost no more to raise after you get your start.

The poultry fancier who pays \$10 or more for a setting of eggs is sometimes called a fool by his neighbors, but the next year when they see his fine chickens they all want to get a setting of eggs from those wonderful chickens and he can just about name his own price and so it is with rabbits or any other stock.

I don't think there is anything that will win more comments than a pretty New Zealand doe with six or eight young, six to eight weeks old arranged in a store show window on a Sautrday, as they will nibble at their oats, carrots, or hay

## NEW ZEALAND, RED RABBITS AND RUFUS RED BELGIAN HARES

Eight page pamphlet on rabbits free

**J. E. JOHNSON,**

Marionville, - - - Missouri.

and hop and frisk about and develop a desire in the hearts of the onlookers that their joy can never be complete unless they own a pair of them.

Now while I am partial to the New Zealands with their pretty reddish buff color, others may prefer the Belgian or the checkered Giants or the odd looking angora, but I think it is best for any one to decide which breed he or she desires to raise and then strive to have the best along that line.

J. E. Johnson.

For general farm use the American breeds are probably the best.

## BARTH'S BARRED ROCKS

Healthy, vigorous, farm-raised stock that will win in hot competition. Both light and dark marking. Satisfaction guaranteed. Prices reasonable.

**E. J. BARTH, R. 1,**

Quincy, Illinois.

# President Wilson on Egg and Poultry Prices

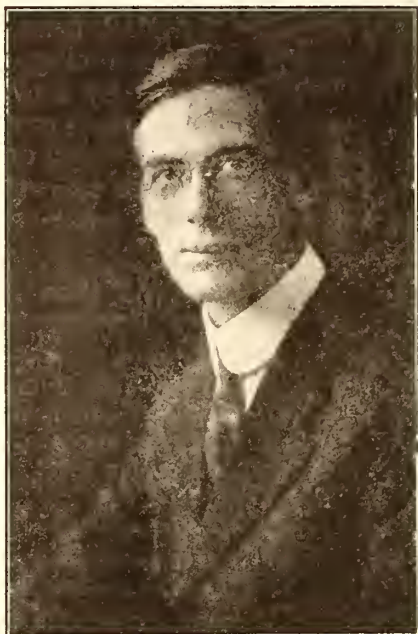
The President Complains About the High Selling Prices of Eggs and Poultry, and Charges Profiteering in the Necessities of Life, Completely Overlooking Increased Production Cost.

In an address on "The Cost of Living," delivered at a joint session of the two houses of Congress, Aug. 8, 1919, the President of the United States said:

"In the combined total of a number of the most important foods in dry and cold storage, the excess is quite nineteen per cent. And yet prices have risen. The supply of fresh eggs on hand in June of this year, for example, was greater by nearly ten per cent than the supply on hand at the same time last year, and yet the wholesale price was forty cents a dozen, as against thirty cents a year ago. The stock of frozen fowls has increased more than two hundred and ninety-eight per cent, and yet the price has risen also, from thirty-four and a half cents a pound to thirty-seven and a half cents."

American Poultry Journal does not participate in partisan politics. That the faction out of office profits by, and fattens, politically, on the mistake of the party in power, is not a matter for our concern. But we do participate and we are concerned when the head of the Nation voices a protest against the selling prices of eggs and poultry meat, and that protest arises from a false and unsound economic base.

The President says that there were 10 per cent more eggs in storage June 1, 1919, than on June



FRANK L. PLATT,  
Editor American Poultry Journal

1, 1918, and there is therefore no justification in a selling price that is ten cents higher than the selling price of the year before. Since when has the quantity of an article on hand been the sole factor in determining the price at which it is to be sold? Selling prices must be based on cost prices. In dealing with manufacturers during the war, the Government recognized this principle of fair business and offer-

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ed to pay the cost of production plus a fair profit.

Let us see how egg costs have risen in the year from June, 1918, to June, 1919. Following are the comparative costs of one of the big five packers, whose name we are not at liberty to mention; for, contrary to the general state of the public mind, which conceives of a great food combine or trust, there is in reality competition among the packers, and no one of them welcomes the idea of their competitors getting specific inside detail of their business.

|   | June, 1918 | June, 1919 |
|---|------------|------------|
|   | Per dozen. | Per dozen. |
| Average cost, country                   | \$0.307    | \$0.378    |
| Average plant expense                   | .021       | .028       |
| Average plant margin                    | .011       | .004       |
| Average branch house labor and supplies | .007       | .008       |
| Average freight                         | .025       | .025       |
| Average selling margin                  | .013       | .006       |
| Average selling value                   | .384       | .449       |

This shows that June, 1919, was a poor month for the middleman because of an increased cost of eggs in the country of 7 cents a dozen, an increased plant expense and lower selling margin, the gross profit amounting to about 1/2 cent a dozen. So much for current receipts in the egg trade when the President made his address.

The President's criticism was particularly directed against eggs that were already in refrigeration on June 1, and on which the U. S. Bureau of Markets had issued its monthly storage report. The figures show the increase in holdings, and they are as follows:

|              | Cans Eggs | Frozen Eggs. |
|--------------|-----------|--------------|
| June 1, 1917 | 4,921,674 | 7,558,340    |
| June 1, 1918 | 5,466,633 | 10,979,182   |
| June 1, 1919 | 5,992,658 | 11,309,725   |

Everyone knows that eggs are put in cold storage in the spring, which is the natural breeding season, and therefore the time when hens are in full lay and the egg flow is on. It is a season of overproduction, and these perishable articles of food are stored for the season of low production, which is the late fall and early winter. The President says that the eggs held in storage exceeded the 1918 stock by 10 per cent, and that is true. For two years the U. S. Department of Agriculture carried on a war emergency poultry campaign to increase production, and under the able leadership of Harry M. Lamon, senior federal poultryman, the more than two hundred thousand dollars that the Government appropriated to stimulate production brought results. The President said that we

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must feed the world, and never in the history of the business were so many eggs produced, bought, and packed in storage. The packers were ready to buy. They figured on a big outlet. The previous season their stock had not, in some instances, been adequate. Armour & Co., January 18, 1919, for instance, held only 1,365 cases of eggs, as against 7,800 cases on the same date in 1918; 41,000 cases, 1917; 50,000 cases, 1916; 31,000 cases, 1915; and 56,000 cases on January 18, 1914. On January 18, 1919, Armour's would have paid liberally for a couple of cars of eggs, because they needed them for their trade.

Prices for eggs went from 38 cents April 1, 1919, to 46 cents in May. Here is an initial increase of 8 cents a dozen. No one knows why the market went up, but it is supposed that foreign buyers were active, bidding against the American packers. It is today believed in egg circles that 2,000,000 cases of eggs are held for export. If this figure is approximately correct, it alone wipes away the excess of 10 per cent and leaves the American-owned stocks below the 1918 level. And the 40 cents a dozen price that the President compares unfavorably with the 1918 price of 30 cents is due not to profiteering but to increased initial cost.

The producer derived the major benefit from the increased cost price at which eggs went into storage, and it was not undeserved by him. He was asked to increase production in 1917, when feed costs were out of balance with selling prices, and he nobly responded. In 1919 he reaped the full measure of that patriotic response to keep more poultry, and it is only fair, to say the least, that the poultry keeper's selling prices in 1919 should have been somewhat comparable with war-time prices for feed and labor. The Government stood similar costs during the war at the hands of every manufacturer throughout the country, and with the coming of peace took surpluses off the hands of those manufacturers who had been doing war work. They did not say, we will investigate the power of the Government to beat down your prices, because they are based on wartime production costs and there is no longer a demand for the available supply.

The President says that there is 298 per cent more dressed poultry in storage June 1, 1919, than June 1, 1918, and therefore prices should be lower. Since when has sound economics taken a one-year base on which to predict conditions and establish prices? In order to determine whether the quantity on hand in 1919 is excessive, the previous five years should be taken and an average struck. The fact of the matter is, 1918 was an unusual year. The Nation was at war. The Food Administration was placarding the country with its appeal to conserve pork and beef. The civilian who ate, on an average, 165 pounds of meat a year, was being taken into the army and allotted a ration of

three-quarter pound of pork or one and one-quarter pounds of beef a day, a total of about 365 pounds of meat a year. In addition we had to help feed the allied armies. From the opening of the war in 1914 to the time the United States marshalled its arms, the population of meat-producing animals in the four allied countries of Britain, Belgium, France and Italy had decreased 33,000,000 head. An army travels on its stomach; it cannot go forward until the commissariat comes up to feed the men; and we Americans

accepted our porkless days and beefless meals and were happy in our sacrifices. We did substitute poultry meat. It could not be cured like ham, and its carcasses were too bulky for the meat they carried to enable it being shipped across seas with due economy of space in the bottoms of our transports.

As a further measure of conservation, an embargo was placed on the sale of live poultry in the spring of 1918, which embargo helped to clean out storage stocks, because no fresh hens could enter trade chan-



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I have been in the building business for 30 years but your lesson on Poultry House construction is the best I ever saw. E. M. WIGGIN, Kansas City, Kas.

Your lesson on baby chicks is just what we have been looking for. Last year we lost 650 chicks out of 1500. This year we lost 60 out of 1600. This is the result of just one of your lessons. GEO. M. JONES, Escondido, Calif.

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nels. This unusual combination of conditions resulted in the low storage stocks of June 1, 1918. The U. S. Bureau of Markets officially reports the following stocks of poultry:

|                    |            |
|--------------------|------------|
| June 1, 1917 ..... | 55,398,147 |
| June 1, 1918 ..... | 18,707,217 |
| June 1, 1919 ..... | 55,430,552 |

The President criticizes the prices for poultry meat of June 1, 1919, as against those of June 1, 1918, saying that in the year they had risen from 34½ cents to 37½ cents a pound. Let us take the larger packers' average costs. The 1917-1918 pack of springers cost an average of 19 to 26 cents a pound, alive. The 1918-1919 pack cost 23 to 35 cents a pound. The 1917-1918 pack of fowl cost 19 to 23 cents, against 23 to 28 cents for 1918-1919. This increase went largely to the producer, and it is reflected in the healthy state of the poultry industry today as against the condition prevailing in 1917, when feed costs had risen out of proportion to the selling price of chickens and a highly specialized poultry producing district like the South Shore in Massachusetts was bare of fowl.

The difference, however, did not go entirely to the producer to reimburse him for feed purchased at war prices, but went in part to the increased cost of packed poultry. For the past four years there has been an increase in the cost of packed poultry in excess of the cost of live poultry that equals in some cases 5 cents a pound. The increases of 1919 over 1916 may be itemized as follows:

|                        |                     |
|------------------------|---------------------|
| Packing .....          | ¼ to 1 cent a pound |
| Shrinkage .....        | ¾ to 1 cent a pound |
| Labor .....            | ¼ cent a pound      |
| Packing material ..... | ¼ cent a pound      |
| Overhead .....         | ½ cent a pound      |
| Feeding .....          | 1¾ cents a pound    |

It is true that there was on June 1, 1919, more poultry in storage than the packers wished they held. Labor was so short last year that many of the birds were scalded instead of dry-picked, with the result that the carcasses are dark and not attractive when hung in the market stalls. The American people are critical buyers, and the packers therefore will lose, no one can now tell how heavily, on last year's pack of fowl. Proceedings have already been started to force them to dump some of their holdings.

As a result of the agitation that was instigated by the President's address on "The Cost of Living," the

belief has become current that the packers have the nation's entire food supply stored away and are in position to hold up the price and make the consuming public pay dearly for the very food nutrients necessary to the maintenance of life. As far as poultry and eggs are concerned, the biggest handler is Swift & Co., and the quantity of poultry handled by them in 1918 was 79,000 pounds, or 4.5 per cent of the total production in the United States. The eggs handled by this firm amounted to 91,620,000 dozens, or 4.8 per cent of the total U. S. production. According to the same U. S. Department of Agriculture figures, Armour & Co. handled 1.54 per cent of the Nation's poultry production and 3.2 per cent of the total egg production. These two packers do twice as much in poultry products as the other three of the five big packers combined. When it comes to speculation, Dr. R. J. H. De Loach, formerly director of the Georgia Agricultural Experiment Station, and at present director of Armour's bureau of agricultural research and economics, states that not more than two or three per cent of the total stored products are involved in the speculation of the commission men who do speculate in these products.

What Congress should seek much more light on is the real nature of hoarding. We cannot go back to the old primitive methods before the preservation of perishable foods in cold storage was possible. Even the adoption by Congress of the recommendation that four months' limit be put on refrigeration would ruin the poultry industry. Farm eggs bring a satisfactory price in the spring only because they can be preserved until the winter. A four months' limit on storage that would put March eggs on sale in July and force April eggs on the market in August would work immeasurable hardships on the consuming public. A properly preserved spring-laid egg is wholesome winter food. Right now, in their zeal to ferret out profiteering speculators and release foodstuffs believed to be held illegally, the government's officers should be careful not to misbrand supplies that legitimately and properly are held against the needs of the coming winter.

It has taken the packers more

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than half a century to learn how to store up food products for the consuming public. Their ideas have expanded and their methods have been developed with the growth of the cities. The population has been steadily concentrating in centers. In 1820 we had only 20 per cent of the total population in the cities. Today, more than 57 per cent of the population lives in the cities, and it has been a big problem to store and provide for the winter needs of this ever-increasing consuming population. Interference with the practice of refrigeration is one of the most dangerous things that the Government can do.

We recommend to the administration in Washington that they ponder long and well on the eloquent words of J. A. Howard, president of the Iowa Farm Bureau Federation, who recently appeared before the Senate and House agricultural committees as a representative of the farmers of Iowa, Illinois, Nebraska, Indiana and Ohio. Mr. Howard said:

"The high cost of living is not due to lack of desire or effort on the part of the farmers to produce to the limit of their physical ability. The farmer has not struck, walked out, or otherwise slackened in production. He has increased his effort, extended his operations to the limit of physical ability and financial credit, and striven to feed the world, believing the world would fairly and gladly recompense him. Instead, he finds those who, in their eagerness to find an answer where there is none, and to shun the real facts of the situation, point to him with scorn and malevolence, saying, 'Thou art the culprit.'"

Of all the producers on earth, the poultryman should be the last to hear the charge of profiteering. Refer to Professor Pearson's chart on the relation between feed costs and the selling prices for poultry and eggs, and the mute pictorial evidence of the poultryman's wartime difficulties will be apparent. When Congress put the price of wheat at better than \$2, it automatically

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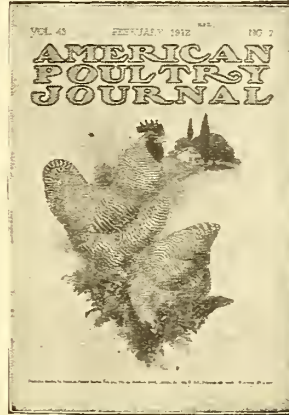
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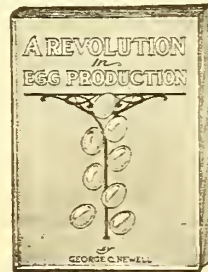
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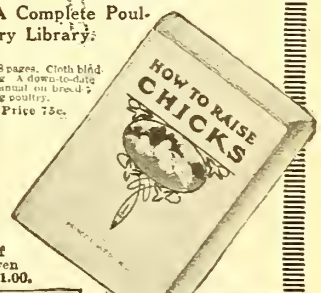
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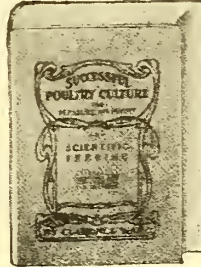
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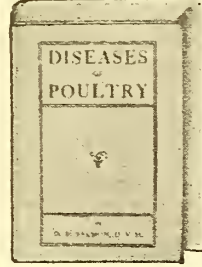
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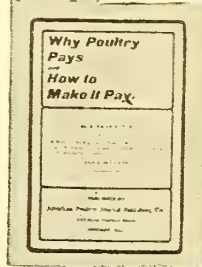
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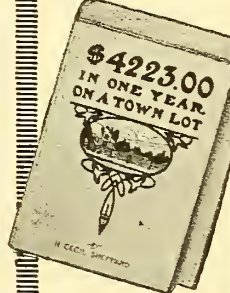


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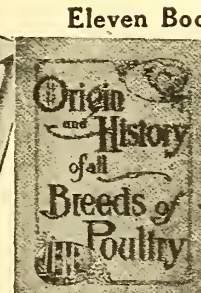


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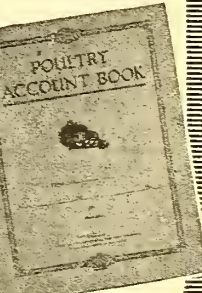
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doubled the price of corn, and, since corn is a food for animals, the corn fed cattle, hogs and chickens had to increase in price.

When stocks of foodstuffs are discussed, neither consumers nor producers should become hysterical and lose their perspective. Already a tangle has halted the sale of army food stocks in Chicago, and those government reserves which were to "correct prices" and "draw" out of storage surplus stocks in private hands" are exhausted in so far as Chicago is concerned. While the postoffice offers to take orders, Lieut.-Col. Castleman stated on September 3:

No more orders for additional army food purchased at the forty-eight Chicago postal station agencies will be filled by the army zone supply office.

The zone office has to meet like food orders from the entire zone, embracing a number of states, and we know the supplies assigned to Chicago by the War Department are exhausted.

It should be remembered that there are 110,000,000 people in this country who are eating three meals a day, 365 days in the year, a total of 120,450,000,000 meals. Do not lose the perspective. Public agitation will be most potent in correcting evils in the retail trade where meats are often vended at prices based on the gullibility of the consuming public.

## POULTRY SHOWS

### ILLINOIS

- Nov. 19-23, 1919. Illinois-Missouri-Kentucky Poultry & Pet Stock Assn., Cairo, T. D. Windrom, Sec.; J. L. Leland, Judge.
- Nov. 25-30, 1919. Quincy Poultry Show, Quincy, A. D. Smith, Sec.
- Nov. 26-Dec. 1, 1919. Chicago Coliseum Show, Chicago. Theo. Hewes, Sec., Indianapolis, Ind.
- Dec. 2-5, 1919. Poultry & Pet Stock Show, Murphysboro. O. L. Rawlings, Sec. C. J. Munger, Judge.
- Dec. 9-14, 1919. Jo Daviess County Poultry & Pet Stock Assn. Galeua, J. E. Grimm, Sec. D. E. Hale, Judge.
- Dec. 8-13, 1919. McDonough County Poultry Assn., Macomb. W. R. Purdum, Sec.; J. C. Johnston, Judge.
- Dec. 9-13. Williamson County Poultry & Pet Stock Assn., Marion. F. E. Morrison, Sec.
- Dec. 17-21, 1919. Saline County Poultry & Pet Stock Assn., Harrisburg. E. L. Hese, Sec.; J. A. Leland, Judge.
- Jan. 5-10, 1920. Northern Illinois Poultry Assn., Belvidere. L. M. Marean, Sec.; W. G. Warnock, Judge.
- Jan. 5-10, 1920. La Salle County Poultry Assn., Streator. E. J. Schroeder, Sec.; Charles D. McClave, Judge.
- Jan. 6-10, 1920. Illinois State Poultry Assn., Galesburg. A. D. Smith, Sec.
- Jan. 12-17, 1920. Galva Poultry Show, Galva. E. Freece, Sec.
- Jan. 14-20, 1920. National Poultry Show, Chicago. D. E. Hale, Sec.

### INDIANA

- Dec. 9-13, 1919. S. G. Co. Poultry & Pet Stock Assn., Fairmount. E. E. Jay, Sec.; C. S. Gibson and G. Earl Hoover, Judge.
- Jan. 7-12, 1920. Whitley County Poultry & Pet Stock Assn., Columbus City. Alva Noble, Sec.; Charles McClave, Judge.
- Jan. 10-24, 1920. Wakarusa Poultry Assn., Wakarusa. Vern Hohn, Sec.; Hubert J. Tyrell, Judge.
- IOWA**
- Nov. 24-28, 1919. Shenandoah Poultry & Pet Stock Assn., Shenandoah. R. B. Murphy, Sec.; Joseph Dagle, D. E. Hale, Judges.
- Nov. 26-30, 1919. Henry County Poultry Assn., Mt. Pleasant. R. E. Hobbs, Sec.
- Dec. 1-5, 1919. Botna Valley Poultry Assn., Atlantic. W. W. Trent, Sec.; Lewis, Iowa.
- Dec. 1-5, 1919. Southwestern Iowa Poultry

# Blow Out the Lamp and Hatch Your Chickens Without Artificial Heat

Everyone interested in the poultry business should know about my wonderful new discovery, and hatch their chickens by the hundred or thousands in trunks, boxes or anything that will hold eggs. After learning the new method of incubation without lamps, stoves, oil, fuel or any regular incubator you will wonder why it has required thousands of years to learn how to hatch chickens in such an easy, simple and inexpensive way. A great many people have worked years and spent thousands of dollars in an effort to do something that will almost do itself when given half a chance. By a simple process of bringing the latent heat of the egg into action and transforming it into natural heat, we have the same quality of heat furnished by a broody hen. The heat and natural moisture of the egg is retained and large strong chickens are produced that one could not expect by any artificial process. There is nothing expensive to buy and nearly everyone has all the necessary material on hand to hatch thousands of chickens without cost for fuel or danger from fire. Only a few days are required to bring the natural heat into action when the process of incubation will continue indefinitely or as long as fertile eggs are supplied. New eggs can be added daily, or every few days, to meet the requirements of the poultry keeper. I have also perfected a plan for brooding the chickens as they are hatched without artificial heat; that is very easy, safe and inexpensive. Complete instructions for the use of one poultry farm for \$5.00. Now is the time to get ready for the winter and spring season when the price is only \$5.00.

Edgar W. Philo, 307 Duval Bldg., Jacksonville, Florida

- Assn., Clarinda. Mrs. James McNeerney, Sec., Coin, Iowa.
- Dec. 9-12, 1919. Jones County Poultry Assn., Anamosa. G. O. Shark, Sec.
- Dec. 9-12, 1919. Boone County Poultry Assn., Boone. F. W. Wheeler, Sec.; Harry W. Atkins, Judge.
- Dec. 9-12, 1919. Franklin County Poultry Assn., Hampton. W. F. Sampson, Sec.; W. G. Warnock, Judge.
- Dec. 9-12, 1919. Fremont County Poultry Assn., Sidney. R. H. Stevens, Sec.
- Dec. 12-16, 1919. Ottumwa Poultry Assn., Ottumwa. Verdon Reinhardt, Sec.
- Dec. 15-20, 1919. Interstate Poultry Assn., Sioux City. E. L. Vennard, Sec.; Joseph Dagle and J. J. Elliott, Judges.
- Dec. 16-19, 1919. Adams County Poultry Assn., Corning. Mrs. H. B. Harden, Sec.; L. G. Householder, Judge.
- Dec. 30, 1919-Jan. 3, 1920. Waterloo Poultry Show, Waterloo. H. M. Corning, Sec.; Johnson, Judge.
- Jan. 5-8, 1920. Progressive Poultry & Pet Stock Assn., Creston. J. K. Mershon, Sec.; Johnson and Dagle, Judges.
- Jan. 8-12, 1920. Northern Iowa Poultry Assn., New Hampton. Shirley McKinsey, Sec.; A. C. Smith, Judge.

### KANSAS

- Dec. 9-12, 1919. Leavenworth Poultry Assn., Leavenworth. E. C. Branch, Judge.
- Jan. 6-9, 1920. Coffeyville Poultry Show, Coffeyville. W. P. Rogers, Sec.; E. C. Branch, Judge.
- Jan. 12-17, 1920. Kansas Cattle Show, Wichita. Thomas Owen, Sec.; J. R. Wilson, V. O. Hobbs, C. M. Smith, Judges.

### MARYLAND

- Dec. 2-6, 1919. Baltimore Poultry Show, Baltimore. H. C. Riggs, Sec.

### MASSACHUSETTS

- Nov. 19-22, 1919. Attleboro Poultry Assn., Attleboro. H. E. Sibley, Sec.
- Dec. 30, 1919-Jan. 3, 1920. Boston Poultry Show, Boston. W. B. Atherton, Sec.

### MICHIGAN

- Dec. 29, 1919-Jan. 3, 1920. Central Michigan Poultry & Pet Stock Assn., Lansing. C. R. Colvin, Sec.
- Jan. 27-31, 1920. Bay City Poultry Assn., Bay City. R. H. Shafer, Sec.

### MINNESOTA

- Nov. 26-30, 1919. Winona County Poultry Assn., Winona. A. G. Klenar, Sec.; George A. Heyl, Judge.
- Dec. 9-11, 1919. Jackson County Poultry Assn., Lakefield. Anna Johnson, Sec. E. L. Hayes, Judge.
- Jan. 19-20, 1920. Kokato Poultry Assn., Kokato. J. W. Beckman, Sec.; A. C. Smith, Mrs. John Kruse, Judges.
- Jan. 22-26, 1920. Minnesota State Poultry Assn., Minneapolis. George H. Nelson, Sec.; Ted Hale and W. E. Stanfield, Judges.

### MISSOURI

- Nov. 17-22, 1919. Greene County Poultry Assn., Springfield. O. F. Smith, Sec.; W. H. Card, Judge.
- Nov. 25-Dec. 1, 1919. Heart of America Poultry Show, Kansas City. Charles Grunsky, Sec.
- Dec. 1-6, 1919. Mineral Belt Poultry Assn., Joplin. Mrs. C. S. Tisdale, Sec.
- Dec. 2-6, 1919. Missouri State Poultry Show, Marshall. Fred Crosby, Sec.; Adam Thompson, D. T. Heimlich, Judge.
- Dec. 15-20, 1919. Johnson County Poultry Assn., Holden. C. H. Funk, Sec.; Adam Thompson, Judge.

- Dec. 16-20, 1919. Cape Girardeau Poultry Show, Cape Girardeau. E. H. Fink, Sec.
- Dec. 31, 1919-Jan. 3, 1920. Odessa Poultry Show, Odessa. Mrs. E. L. Douthit, Sec.; E. C. Branch, Judge.
- Jan. 12-17, 1920. Kansas City Poultry Show, Kansas City. E. L. Noyes, Sec.; E. C. Branch, T. W. Southard, D. T. Heimlich, Judges.
- Jan. 14-17, 1920. Ozarks-Central Poultry Assn., Springfield. J. V. Boswell, Sec.; D. T. Heimlich, A. T. Modin, Judges.

### NEW YORK

- Nov. 19-20, 1919. Cornwall Poultry Assn., Cornwall. Lewis Lassey, Sec.
- Nov. 20-22, 1919. Westchester County Poultry Assn., Mt. Kisco. George H. Baker, Sec.
- Nov. 24-29, 1919. Flower City Show, Rochester. J. W. Chapman, Sec.
- Dec. 3-6, 1919. Cortland Fanciers' Club, Peekskill. Percy Wilson, Sec.; Ott and Glasgow, Judges.
- Dec. 10-13, 1919. Lisbon Poultry Club, Lisbon. William H. Arastrong, Sec.
- Jan. 2-4, 1920. Madison Square Garden Show, New York City. D. Lincoln Orr, Sec., Orrs Mills, N. Y.

### NORTH CAROLINA

- Dec. 9-12, 1919. The Hanover Assn., Wilmington. John H. LeGwin, Sec.; Charles Nixon, J. P. Kerr, Judges.
- Jan. 12-16, 1920. Kingston Poultry Assn., Kingston. W. B. Harvey, Sec.; Charles Nixon, Judge.

### NORTH DAKOTA

- Jan. 20-25, 1920. North Dakota Poultry Assn., Fargo. M. N. Hatcher, Sec. E. G. Roberts, Judge.

### OHIO

- Nov. 24-29, 1919. Defiance Poultry Show, Defiance. George E. Miller, Sec.; Z. D. Struble, A. H. Emch, O. B. Colgan, Judges.
- Nov. 24-29, 1919. Toledo Poultry Show, Toledo. W. H. Wagers, Sec.; A. H. Emch, E. L. Barrett, J. W. Mulnix, G. W. Wells, Sam Softzger, Judges.
- Dec. 9-14, 1919. Cleveland Poultry Breeders' Assn., Cleveland. A. E. Rehburg, Sec.
- Dec. 15-20, 1919. Eaton Poultry Show, Eaton. R. H. Ramsey, Sec.
- Dec. 27, 1919-Jan. 1, 1920. Partridge Wyandotte Club and Sussex Club of America, Cincinnati. Theo. Hewes, Sec., Indianapolis, Ind.
- Dec. 30, 1919-Jan. 4, 1920. Lancaster Poultry Show, Lancaster. Thomas Baus, Sec.; D. D. Whitaker, F. A. Peortner, Judge.
- Jan. 5-10, 1920. Ashabula County Poultry & Pet Stock Assn., Ashabula. E. N. Tilton, Sec.; A. F. Kummer, Judge.
- Jan. 13-17, 1920. Elmoro Poultry Show, Elmoro. D. B. Waters, Sec.

### OKLAHOMA

- Dec. 1-6, 1919. Big Center Poultry & Pet Stock Assn., Enid. C. F. Schultz, Sec.
- Dec. 2-5, 1919. Rogers County Branch, O. S. P. F., Claremore. L. C. Hagard, Sec.
- Dec. 3-6, 1919. Tulsa County Branch, O. S. P. F., Broken Arrow. L. J. Lewis, Sec.
- Dec. 3-6, 1919. Osage County Branch, O. S. P. F., Fairfax. T. J. Pinkston, Sec.
- Dec. 4-6, 1919. Cleveland County Branch, O. S. P. F., Norman. W. L. Biggs, Sec.
- Dec. 4-6, 1919. Pototoc County Branch, O. S. P. F., Ada. John Thrasher, Sec.
- Dec. 10-16, 1919. Blackwell Show, Blackwell. Clarence G. Dalton, Sec.
- Dec. 15-20, 1919. Woodward County Branch, O. S. P. F., Woodward. William F. Grey, Sec.; F. T. Helmlich, Judge.

(Continued on Page 26).

## CLASSIFIED ADVERTISING

The classified advertisers in **POULTRY KEEPER** are coining money fast this year.

It pays to keep your announcement before the people. That is the way to establish a reputation for your business. Why not go after the people, get good prices, and make more money this year?

### RATES:

Rates for Ads. Classified Under Proper Headings Are as Follows:

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### ANDALUSIANS

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**SINGLE COMB ANCONAS**—Cockerels and pullets—price winners and fine breeders. Prices right. Satisfaction guaranteed. Lon Miller, Martinsville, Ill. 11-2

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**SINGLE COMB ANCONA PULLETS,** April hatched, \$2.50. June hatched, \$1.75. Year old hens, \$2.25. Satisfaction guaranteed. Joseph Hughes, Irving, Illinois.

**MY WINTER LAYING ANCONAS** cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write, Geo. Hecker, Earlville, Iowa. 2-12

**SHEPPARD STRAIN R. C. Ancona** cockerels, March and April hatched. Some fine birds, cheap, if taken at once. Mrs. E. J. Crawford, Owatonna, Minn.

**ANCONAS, SINGLE COMB**—331 egg strain, cockerels, \$2.50. Hens, \$2.50. Satisfaction guaranteed or money returned. Strasburg Poultry Yards, Strasburg, Illinois. 8-12

**LEWALLEN'S LEADERS**—The laying, paying strain of Single Comb Anconas. The egg producers of today. Several selected cockerels for sale. Write your wants to the South's foremost Ancona Farm. Worth M. Lewallen, High Point, North Carolina. 10-4

### BUTTERCUPS

**SICILIAN BUTTERCUPS**—Cockerels, pairs, trios. McPherrin, 1016 24th, Des Moines, Ia.

### CORNISH

**QUALITY DARK** and White Cornish reasonable. Stamp for prices. B. W. Grinyer, Eleroy, Illinois. 11-3

### RHODE ISLAND REDS

**ROSE COMB RED COCKERELS**—Rich brilliant color. Reasonable prices. Catalog 2c. Nauman Poultry Farms, Fairbault, Minn. 11-3

**ROSE COMB RED COCKERELS,** from prize winners and record layers. Dard red, vigorous farm raised, big type, fine shape. (Bean Strain) \$4.00 up. Shipped on approval. Daugherty's Poultry Farm, Metcalf, Ill.

**LARGE DARK RED ROSE COMB REDS**—Good scoring and utility, best laying strain. Satisfaction guaranteed. Highland Farm, Hedrick, Ia. 10-12

**RHODE ISLANDS REDS**—50 choice Rose Comb cockerels, Dark Red, \$3.00 to \$5.00 each. Sold on approval. Geo. E. Miller, Box 118, Defiance, Ohio. 10-2

**ROSE COMB AND RED COCKERELS,** dark color, large type, \$3.00 each. Mrs. Geo. Fisher, Coatsburg, Ill. 10-3

**ROSE COMB RED COCKERELS,** \$3, \$5 each. Cock, \$10. Pullets, \$3, to \$10. Carrington Poultry Co., Menomonie, Wis. 10-2

# An Open Letter to Breeders

Kind Friends:

Did you ever stop to think and realize that classified advertising is the most economical method of disposing of surplus stock or eggs for setting? The rate is low and based on the number of words you use.

**POULTRY KEEPER** is paying big on classified advertising. We carry pages of it and our readers look on these pages as reading matter. They read them carefully to see what is offered at reasonable prices. That's why our classified advertising pays so well. Here is what people say who have advertised with us:

"My small ad. in your paper flooded me with orders." Shiloh Poultry Farm.

"I get a dandy lot of orders from your paper." Leo Munger.

"My classified ad. in **POULTRY KEEPER** brought so many orders last year, I could not supply eggs enough." W. G. Yearly.

"My classified ad. last year sold more eggs than ever before." Grover Deege.

"Your paper did good work for us last season." Keystone Hatchery.

"Am getting fine results from my classified ad." Elmer Hatton.

"I get good results from my ad. in **POULTRY KEEPER**." Mrs. Joe Hartman.

"I always get good results from **POULTRY KEEPER** ads." James H. Keefer.

We could quote you dozens of others. **POULTRY KEEPER** can dispose of your surplus stock and eggs for hatching at very little cost.

May we not have your answer by return mail?

Yours very truly,

**A. OTIS ARNOLD, Publisher.**

### BUFF LEGHORNS

**STAMINA—PROLIFICACY**—2¼ oz. eggs. Trap-nested, pedigreed. "Business Beauty" Catalog. Send Stamp. Joseph Benedict, Chevy Chase, Maryland.

**SINGLE COMB BUFF** Leghorn cockerels. Also eggs for hatching. Karr's Buff Leghorn Farm, Laeygne, Kansas. 11-4

**EGGBRED BUFF LEGHORNS,** (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

**SINGLE COMB BUFF LEGHORN** cockerels. Fine, healthy, solid golden buff birds. Prices reasonable. Arthur Worthington, R. 3. Two Rivers, Wis. 9-4

### BROWN LEGHORNS

**LOOK! LOOK!** Pecans 10 cents per pound, about 2,000 lbs. for sale. S. C. Brown Leghorn cockerels. Write for prices. Henry Simmel, R. 1, Pilot Point, Texas. 11-3

**SINGLE COMB BROWN LEGHORNS**—First cockerel Illinois Fair, 1918. Cocks, cockerels, \$3.00. Pullets, \$3.50. Trio, \$10.00. Pen, \$17. M. Edwards, Rockbridge, Ill. 11-3

**KULP'S BIG ROSE COMB** (260) and Single Brown, 266 records. Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

### WHITE LEGHORNS

**SINGLE COMB WHITE LEGHORNS**—Breeders. Eggs. Baby Chicks. Order early. Satisfaction guaranteed. High Mitchell, Weldon, Ia. 11-12

**SINGLE COMB WHITE LEGHORNS**—Limited number fine, husky cockerels. February hatched. \$2.00, \$3.00, \$4.00, \$5.00. St. Anne Academy, St. Anne, Ill.

**PABST QUALITY S. C. W. Leghorns**—200-265 strain. March, April pullets, \$2.50, \$3.00. Yearlings, \$1.75 each. Pabst Stock Farm, Box K, Oconomowoc, Wis.

**275-288 EGG WHITE LEGHORNS.** Early hatched, vigorous cockerels and pullets that will make splendid breeders for coming season. Ernestine Bott, Brighton, Ill., Box 5. 10-3

**YOU WANT HIGH EGG PRODUCTION.** My pedigreed and trap-nested S. C. W. Leghorn males are guaranteed to increase your egg production or your money back. M. M. Jacobs. Dept. K, Fairbury, Ill. 10-3

**PURE BRED FERRIS STRAIN S. C. White** Leghorn Cockerels, \$1.50 each. Mrs. Harry Moler, Owanoco, Ill. 9-2

### WHITE ORPINGTONS

**SOME EXTRA FINE S. C. White Orpington** cockerels, \$3, \$5, \$10 and \$15 each. Write me your wants on S. C. White Orpingtons. Neal Myers, Queen City, Mo. 11-4

**WHITE ORPINGTONS**—Cockerels, pullets, hens, cocks, \$5.00, \$7.00, \$10.00, \$15.00 up. Catalogue free. R. E. Sandy, Box J, Stuarts Draft, Va.

**S. C. WHITE ORPINGTONS.** Two hundred egg strain. Cockerels and cocks for sale, \$2.50 to \$10.00. G. F. Kramper, St. Libory, Ill. 10-3

### BUFF ORPINGTONS

**SINGLE COMB BUFF ORPINGTON COCK-** erels for sale. Bred from heavy winter layers. Write for particulars. Walter Goessling, 930 Jefferson St., Quincy, Ill. 11-2

**S. C. BUFF ORPINGTONS**—Not a repetition, but a development from the best birds of America. Herschel Thomas, Converse, Ind.

**BURGER'S BUFF ORPINGTONS** have won at the leading shows in the Middle West. Show birds and choice breeders in old and young stock. Satisfaction guaranteed. A. F. Burger, Keokuk, Ia. 10-4

**PURE BRED BUFF ORPINGTON** pullets and hens. Also a few cockerels. Prices reasonable. Mrs. J. L. Blacketter, Hull, Ill. 10-2





# SAVE MONEY

*I am in a position to save you considerable money*

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I have a special low price with nearly all publications and am willing to divide my profit with you. Here are twelve clubbing offers. If you do not see what you want, write me. Make up your own club and ask me to make you a special money saving price.

### Club No. 1

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$0.75</b> |
| Illinois Farmer ..... | .50    |                 |
| Home Instructor ..... | .25    |                 |

### Club No. 7

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.00</b> |
| Mother's Magazine ..... | 1.00   |                 |

### Club No. 2

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.00</b> |
| McCall's .....       | 1.00   |                 |

### Club No. 8

|                           |        |                 |
|---------------------------|--------|-----------------|
| Poultry Keeper .....      | \$ .50 | } <b>\$1.25</b> |
| Illinois Farmer .....     | .50    |                 |
| Home Instructor .....     | .25    |                 |
| Semi Weekly Republic..... | 1.00   |                 |

### Club No. 3

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.00</b> |
| Illinois Farmer .....      | .50    |                 |
| Green's Am. Fruit Grower.. | .50    |                 |

### Club No. 9

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.25</b> |
| Illinois Farmer ..... | .50    |                 |
| McCall's .....        | 1.00   |                 |

### Club No. 4

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.00</b> |
| Illinois Farmer ..... | .50    |                 |
| Farm & Home .....     | .25    |                 |
| Farm & Fireside ..... | .25    |                 |

### Club No. 10

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.50</b> |
| McCall's .....             | 1.00   |                 |
| Semi Weekly Republic ..... | 1.00   |                 |

### Club No. 5

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.00</b> |
| Semi Weekly Republic ..... | 1.00   |                 |

### Club No. 11

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.50</b> |
| Mother's Magazine ..... | 1.00   |                 |
| McCall's .....          | 1.00   |                 |

### Club No. 6

|                              |        |                 |
|------------------------------|--------|-----------------|
| Poultry Keeper .....         | \$ .50 | } <b>\$1.00</b> |
| Am. Poultry Advocate .....   | .50    |                 |
| Western Poultry Journal..... | .50    |                 |

### Club No. 12

|                            |        |                 |
|----------------------------|--------|-----------------|
| Poultry Keeper .....       | \$ .50 | } <b>\$1.50</b> |
| Semi Weekly Republic ..... | 1.00   |                 |
| Mother's Magazine .....    | 1.00   |                 |

If this paragraph is marked it does not mean that your subscription to **POULTRY KEEPER** has expired. I simply desire to draw your attention and that of your friends to these money saving offers. In case your subscription has expired, these offers will mean a real saving for you.

4. *OTIS ARNOLD, Publisher,*  
*Quincy, Illinois.*

Enclosed find \$..... for which send me Club No. ....

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State .....

R. F. D. ....

POULTRY KEEPER

# 18 HENS

## 16 Eggs a Day

**L**AST winter eggs sold as high as \$1.00 a dozen. As America's foremost poultry expert I predict that this winter eggs will go even higher. Poultry raisers are going to reap tremendous profits. You, too, can make sure of a big egg yield by giving your hens a few cents' worth of Reefer's "More Eggs" tonic. This product has already been tried, tested and proven by 400,000 chicken raisers. It has stood the test of years and is acknowledged the best and most successful egg producer on the market today. Every day that you don't use it means that you are losing money. Start with a few cents' worth of Reefer's "More Eggs" Tonic. Act now!

### Got 117 Eggs Instead of 3

That's the experience of one enthusiastic poultry raiser who wrote me. And Lulu Williams, of Parratt, Ga., writes: "Before using your tonic I was getting only 2 or 3 eggs a day. I am now getting 16 eggs a day from 18 hens". Read the letters below and remember that they are just a few out of thousands.

#### A Million Dollar Bank Guarantee

Absolute Satisfaction or Money Back

#### The National Reserve Bank of Kansas City

Capital and Surplus \$1,100,000

##### TO WHOM PRESENTED:

Mr. E. J. Reefer has deposited in this Bank Ten Thousand (\$10,000.00) Dollars, with instructions that out of this fund we are to return to any of Mr. Reefer's customers the total amount of their purchase from him, provided Mr. Reefer fails to do as he agrees.

You, therefore, take no risk whatever in purchasing from Mr. Reefer, as this bank will refund the total amount of your remittance to Mr. Reefer if he fails to do as he agrees.

Very truly yours,

WB/I

President.

##### Banker Endorses "More Eggs"

Some time ago I got from you "More Eggs" and it now means **MORE EGGS**. I am now fully convinced of its utility. I have 14 pullets and 14 hens one year old and the first 10 days of December they laid 11 dozen eggs.—Yours very truly, H. F. POHLAND, President, The Citizen's Bank of Ashland, Oregon.

##### 100 Hens—1500 Eggs

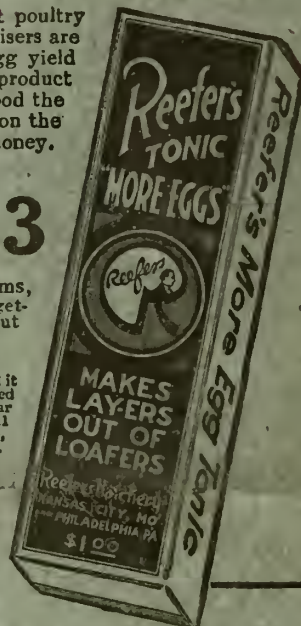
I have fed 2 boxes of "More Eggs" to my hens and I think they have broken the egg record. I have 100 White Leghorns and in exactly 21 days I got 125 dozen eggs.—MRS. H. M. PATTON, Waverly, Mo.

##### 8988 Eggs from 125 Hens

Since using the "More Eggs" I have got more eggs than any time I have been in the poultry business, about thirty years. Since the 15th of March to November 16th I have marketed 749 dozen and only have 125 hens.—MRS. W. S. DEAHL, Exline, Iowa.

##### 1368 Eggs After 1 Package

Last fall I bought a box of your "More Eggs." From January 1st to July 1st my hens laid 1368 eggs.—A. E. WHITE, Spranton, Pa.



##### "A Godsend"

"More Eggs" Tonic is a great Godsend. I was only getting 12 eggs a day and now get 50 a day.—MRS. MYRTLE ICE, Boston, Ky.

## Reefer's "More Egg" Tonic

Guaranteed by a Million Dollar Bank

### Makes Layers Out of Loafers

This is a concentrated tonic, not a food. It has every element that helps make more eggs. A perfect regulator, aids digestion and increases production of eggs. The foremost authorities in America and poultry raisers from every state endorse Reefer's "More Eggs" Tonic.

### Results Guaranteed!

Read the facsimile shown here of the guarantee of a million dollar bank that "More Eggs" will produce results. This million dollar bank guarantees to refund your money if you're not satisfied. You run no risk. So don't delay. Every day you wait you are losing money. Act NOW!

### Send Coupon

Every day counts! Start your hens making money for you right away. Send the coupon today for a good size package of "More Eggs" Tonic. You run absolutely no risk. A million dollar bank will refund your money instantly if you are not entirely satisfied. Just mail coupon with a dollar bill today. Profit by the experience of a man who has himself made a fortune out of the poultry business and is helping other do the same. Send for this guaranteed egg producer and profit maker TODAY.

E. J. Reefer, 3928 Reefer Bldg., Kansas City, Mo.

**E. J. Reefer, Poultry Expert**  
3928 Reefer Building, Kansas City, Mo.

Send me one full-size package of "More Eggs." Send this with an absolute Bank guarantee that you will refund my money if this tonic is not satisfactory to me in every way. I enclose \$1.00. (A dollar bill, P. O. money order or your private check—just as you please.)

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Address.....

Issued on the first of  
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Price 50 Cents  
a Year.

# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTIC-  
ULARLY TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

DECEMBER, 1919

No. 9

## Poultry Keeper Calendar

Poultry Keeper this year will put out a fine art calendar. The illustration is an army and navy girl drawn by that noted artist, Earl Christy. It is a work of art that will be appreciated by everyone. Send this notice with fifty cents for a new or renewal subscription and a copy of this calendar will be sent you free of charge. Address Poultry Keeper, Quincy, Illinois.

POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.

## TRAIN AND PREPARE SHOW BIRDS.

### Knowledge Is Essential.

Preparing birds for exhibition is a task demanding patience and care. Wildness must be overcome—a bird must submit itself to be handled with ease, and when released it should assume a stately bearing—displaying as many fine points as possible. This can be accomplished only by frequent, careful, intelligent handling and training before the show. Before shipping, the birds should be properly washed and prepared so as to present the best possible appearance. All well known breeders know that the preparation is half the battle—the one who brings out the good points of his birds to the best advantage wins.

So it is in every walk of life. The man who knows how to produce the goods is the one who is crowned with success. We need not go out of our chosen field of poultry to demonstrate this—as an illustration we need only to review the struggles of our first and foremost poultry publication.

In 1874, the year the present American Poultry Association was organized, a small paper was brought to life and called the *American Poultry and Swine Journal*. In 1876, two short years thereafter, the interest in its poultry news had become so keen that the publishers decided to devote their entire efforts toward building up the poultry industry, and forthwith they changed the name to *AMERICAN POULTRY JOURNAL*.

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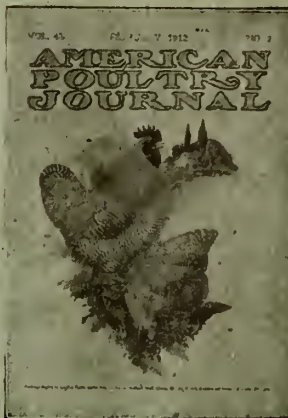
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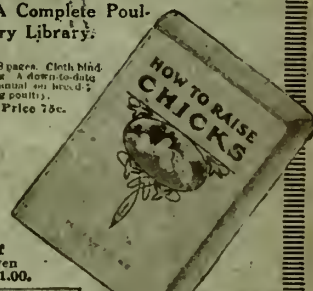


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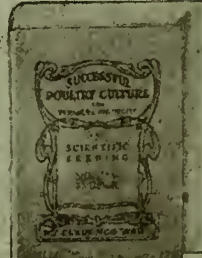
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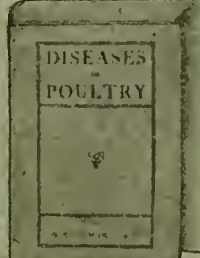
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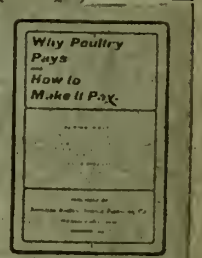
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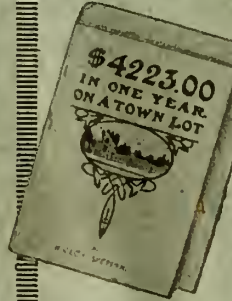


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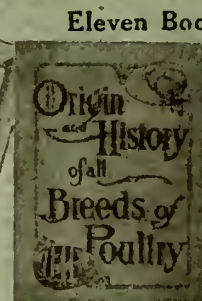


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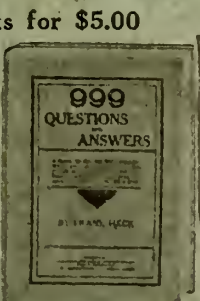
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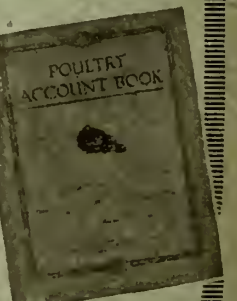
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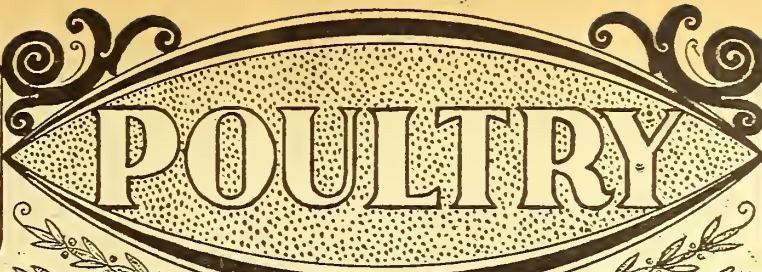
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VOL. XXXVI.

DECEMBER, 1919.

No. 9

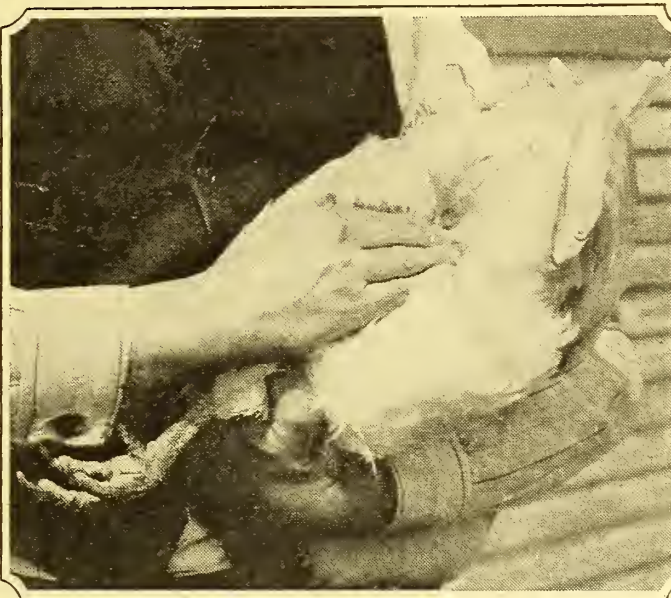
## Golden Egg Artisans

*The Swell Dresser Is Not a Good Layer.*

**T**HE hen which consults the fashion plates and decides that July, August or September is the time to replace her old plumage with a new dress is not on the job laying eggs but is laying down on the job. As the social butterfly of the city can be easily distinguished from the hard working housewife in the country, so in the poultry world the kind of clothes a hen wears may be used as one of the guides by which the high producing hens may be distinguished. There are other observations which may be made which will assist in eliminating the non-productive hen. Last year through its Agricultural Extension Service the University of Missouri carried on an extensive warfare against the non-laying, deadhead hen. Approximately 700,000 birds were handled and over 200,000 of these were classed as loafers. At an estimated saving of fifteen cents per bird per month from the time of culling until February 1st the campaign results in a saving of about \$250,000 to the Missouri farmers. An observation at any poultry produce house will convince the most skeptical that the hens as generally sold from the farm are not properly culled. Eggs are found in the crate and no matter how expensive feed may be it is poor policy to sell a hen which is laying. That the culling campaign was a success is shown by the hundreds of testimonials which indicate that only the poor hens were sold and the good ones kept. Many farmers kept the two flocks separated for a week or two and observed that as many eggs were obtained from the flock of

By **H. L. KEMPSTER**

In September Successful Farming.



Measuring spread of pin bones. A 4 finger spread indicates a layer.

"layers" and that none were obtained from the culls. One farmer cut open a layer and found egg yolks in the process of development. The poor one showed no evidence of laying in the near future. One Chicago produce house noticed that the birds coming from a certain Missouri community failed to show the usual number of eggs laid in the coops on their way to market. An investigation showed that they came from a community where a culling campaign had been conducted.

Culling is not a difficult task. One familiar with the simple principles can easily go over the flock without making serious mistakes. He can easily pick out the extremely poor and extremely good ones. With the high price of feed it is poor business to keep a non-laying hen. With eggs at present prices it would be folly to sell the layer. Culling is also necessary to select the hens to be kept over for next year's breeders. At no time are the earmarks of the good and poor layer more prominent than in August, September and October. By selecting the good layers in the fall it enables the farmer to breed from birds which are naturally productive. In this way the flock can be built up and egg production thereby increased. Possibly those hens which are left will have more room and more liberal rations. In culling one should remember that many hens will show indications of being a good bird and also other indications of not having laid. This may be due to faulty rations which of course is not the hen's fault. It is poor economy not to feed laying hens liberal supplies of animal food such as beef

scrap, tankage, sour milk, etc. Unless this has been done the hen has not had an opportunity to demonstrate what she could have done under favorable conditions. One and a half pounds of meat scrap or tankage or three gallons of sour milk is the daily allotment for one hundred hens.

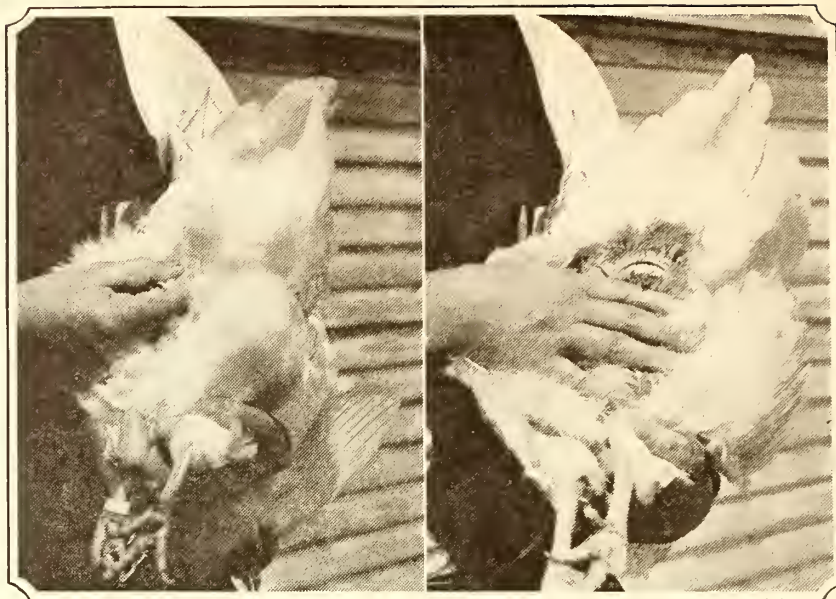
The time to cull hens is when they quit laying. There are few flocks which do not contain birds which are not laying and will not lay for some time. These should be sold as soon

as observed. Systematic culling should be carried on during the summer months, beginning in July and continuing until November. The sooner a poor producer is detected the quicker she can be sold, thereby saving future feed cost. In general one should sell the two year old hens of the general purpose breeds such as Rocks, Wyandottes, Rhode Island Reds and Orpingtons as soon as laying ceases. Leghorns and similar breeds may be kept as long as they show indications of being good layers. For the purpose of telling how old hens are the farmer should adopt some system of marking his hens such as leg bands or toe punches. In this way guesswork is eliminated.

The points to be observed in culling are health, time of molt, shank and beak color, appearance of vent, condition of comb character and spread of pin bones, character of breastbone, body depth and quality. In culling each of these points should be carefully considered. A catching coop into which the chickens may be driven greatly facilitates making the observations and lessens the excitement.

Occasionally one will find in the flock, birds showing lack of health. These will be identified by a small comb, sickly looking appearance, crow head, an emaciated condition, dull eye, poor appetite and inactive disposition. Such birds should be immediately culled as they will never become satisfactory producers.

Invariably the early molting hen is the poorest layer. Observations at the Connecticut Experiment Station show that a hen which had not molted by the middle of October had laid from thirty to sixty more eggs per hen more than had those which had completed the molt. At the University of Missouri those which had completed the molt by the middle of October had laid an average of one hundred and twenty eggs, while those which had not started to molt had an average of one hundred and sixty-six eggs. Hens do not as a rule lay while molting. The early molting hen has a shorter laying period than does a late molter. The bird which molts in July is a poor layer while one which molts in October or November usually has a high record. The late molting hen is the one to save for next year's breeders. It is easy to observe when birds are in the molt by the fact that their plumage will be uneven in color, new pin feathers will be showing and on certain portions of the bird, feathers may be absent. A hen which has completed the molt will have clean plumage and will have many of the appearances of a pullet. A hen which has not molted will have dirty plumage, with tail and wing feather's broken and worn. Culling at the time of molt is one of the easiest ways of eliminating the poor producers. The question which has been raised by farmers and poultrymen is this, "which will lay the most eggs next year?" There seems to be an opinion existing that a hen with a new coat of feathers Novem-



Measuring the thickness of the pin bones

Body depth. Five finger depth; such a hen has "capacity" and is in laying condition

ber 1st will probably lay more winter eggs than will the hen which has yet to molt and prepare for winter. This opinion is not based on experimental evidence and is erroneous. A hen which is a poor layer one year will be a poor layer the next. At the University of Missouri 41 hens which had completed the molt by November 1st averaged 39 eggs a piece up to April 30th, while 42 which had not started to molt November 1st, had averaged 52 eggs. The early molter which had a new coat of plumage November 1st, laid on the average 13 less eggs than did the birds which molted after November 1st.

In yellow skinned varieties the color of the shank during the summer and fall months is an excellent guide as to past performance. While laying a hen ceases to deposit yellow pigments in the shanks, skin, beak, etc., and as a result the shanks, skin, earlobes and beak will gradually fade out so that if she has a long period of continuous laying the shanks and beak will become nearly if not entirely free from yellow color. As soon as egg production ceases color will again appear in the shanks. It is safe to say that a hen with bright yellow shanks during July and August has a poor egg record. If a farmer sells the pale shanked hen in preference to the one with bright yellow shanks he is selling the good layer and is keeping the poor one. The same is true of the beak and earlobes in breeds having white earlobes such as the Leghorns. A hen with yellow earlobes has not laid for some time unless it happens that she may be laying at the time of the observation. At the Connecticut Experiment Station it was found that the bird with a yellow earlobe had a poor egg record while one with a white earlobe had a good record.

#### Laying Condition

The above points may be used as

a guide as to previous production. As stated above a laying hen should be kept as long as she continues to lay. In judging whether a hen is laying at the time the observation is being made the points to be observed are appearance of comb and vent, spread of pin bones, and body depth.

The vent of a hen laying heavily is large, expanded and moist while that of a hen not laying or laying occasionally will be dry, hard and puckered.

A laying hen usually has a large, bright red comb. When egg production ceases the comb shrinks in size and loses its bright waxy appearance usually becoming dry and covered with a white scurf.

The spread of the pin bones may be used as a guide to indicate whether a hen is laying. These pin bones are located just above and on each side of the vent. In a hen not laying they will be close together, sometimes nearly touching, while in others a spread of one finger may occur. In a laying hen these pin bones will be from two to five fingers apart. This is an excellent guide as to whether a hen is or is not laying.

Usually the condition of the pin bones is indicative of the type of hen being handled. A good layer will possess pin bones which are fine, or sharp pointed, and flexible while those of a poor layer will be blunt and stiff. A good layer will have a sharp, knife edged breast and the breast will not be well covered with flesh while a poor layer will be just the opposite. As a dairyman can detect the differences between a good and poor dairy cow in a general way, so the poultryman can judge whether the hen is a good or poor egg layer. Generally speaking two hens in similar state of health will to some extent indicate their productive tendencies by the character of the pin bones and breast bone.

#### Body Depth

In the same way that the spread

of pin bones indicate whether or not a hen is in laying condition, the body depth may also be used. The term "body depth" as here used is meant the distance between the pin bones and the rear end of the breast bone. In a hen which is not laying the body depth may be as little as one or two fingers. In a laying hen the depth will be three to five fingers in width. The laying hen has to have more room for the intestines which are longer while she is in laying condition and the oviduct which is also much larger, when functioning. The spread of the pin bones and the depth of body are good indications of whether a hen is laying.

**Quality**

Body quality is the term applied to the quality of the skin, especially around the breast and beneath the vent. The skin of a good layer is thin, soft and pliable while that of a poor layer will be thick, hard and stiff. Beneath the vent is one of the best places to "feel" the hen to judge body quality. Descriptions relative to body quality vary. One speaker states that in a high producing hen the skin beneath the vent should be soft and velvet while another says it should be soft and pliable like a wet rag. Still another says it should "feel" similar to a partly milked udder of a dairy cow. At any rate the abdomen, beneath the vent, should be soft and pliable. Any hen which has a thick layer of fat on the abdomen, beneath the vent, should be sold as soon as other indications show she is not laying.

**Temperament**

A good laying hen is active, busy, energetic and happy. She is apt to be more friendly than a poor layer. One speaker states that if the hen house door is opened—assuming the hens are well fed—the first seventy per cent which get out of the house are the best layers. The laying hen is the first off the roost in the morning and the last to go to roost at night. She has a large crop and is a heavy eater. The poor layer mops around, stays on the roosts and is inactive.

**Cull These Hens**

Sick, weak inactive hens which molt early, and have yellow shanks, yellow earlobes, and small pale combs early in the season should be removed. Cull all hens which indicate not laying by having small spread of pin bones, poor body depth and poor body quality.

**Save These Hens**

Healthy, strong vigorous hens which molt late and show pale colored shanks, beak, white earlobes in October should be held over for next year's breeders. If laying they will show wide spread of pin bones, good body depth and soft pliable abdomen.

**Score Card for Culling**

The following score card has been used at the University of Missouri with marked success. The following illustrates how the above suggestions are applied.

|                          |             |           |
|--------------------------|-------------|-----------|
| Band No.                 | 2715        | 2760      |
| Molt                     | Not started | Complete  |
| Comb Color               | Red         | Pale      |
| Comb Size                | Large       | Small     |
| Shanks                   | White       | Yellow    |
| Earlobes                 | White       | Yellow    |
| Body depth               | 4 fingers   | 2 fingers |
| Spread of pin bones      | 3 fingers   | 1 finger  |
| Conditions of pin bones  | Fine        | Medium    |
| Condition of breast bone | Fine        | Medium    |
| Body Quality             | Excellent   | Coarse    |
| Egg Record               | 222         | 110       |

The above indicates the condition in which the two hens were found in October of last year. By observing these points and giving each due consideration one can easily arrive at some conclusion as to the relative production of the birds in his own flock. Probably two-fifths of the farm hens do not show a profit. Careful culling will eliminate the deadheads. Good hens and proper care will insure more profits from the farm poultry flock.

**SPLENDID WHITE LEGHORNS**

Do not overlook the ad of U. B. Pittenger, Box 194-K, Mount Morris, Illinois, in this issue. He has the famous 244 to 290 Egg Barron Strain with about twenty cockerels and sells at prices ranging from three to ten dollars each. If you want some good breeding stock, we suggest that you look up his ad and get in touch with him at once.

**STATE FAIR WINNERS**

C. F. Berndt, Menomonie, Wisconsin, is advertising some of his Wisconsin State Fair S. C. W. Or-

ington winners in this issue. If you are in the market for some good new blood for your Orpingtons, we suggest that you look up Mr. Berndt's ad.

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Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeder's opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drevenstedt, Breeder and Judge. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.



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# Standard Bred Poultry

## Characteristics of the Meat Breeds

**Dark Brahma.**—The Dark Brahma is a variety which is rarely found at the present time in the United States. In coloring it is most attractive, the general color plan being the same as the Silver Penciled variety of other breeds.

In general the plumage of the male consists of a silver-white top color, extending over the shoulders and back, the hackle and saddle striped with black. The rest of the body plumage, including the main tail feathers and sickles, is black. The wings when folded show a bar of black extending across below the shoulder. Below this black bar the wings show white, due to the white on the outside of the secondaries.

In the female the general trend of color is gray, with delicate, distinct, concentric, dark penciling on each feather, except the hackle, each feather of which is silvery white with a black center, showing a slight gray penciling, and the main tail feathers, which are black, with the two top feathers showing some penciling. The undercolor is slate throughout in both sexes. The standard weight of cocks is 11 pounds, hens 8½ pounds, cockerels 9 pounds, pullets 7 pounds.

### Cochin.

The Cochin is also one of the oldest standard breeds. It is believed to have originated in China and to have been imported into the United States from that country or from England. The Cochin is particular-



Fig. 4.—Dark Brahma male.



Fig. 5.—Dark Brahma female

ly characterized by the nature of its feathering, which is very heavy and very soft and loose.

The large size of these fowls and the character of feathering give them a decided appearance of massiveness. In shape they are deep bodied and appear to be rather round. The profuse feathering gives the bird the appearance of being set very low on its legs, as the body feathering completely hides the hock joints. The heavy feathering has brought about the development of a large cushion in the female, giving the hens the appearance of having a very short back and a convex sweep from the back to the end of the tail. The feathering extends down the outer sides of the shanks in great profusion, and also covers the outer and middle toes, almost completely hiding the feet. The feathers about the hocks should be soft and curving, as stiff feathers extending back from the hocks produce what is known as vulture hocks, which are undesirable in this breed.

The Cochin has been bred for extreme development of feathers, with the result that it is known at the present time in the United States principally as a fancy fowl and is not

(Continued on Page 8)



# Let the "SUCCESSFUL" Realize Your Dreams

**50% Greater Egg Production  
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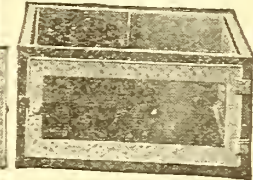
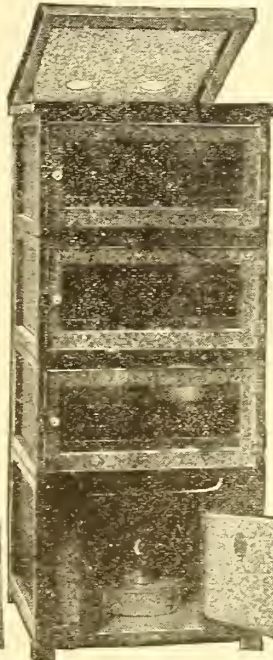
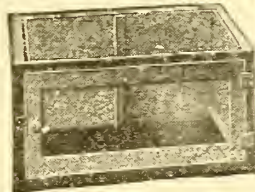
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Just what's needed in fall and winter to keep hens laying and needed again in the spring to make chicks grow into lively profit-producing birds. Write at once for complete 1920 offer. Sold on trial and pays for itself before trial runs out.

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Double steel walls—metal trays. There is nothing else like the "Successful" Sprouter. It's a brand new idea. Cannot be compared to wooden sprouters. It is warp proof—shrink proof—swell proof—nothing in it to rot—food cannot mold.

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**Write Today**

**Des Moines Incubator Co.**  
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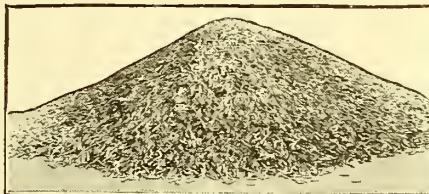
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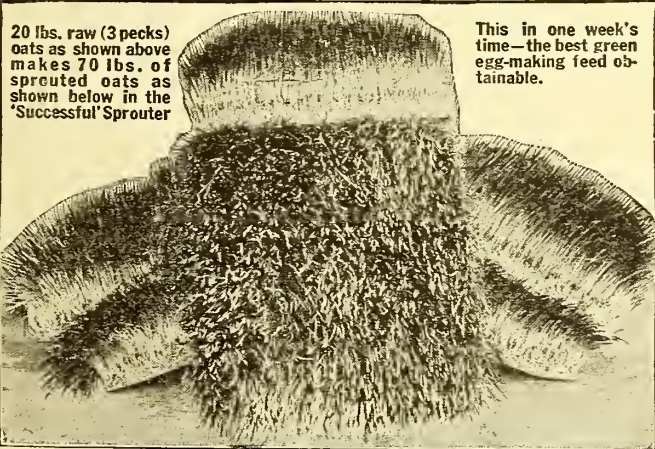
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20 lbs. raw (3 pecks) oats as shown above makes 70 lbs. of sprouted oats as shown below in the "Successful" Sprouter

This in one week's time—the best green egg-making feed obtainable.



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**Works to Perfection**  
Adair, Ill., Jan. 14, 1919.  
Gentlemen: Find check enclosed for which please ship at once one No. 2 Sprouter. Have sold it to one of my neighbors. I am sure I will be able to sell several for you around here because my "Successful" Sprouter works to perfection. Have distributed several pans of sprouted oats among my neighbors and the result is that they all want a sprouter. Send me some more circulars. James W. Derry.

**Fertile Eggs Due to Sprouted Oats**  
Colfax, W. Va., Aug. 19, 1918.  
Gentlemen: We are sending you under separate cover picture of myself, family and one of my future prize winning Single C White Orp. pullets. We are very much pleased with our "Successful Sprouter." We consider it a very easy and cheap way of producing green food at any season of the year. We congratulate ourselves on the fact that we are able to get a large percentage of fertile eggs in midwinter and early in spring; this we attribute largely to the large amount of green food we used the past season, and nothing is better than sprouted oats. The Irons Poultry Farm.

# The Mammoth Incubator and the Poultry Business

**T**HE very important and necessary position that the mammoth incubator fills in the poultry business is somewhat analogous, both in function and the history of its development, to that of the flour mill.

There was a time when individual wheat growers each ground laboriously by hand his own wheat into flour. Development of labor saving machinery, however, brought about a condition whereby it was far cheaper and altogether more advantageous to establish a central milling plant for the sole purpose of taking wheat in quantity and grinding it into flour; and the farmer found it much more profitable to sell his wheat to the mill and buy back flour, than to grind it himself.

A centralized plant, working on a quantity basis, with the aid of skilled workmen, and facilities only possible to a plant handling volume, made such savings possible as to pay its operator a profit and yet do the work more cheaply than the individual.

It is just this function that the mammoth incubator is filling in the poultry trade. The mammoth, with its tremendous comparative efficiency and economy of labor saving, makes it possible to establish central hatcheries which buy eggs and sell day-old chicks on so efficient a basis that the farmer or breeder finds it greatly to his advantage to sell eggs to the hatcher, and buy back baby chicks rather than attempt, with the limited facilities his small volume makes available to him to hatch his own eggs. A thriving day-old chick business should be an integral part of every thriving farming community. Such a plant, of course, operating hatches of a hundred thousand each, can afford to hatch a farmer's eggs for him far cheaper than he can himself, and yet pay handsomely for its operation.

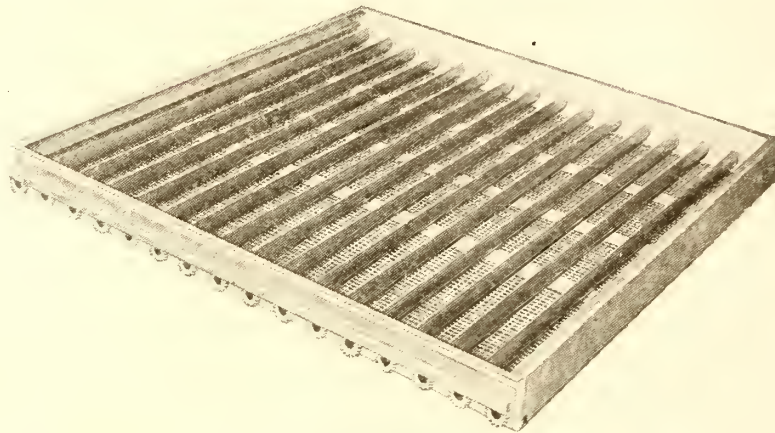
The development of the mammoth incubator has, therefore, been simply a question of its perfection to the stage where, by eliminating all of the hand labor which makes hatching costly, it makes quantity incubating so infinitely more economical than individual incubating as to justify the day-old chick business. This development has been a matter

## THE IMPORTANT POSITION OF THE MAMMOTH INCUBATOR TO THE INDUSTRY.

H. L. WATSON

Pres. American Incubator Mfg. Co.

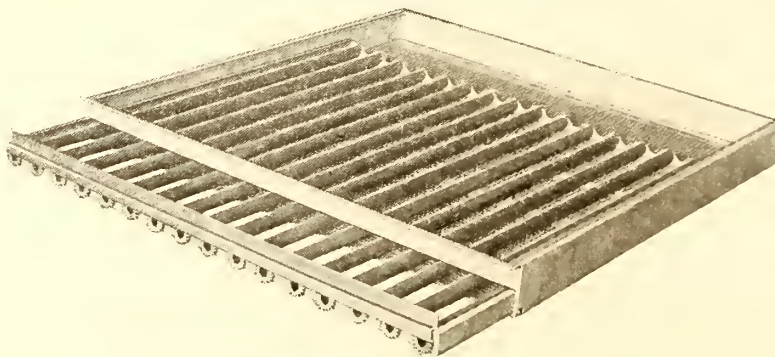
of five years—dating from the time my first famous patents for automatic egg turning and individual compartment regulation of heat, moisture and air were taken out until the present season, when as announced several months ago, new devices have been invented which absolutely eliminate all handling of eggs.



The elimination of labor resolved itself into the inventing of mechanical devices to

1. Automatically regulate heat, air and moisture in each individual compartment.
2. Turn the eggs when necessary.
3. Disconnect turning device on days when turning is unnecessary.
4. Transfer the eggs from turning trays to hatching trays.

These devices are described below as they are to be found in the Wish-



bone, which is a sectional mammoth coming in single deck and double deck construction. Each single deck section consists of four compartments, two on each side of the incubator. It is elastic—sections can readily be added to the end of a battery at any time. Each compartment may be operated as a separate incubator independently of the rest.

Automatic patented devices, separately in each compartment, provide for a constant flow of fresh moist air

at just the right temperature over the eggs; the entire battery of sections being heated by a single heater which automatically regulates itself.

By means of a patented turning bar and roller device, all the eggs in an entire incubator are turned completely over by a single turn of a crank at the front end of the machine.

In each individual compartment, the egg tray rests several inches below the hot water pipes (below it are the nursery tray and the moisture pan). The illustration shows the new Wishbone all metal egg tray—a combination turning and hatching tray.

Hitherto it has always been necessary on the nineteenth day, in other machines, to transfer laboriously, egg by egg, all the eggs from the turning tray to a hatching tray. This operation, made necessary by the fact that chicks must hatch in a tray with a smooth wire bottom, has been as costly as it has been long. Now it is no

longer necessary.

Before the Wishbone eliminated all this work it took from twelve to fifteen hours to transfer the eggs in a very medium size machine—say a 10,000 capacity containing 50 trays. But now that all the lifting of heavily-loaded trays of eggs is done away with—and the tedious and expensive handling of eggs and trays is eliminated, a woman can really operate a Wishbone mammoth without any assistance.

Both sections of this tray are made by a unit-galvanizing method to insure the greatest possible strength, durability and sanitation. The fact that they are "all metal" also means a great saving in time usually required for cleaning.

The front end of the tray rests, from the third to the nineteenth day, on

the turning bar in such manner that the gears on the end of the roller are engaged in the teeth of the bar, and when the turning device is operated, the eggs in this compartment are turned. On the first and second day, however, the tray is suspended on two metal catches, which let down from above the door, so that a quarter of an inch is left between the cogs at the end of the rollers in the tray and the toothed turning bar. This means that when the

handle is revolved to move the turning bar so as to turn the eggs in the rest of the machine, the rollers in this compartment will not be turned and the eggs will not be disturbed. On the third day, the catches are released and pushed up out of the way. Now the tray is "connected;" the gears on the ends of the rollers in the tray are enmeshed with those of the turning bar, and the eggs in this compartment will turn when the egg-turning device of the whole machine is operated. The tray stays in this position from the third to the nineteenth day, when the door is again opened and the lower frame of the tray containing the rollers is pulled out from under the eggs, allowing the eggs to remain on the wire bottom of the tray where they stay until the chicks are all hatched out.

Automatic regulation of heat, warmth and air is now advanced to the stage of scientific perfection.

Just above the eggs a brass thermostat is placed. This thermostat is so very sensitive that when the minutest amount of animal heat is thrown off by the eggs, the thermostat expands and raises the damper on top of the compartment. This allows the surplus heat to escape, and as soon as this excess heat is gone the thermostat contracts, closing the damper.

The wafer thermostats are made of solid brass—not lacquered tin—the moving parts of the regulator are all solid brass which will neither rust nor bind.

The fresh air enters through the round opening in the bottom of the compartment and escapes through the damper-controlled opening in the top of the compartment.

This opening is in the center of the bottom, and the air deflector strips conduct an even amount of this fresh air to each side of the compartment. The moisture pan is one-half inch smaller all around than the compartment, and it is through this one-half inch space on all four sides of the compartment that the air starts upward to supply the eggs with oxygen.

But first the air passes over the warm moisture pan and takes up just the amount of moisture the eggs require.

The bottom of the nursery is made of galvanized wire screen of the proper mesh to distribute evenly all over the compartment the moistened air as it leaves the moisture pan. This moistened air passes up and around the eggs and prevents a too excessive evaporation of the "moisture contents" of the eggs.

The control of the temperature is so delicate, so sensitive that the temperature never varies more than one degree from the beginning of the hatch until the end.

**TOO LATE TO CLASSIFY**

**LEGHORNS**

FARM RANGE S. C. Light and S. C. Dark Brown Leghorn Cockerels, \$2.50, \$3.50 and \$5.00 each. Wm. S. Damhorst, Quincy, Ill.

**"LICECIL" KILLS LICE**

The American Supply Company has been carrying a page ad of their Licecil in Poultry Keeper for some time. They inform us that returns from their advertising have not only been very satisfactory but that they are getting a large number of testimonials from our readers who have had splendid results from Licecil.

**EGGS AND EGG FARMS**

Is made up of articles by experienced breeders, giving methods of housing, breeding and feeding to increase egg production and make egg farming profitable. Article on pedigree breeding. 96 pages, illustrated,

9x12. Price, 50c. Address Poultry Keeper, Quincy, Ill.

**COCKERELS FOR SALE**

We have just received a letter from E. A. Kerr, Harvel, Illinois, that he has some splendid White Wyandotte cockerels for sale at a reasonable price. These birds have size, shape and quality and are the offspring of good laying stock. Look up the ad. elsewhere in this issue.

Do not overlook the ad of M. O. Wing, Callender, Iowa, in this issue. He has some splendid Light Brahma-cockerels for sale at a very reasonable price.

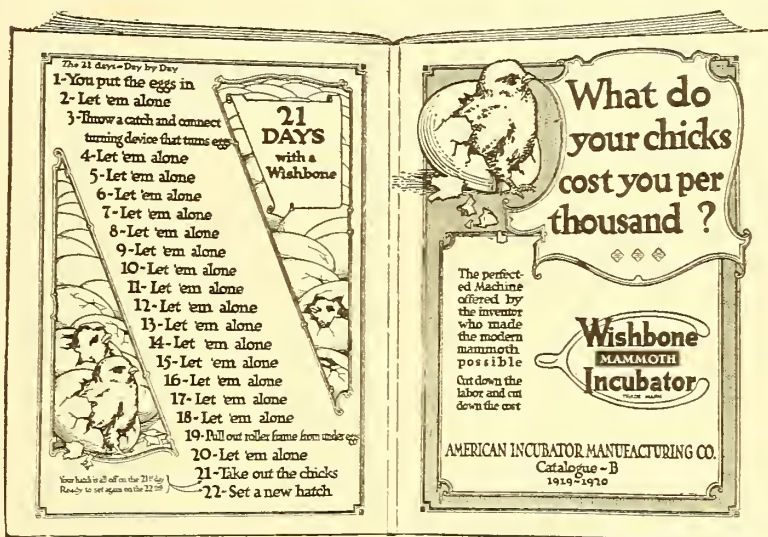
*Last Call! Wishbone Mammoths Oversold Soon! If you want one. Order Now!*

**DON'T WAIT**—If you want to incubate your chicks the new way—the Wishbone way—the low-cost way—next season.

The Wishbone Mammoth with its wonderful new devices that eliminate all hand operations from operating your mammoth—is so popular there won't be enough to go around! Our entire season's production—big as it is—is almost completely sold. Orders are being booked as they come in—first come, first served.

So if you want to incubate your eggs at half the lowest cost of operation hitherto possible—if you want to operate double your former capacity with less labor—write at once for the Wishbone book. Or better, wire.

*Mammoth operators write for this book*



Wishbones cost less than ordinary mammoths. They absolutely eliminate all handling of eggs. They embody every hitherto known worth-while feature of mammoths plus five brand new marvelously efficient devices here seen for the first time.

*1,600 to 50,000 egg capacities and up*

**THE 5 NEW DEVICES**

1. Combination metal turning and hatching tray, eliminating all transferring of eggs. (See page 4 of the catalogue.)
2. Device for connecting turning mechanism on third day without moving the tray or touching the eggs. (See figure 2.)
3. Removable bottom, facilitating cleaning. (See page 6.)
4. Construction permitting easy removal of moisture pan without tipping or spilling. (See figures 2 and 6.)
5. Sectional heater with convertible firing box for coal, gas, or oil interchangeably. (See figures 10 and 11.)

**WARNING**—The Wishbone is the only incubator licensed to be made under the famous patents, Nos. 1,259,726 and 1,283,402. Not only makers, but also **USERS of Incubators, illegally embodying devices covered by these patents are liable to prosecution.** Be careful when you buy.

Harold L. Watson, Pres.

**American Incubator Manufacturing Co.**

299 Cortlandt Street,

Belleville, N. J.

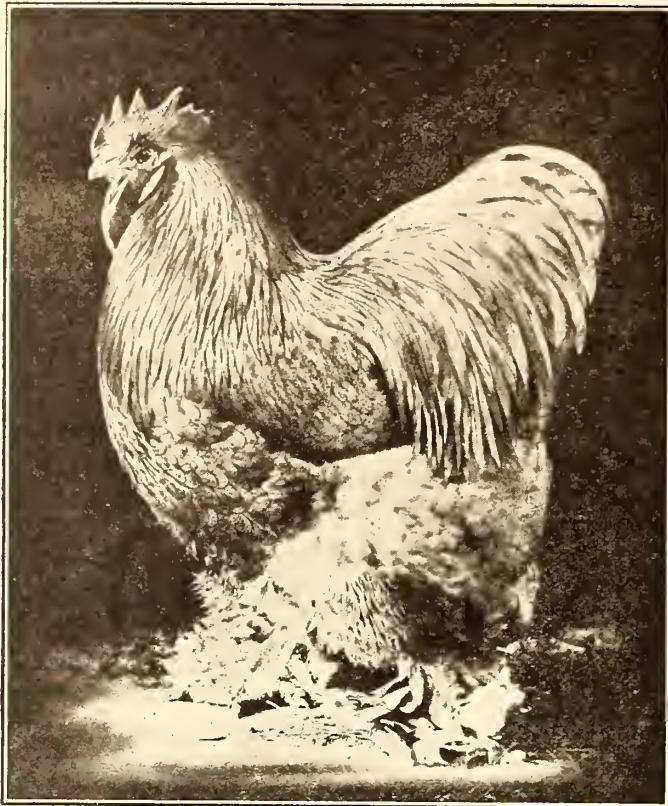


Fig. 6.—Buff Cochins male.

**STANDARD BRED POULTRY**

(Continued from Page 4)

kept to any great extent on farms. The comb is single. The shanks and toes are yellow, except in the Black Cochins, in which the shanks may show some black, and the skin of all varieties is yellow. The hens of this breed lay brown eggs. The standard weight of cocks is 11 pounds, hens 8½ pounds, cockerels 9 pounds, pullets 7 pounds.

**Buff Cochins.**—The Buff Cochins is distinguished from the other Cochins by the color alone, which should be an even shade of golden buff throughout. Shafting, or the presence of feathers having a shaft of different color from the rest of the feather, and mealiness, or the presence of feathers sprinkled with lighter color as though sprinkled with meal, are undesirable. As deep an undercolor of buff as it is possi-

ble to obtain is desired. The shade of buff of the females runs somewhat lighter than that of the males. An important point in this variety, as in all other buff varieties, is to have the shade of color as even as possible over the entire surface.

**POULTRY HOUSES AND FIXTURES**

Brand new edition—right down to date. Locating and planning houses—principle of poultry house construction—Back yard poultry houses and many other subjects, suggested by the title of the book. Over 200 illustrations. Price, \$1.00 postpaid. Address Poultry Keeper, Quincy, Ill.

Pullets hatched early will prove better winter layers.

**CAUTION:** Any Bone Cutter claiming to be MANN'S without F. W. MANN CO. cast on its surface, is an imitation. The genuine MANN'S is made only in Millford.

**Make Hens Lay**

**READ THE BOOK THAT TELLS HOW**

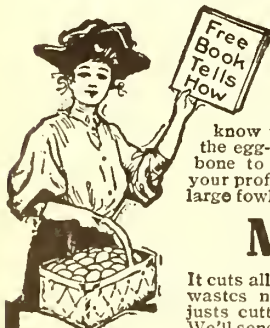
Tells you how to **make hens lay**. Gives you in a nutshell the whole matter of right feeding. Read it if you want to know the **real value** of fresh, raw bone, which contains four times the egg-making ingredients that grain has. You **must** feed raw, green bone to promote **growth, development and laying**. It doubles your profits in number of eggs, fertility, strong chicks, large fowls. It is easily and quickly prepared with

**MANN'S Latest Model Bone Cutter**

It cuts all green bone with all adhering meat and gristle; wastes nothing and never **clogs**. Automatically adjusts cutting to your strength. Any one can turn it. We'll send you one on **10 Days' Free Trial**. **No money** down. If not satisfactory return at our expense. Send for book today.

F. W. MANN CO.

Box 57, Millford, Mass.



**Don't Feed Green Food!**

Do away with the bother by using

**Succulenta Tablets**

They are better, cheaper and more relished by all fowl. Simply dissolve one tablet in one quart of drinking water. Succulenta Tablets are not a drug nor a remedy, but a food—wholesome and harmless. They make chicks grow.

**A FULL EGG BASKET IS ASSURED**

|                                   |             |
|-----------------------------------|-------------|
| 100 large tablets by mail, \$0.50 | Your Money  |
| 250 " " " " 1.00                  | Back If Not |
| 500 " " " " 1.75                  | Satisfied   |
| 1000 " " " " 3.00                 |             |



Write for particulars, giving your feed dealer's name. **SUCCULENTA CO., Dept. 4 NEWARK, N. J.**

**64 BREEDS** Most Profitable Chickens, ducks, geese and turkeys. Choice, pure-bred, hardy northern raised. Fowls, eggs, incubators at low prices. America's greatest poultry farm. 27 years in business. Valuable new 108 page Poultry Guide and Catalog free. Write today. **R. F. NEUBERT Co., Box 799, Mankato, Minn.**

**YOUNG STOCK NOW READY**

Both Cockerels and pullets from my prize winning, high-class

**S. C. BUFF ORPINGTONS**

now ready for sale. A splendid lot of youngsters that will prove prize winners. Write for particulars.

**EDWARD WITT, Sidney, Ill.**

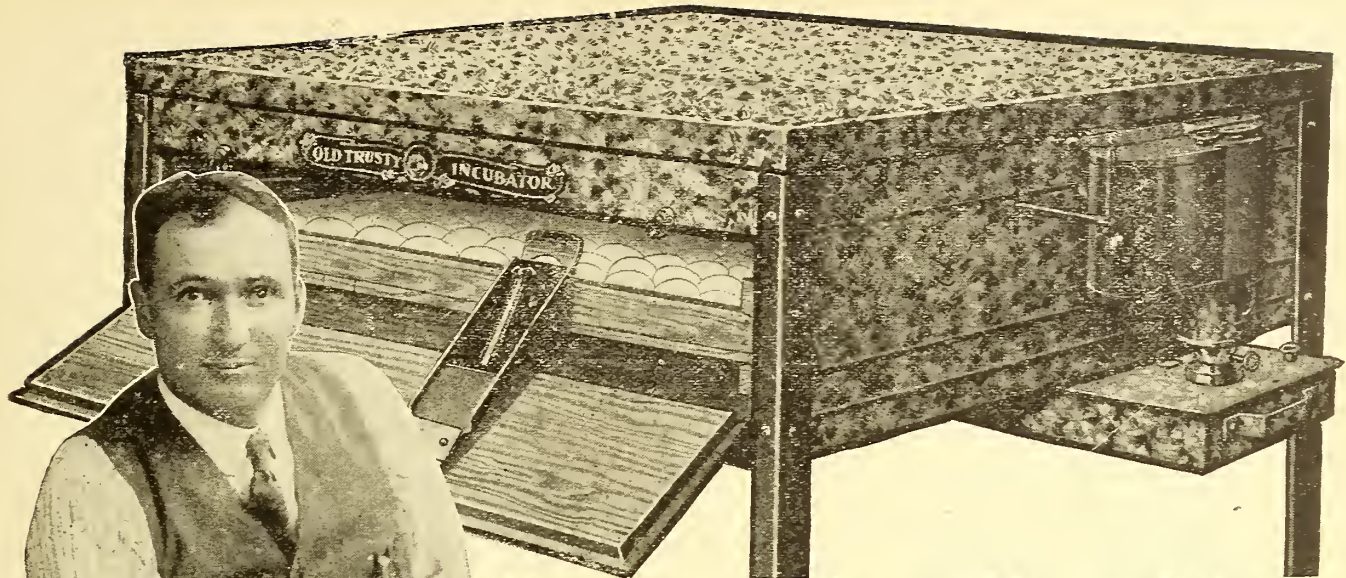
**A NEW YEAR FOR POULTRYMEN**

The new year for poultrymen begins November 1. On that date the spring pullets should be in permanent winter quarters and well-started on the year's production. If flock records have not been kept in the past now is an excellent time to begin. Are your birds returning good interest on the money you have invested in stock and equipment or are you keeping them at a distinct loss? Throughout the year strict account should be noted of every expense: feed, repairs, stock purchased, etc. Credit the flock with market eggs sold, hatching eggs sold, eggs used on the table, chickens eaten, and all market poultry and breeding stock sold.

Have you been feeding your birds too much in the past or haven't you been feeding enough? About 75 pounds of feed per bird is all that is necessary for a good producer for the year, according to G. W. Hervey of the University of Missouri College of Agriculture. Have you been feeding four times as much scratch food as you have dry mash? Twice as much grain as mash is all that is necessary. Frequently inefficient flock practices may be quickly remedied by a glance at the record book. Keep records and you may be surprised to find at the end of the year that your birds have been returning from 15 to 18 per cent on the money you have invested in the flock.

**THE PLYMOUTH ROCK**

A complete text book devoted to America's most popular breed of standard fowls. Explains standard requirements, tells how to select the right breeders and how to mate them. Edited by Wm. C. Denny and J. H. Drevenstedt, breeder and judges of wide experience. Three color plates by Sewell. 144 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.



## I'm Swatting High Prices With the Greatest Incubator Value Ever Offered

Old Trusty has not deserted its old-time policy of giving you the most for the money. Everybody knows that prices have been soaring. Everybody knows that metals are costing big money. But over 850,000 Old Trusty owners know that no matter what prices are, Old Trusty is always true to its name in giving you the most for the money.

Old Trusty has never included a profiteering program. Father invented it with a pure copper tank and it is still built with that material. We might have used galvanized metal, or something else, to cheapen it, but we expect Old Trusty to give you years of service, and a cheaper construction will not do that.

My price on Old Trusty is still many dollars below what other folks ask for a good incubator. This is because Old Trusty is built in the largest exclusive incubator and brooder factory in the world. We buy materials in big quantities at quantity discounts, manufacture parts at lowest cost with modern machinery and experienced workers. Old Trusty would cost you almost again as much if built elsewhere.

**Mail the Coupon** and get my book quoting my price on Old Trusty, with or without the metal cover, freight prepaid to your station. Four handy home sizes to choose from. It may surprise you to know that Old Trusty costs less now than it did several years ago. It took more dozens of eggs in 1912 to bring its price. It cost more pounds of fat hens, more bushels of wheat, oats, corn, tons of hay, or almost any farm products—to buy it then than it does now. Dollar for dollar, Old Trusty is a bigger value today than it ever was.

### Don't Put High-Priced Eggs in a Poor Incubator

The more valuable the eggs, the more you need Old Trusty construction. You cannot afford to experiment.

I believe poultry raisers are going to make money in 1920. Two years ago feed prices were high and poultry and egg prices were not. Now

poultry and egg prices have moved up and there is lots of feed. If you get the idea you can see that there is good money in poultry this year. More I think than ever before in the history of poultry raising, but send me your name and

### Get My New Big Poultry Book FREE

IT TELLS THE WHOLE STORY. It will give you the facts and the best helpful suggestions that 27 years of experience could crowd into one book. "How to Save Money on Feed," "How to Keep Winter Layers," "How to Market Eggs and Chickens at Good Prices," "How to Choose the Best Breeds," "How to Hold Down Expenses," "When to Start Hatches for Best Results"—are just a

few of hundreds of subjects you will find covered in this book. 72 pages, size 9 x 12. Cover printed in 4 colors, with beautiful flock of pure bred chickens on the back. Send today for your copy. Yours truly,

HARRY JOHNSON  
"The Incubator Man"

M. M. JOHNSON COMPANY, Clay Center, Neb.

M. M. JOHNSON COMPANY, Clay Center, Neb.  
Please send me your 1920 Book for Poultry Raisers, FREE.

Name \_\_\_\_\_

Address \_\_\_\_\_

Tell us how many chickens you keep.  
Do you live in the city or on a farm?  
Have you used an incubator  
before? Incubator  
What breed of chickens do  
you keep?

# Old Trusty

## Incubators and Brooders

# QUESTIONS & ANSWERS

RUSSEL T. BARR.

## Anxious to Help

In one of your recent issues, in the Question and Answer Department, I saw an article "Kill the Mites" in answer to a question from M. O. S., Ohio. If you will send me the address of M. O. S. I can give him some help in his problem, as I have overcome the same difficulty.  
C. I. S., Illinois.

A good deal has appeared in this Department in reference to the lice and mite problem and some valuable advice has been given. The trouble with many people is that they are not willing to take the trouble necessary to overcome the evil. If you have something valuable in this line I would be glad to have you send it to me so that it can appear in this Department for the benefit of all the readers of Poultry Keeper. There are many who are more interested than ever in this problem and any practical advice you have will be appreciated by them all. In this way you will help hundreds where otherwise you would only help a single individual poultryman. Send me your advice for the benefit of all our readers as well as M. O. S.

## Land Required

(4). How many acres of land will be required to give 1000 chickens the proper space for range, raising of feed, necessary buildings, etc., to give the best results?

(4). The amount of land required will vary with the type of poultry farming you intend to engage in, whether you raise much or little green food—in short whether you practice intensive or extensive poul-

try keeping. A farm of four to six acres would be enough for 1000 hens handled on an intensive community basis and would provide considerable range, but there would not be much to grow feed on this area. It is always best to have some of the land in trees, fruit trees if possible, to provide shade in a natural form for the chickens. If you wished to handle 1000 chickens and wanted to grow a considerable part of the feed for them you would probably need as much as eight or nine acres. You will want dry, well drained land which lies high enough so that there is good air drainage, as well as ground drainage.

## Best All Round Breed

I want you to tell me through the columns of Question and Answers which is the best breed for all purposes. You poultry writers all say there is no best breed, but there must be one after all, so what do you think about it?  
C. A. C., Michigan.

A man going into the poultry business should always have some definite object which he wishes to accomplish, usually this object is determined in large measure by his circumstances, conditions which he has to meet, such as distance from market, market requirements, etc. These things usually, together with his own personal tastes, determine what breed he takes up. It therefore follows that strictly speaking there is no "best" breed, because it depends on the circumstances which is the best breed for any particular

case. Usually the person who is asked to answer the question is not informed regarding the above details, so you can see that he could not answer the question very intelligently. To name one breed as absolutely the "best" would be manifestly foolish and would lead to a lot of useless discussion. If you will explain just what you wish to do it will be easier to direct you as to the best breed to select for the purpose. For a strictly egg farming proposition one would most likely select one of the Leg-horns, or some Mediterranean breed. It has always seemed to the writer that for general farm purposes one of the American breeds is the best, because the Reds, Rocks and Wyandottes seem best adapted to meet all general conditions in a satisfactory manner. If you intend to raise and sell breeding stock and are particularly interested in the development of fancy points and high priced individual birds, you will naturally select the breed that most interests you. In this case how could any one advise you of any "best" breed? The best breed is the one that comes nearest reaching your requirements under the existing circumstances. One breed is "best" for one man, while another breed is "best" for another—there you have the question answered as nearly as it can be answered, without knowing all the factors in the case.

## Stiffen and Die.

A close neighbor lost two hens two days apart. They became weak, grew stiff and would not eat and in less than 24 hours were dead. The last few hours they lay on the side without moving legs or wings. Had good color up to within a few hours of death. Is this contagious and how can I protect my own flock from the trouble?  
M. T., Illinois.

Your description is not as full as it should be to form a good idea of the trouble that affects the hens. You say nothing of the character of the droppings, or as to whether the hens had any fever during the time they were ill. Possibly it might be rheumatism, but I think it more likely that the hens had eaten something which resulted in severe poisoning, or were overcome by the heat. At the summer season it is not uncommon for hens that have free range to get access to decayed animal matter the eating of which nearly always causes very severe sickness and quick death. The first thing to do would be to find if possible any decayed dead animal, or other matter which could have poisoned the birds. Look out for your own chickens that they get only clean pure food and not too much animal feed at this season of the year, and I do not think there is any danger of your having trouble just because two of your neighbor hens died in the way you describe.

## The Depluming Mite.

Some few of my early spring pullets seem to be shedding the feathers on the back of their necks. I think it is caused by the mite that was mentioned in this department some time ago, but I loaned my paper and it is lost. Please tell me what I can do for this condition.  
Mrs. H. H., Michigan.

Your pullets very likely are troubled with what is known as the depluming mite. This minute insect



# FREE

## TO EVERY Poultryman

Just send me your name and address and I'll send you free and postpaid my new big Folder-catalog that tells how thousands of poultry raisers have solved their hatching and brooding problems with my wickless, smokeless, sootless, self-regulating

# SOL-HOT HEATERS

## For Incubators, Brooders, Brooder Coal Stoves

This folder catalog tells you how SOL-HOT heaters can be instantly attached to any style incubator and full particulars of Sol-Hot Brooders. Tells how SOL-HOT heaters save fuel, time, trouble and give far better results. No wicks to trim—no smoke—no soot—temperature always the same because of famous Acme self-regulating thermostat. You don't have to worry about weather conditions—Sol-Hot takes care of it for you. Write today for free catalog and low 1920 prices. Don't buy any hatching or brooding equipment until you find out about Sol-Hot Lamps for incubators and brooders, also my Giant Sol-Hot Heaters for coal burning colony brooder stoves.

**H. M. SHEER CO. Dept. 14 QUINCY, ILL.**



This cut shows my Sol-Hot Incubator Lamp



(2)

This shows Sol-Hot Brooder outfit complete. Made with 32, 42 and 62-inch canopy

often produced bare patches on the bodies of chickens by eating off the feathers near where the feathers come through the skin. The rump, breast and neck are often disfigured in this way. To avoid the trouble care should be taken to keep the birds and the premises as clean as possible. Loose dusty litter in the houses or coops may help to bring it about. You had better pen the affected birds by themselves, so that the mites will not be given to other birds. Rub the bare patches and for some little distance around the bare patches with sulphur ointment which is made of 1 part sulphur, 1 part kerosene and 2 parts lard well mixed together. This should promptly give relief.

#### Chicken Pox.

Please tell me what to do for sore head and what the cause is. I have some chickens with this trouble and they get so blind they stagger about and act as if they were crazy. They have free range and good wholesome food.

J. L. M. Miss.

Chicken pox, or sore head is a very infectious disease which causes much loss to poultrymen in warm climates. The disease may be introduced into a flock of healthy birds by the introduction of an infected bird. It is also thought that mosquitoes and other insects carry the disease to healthy birds. Scabby, wart-like growths come on the head, comb and wattles and may spread to the eyes and mouth, till the whole head may become sore. Put the sick birds by themselves at once, scrape off the scabs and apply tincture of iodine. Dirty coops and houses are a very frequent cause. Be sure that everything about is well cleaned up, disinfect the soil with lime, and paint the woodwork with a good disinfectant.

#### Lost Voice

I have a fine Leghorn cockerel which seems to have lost his voice. He could crow quite loud, but within a week he has become unable to do this. Thought he might have a cold, but don't find any indications of it. Tell me what you think this can be.

J. W. S., Illinois.

The little you have told us does not give much of a guide as to what may be the cause of the trouble. It would seem that the bird must certainly have some other symptoms which might help in a conclusion. Can it be possible that the bird has swallowed something which has lodged in the throat and still may not be large enough to cause great inconvenience? If the bird breathes quite slowly, whistles or wheezes it may be suffering from poisoning of some kind, but it is very difficult for me to say just what may be the cause. The natural inference would be from the symptom which you name, that the bird was suffering from some respiratory disease, but you intimate that this is not the case. Better keep the bird isolated and watch developments, he may get over it as suddenly as he got it.

#### An Easy Way Wanted

Sometime ago I ordered a certain Lice Killer and it came all right, but it takes too much work to apply it and I am wondering if there is no way to kill lice without going to so much trouble as most of the methods call for.

F. A. G., New York.

## Breaks Egg Record—Saves Feed

100 Hens Laid from 200 to 304 Eggs in One Year. 75 Hens Made a Cash Profit of \$6.15 Per Hen in Nine Months. Flock of 160 Earned \$1,392.67—a Cash Net Profit of \$976.67. All These Fed and Cared for Under Personal Direction of Prof. T. E. Quisenberry. Tells How He Did It.

How would you like to make a clear profit of \$6 to \$10 per year from each of your hens? If you knew how to care for and feed your hens to make each lay from 200 to 304 eggs per year, you would make a great deal more than that, as egg prices will average higher this year than ever. You will make big money if your hens only lay from 150 to 190 eggs each—that is, if you do not waste feed by misfeeding methods.

Prof. Quisenberry made a profit of \$6.15 per hen from 75 layers during the past nine months. Another flock of 160 on the American Poultry Experimental Station cleared him \$976.67 in ten months. Besides increasing egg yields and breaking world's laying records, he actually saved feed, thereby further increasing net profits. Improper feeding methods always result in fewer eggs, wasted feed—loss and disappointment.

Officially recognized as one of the world's very greatest poultry authorities and most successful poultry farmers, Mr. T. E. Quisenberry, whose post office address is Department 4013 Kansas City, Mo., has just published a 16-page bulletin on "How to Get More Eggs and Save

Feed." He will give one of these bulletins to readers of Poultry Keeper who write him before they



Lady Victory, hen No. 1101, broke world's record in American Laying Contest by producing 304 eggs in 12 months.

are all gone. Don't delay. Send no money. In fact a post card will do. This bulletin tells how to feed breeders and layers to hasten the moult and prepare them for laying quickly.

You do not mention the name of the Lice Killer you are disappointed in, but if you are looking for an easy way to banish lice you are doomed to disappointment. Any easy way, or method that did not require a certain amount of good, hard work would probably leave you just as well supplied with lice as you were in the first place. Lice are only kept away by eternal vigilance, and when they have gotten in nothing but heroic methods will drive them out. Go ahead and use the preparation according to directions and I believe you will be well repaid. The manufacturers have probably studied this question pretty thoroughly and know what will accomplish the desired result. It is a common experience many times that the lice seem to be worse just after the preparation has been used than they seemed to be before. This is an encouraging sign rather than otherwise because it means that the insects are being driven out of their hiding places. Don't throw up your hands and immediately get discouraged, get busy and keep at it. Many fail because they are not willing to follow directions as given for the use of the preparation. On the other hand it may often be necessary to adapt the use to the peculiar conditions that you may find. An intelligent, resourceful person can usually do this without much trou-

ble. The end to be attained is well worth a good deal of trouble.

#### Preparing for Show

I wish you would tell me how I can get white birds ready for the show room. Have never had any experience in this line, but want to exhibit some white birds this winter. I understand they must be prepared in some special way.

C. F. D., Iowa.

In the first place let me say that an amateur had better not undertake to fit birds for exhibition except under the instruction of an experienced person. It is something which requires a good deal of experience which can be gotten only by practice. In the first place one must know what birds are worth fitting for exhibition, then there are numerous details which can best be learned from someone who knows the tricks of the trade. The beginner should exhibit first at small shows where the competition is not stiff. My suggestion would be to get in touch with someone who has had some experience along this line, more can be learned in this way than in any other. Of course you must study carefully the standard requirements of the breed you intend to exhibit.

"If at first you don't succeed try, try again"—but not necessarily in the same way. Repeating a mistake is not persevering about the right line.

FEEDS FOR POULTRY

Though the feeding of poultry is a much debated subject in poultry husbandry, there is no one best feed or combination of feeds. Results depend almost as much upon the ability of the feeder and the methods of feeding as on the kinds of grains.

The simplest feed-mixtures and home-grown grains should usually be selected, the rations varying with changes in the market price of the grains. It is advisable for most poultry raisers to mix their own feeds, as in this way they can control the proportion of the various ingredients and obtain the precise mixture that they desire. If, however, one desires to purchase prepared feeds, information concerning the different commercial articles may usually be secured from the state experiment station. Most experiment stations will analyze poultry feeds and report on the different commercial preparations sold by dealers in their states.

Poultry feeds may be divided for convenience into five general classes: First, grains, both whole and cracked; second, ground grains, fed in the form of a mash; third, meat feeds; fourth, mineral feeds; and fifth, green feeds. Corn, cracked corn, wheat and wheat screenings, oats, barley, rye, and buckwheat are the principal grains, while of the ground feeds we have corn meal and corn chop, corn and cob meal, wheat bran, middlings, shorts and low-grade

flour, oatmeal, oat flour and ground or crushed oats, and mixed feeds. In the meat feeds, or feeds supplying animal protein, are beef scrap, meat meal, ground green bone, and various forms of milk; while bone meal,

dry bone, oyster shells, and grit make up the mineral feeds and, with charcoal and green feeds, complete the common feeding materials.

Many ground feeds, which are by- (Continued on Page 16)

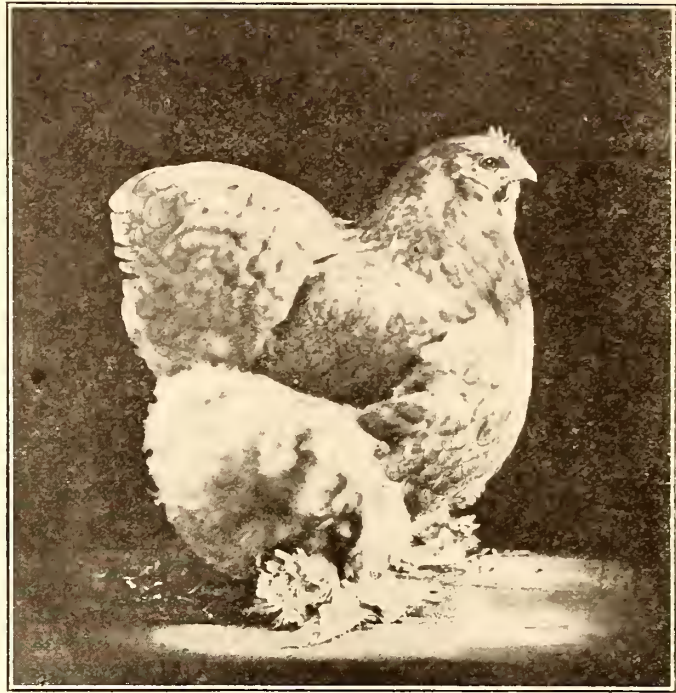
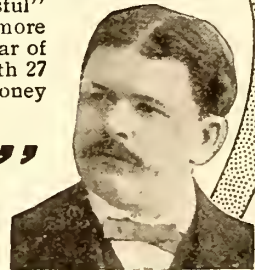


Fig. 7.—Buff Cochon female.

# SELL MORE High-Priced Eggs and Chickens

Hatch Two Chicks, Where You Produced Only One Before

"Successful" Incubators will do it, and the country needs every chick you can raise. But, what's more important, you want the profits that you can make with "Successful" Incubators. Help answer the food problem—raise more chickens—get more eggs—sell more meat. And this year of all years you need the time-tried "Successful"—backed with 27 years of experience—the machine used by the biggest money makers in the poultry business. Write for my 1920 offer on



J. S. GILCREST, President  
Life Member American Poultry Association

## "SUCCESSFUL" Incubators and Brooders

The only incubator I know of guaranteed to be cabinet made. The only hatcher that heats around the colder edges of the body first. Guaranteed to vary not over a fraction of one degree throughout the entire hatch—because of the fact that our own patented lamp and water thermostat regulator are 99.9-10 per cent perfect.

Sold Under the Strongest, Most Liberal Guarantee to Hatch a Chick from Every Hatchable Egg

"Successful" Incubators have been built and sold for 27 years. "Successful" Brooders, too, are built too good to compare with others. Raised floor, glass drop top, real hot water heating plant, rain and cold proof. Write for catalog and prices.

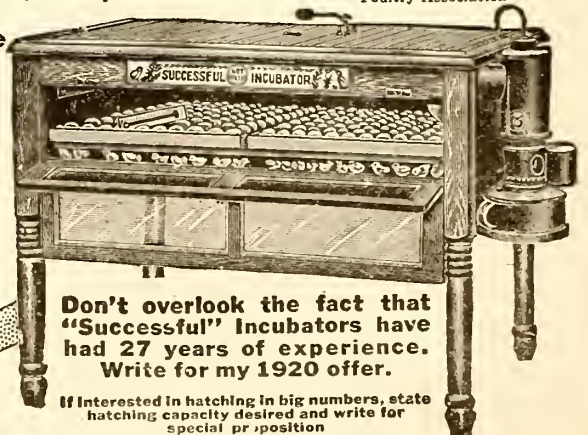
### Get 50 Per Cent More Eggs

Feed sprouted oats. Change 1 bushel oats into 3 bushels green, tempting, egg-making food with a "SUCCESSFUL" Grain Sprouter. Made in all-steel sections, fire-proof—double steel walls, separate sections. Save one-third on feed cost. Write now for circular and prices.



Poultry Lessons FREE to every buyer of a "Successful" Incubator or Brooder. Famous little booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," sent for 10 cents. Big catalog is free. Send for it.

J. S. Gilcrest, Pres. and Gen'l Mgr.  
Des Moines Incubator Co.  
47 Second St.  
Des Moines, Iowa



Don't overlook the fact that "Successful" Incubators have had 27 years of experience. Write for my 1920 offer.

If interested in hatching in big numbers, state hatching capacity desired and write for special proposition

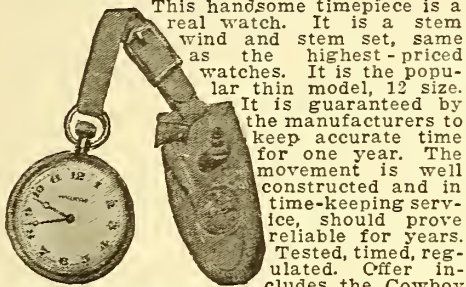


# REWARDS FOR BOYS AND GIRLS AND GROWN FOLKS MAKE YOUR SELECTIONS NOW

The articles shown on this page are offered you as rewards for acting as Successful Farming's representative. These articles are suitable for boys and girls, and for grown folks, too. Every member of the family will enjoy both the Camera and the Carom Board. All the articles have been purchased in large quantities at the lowest possible prices. The benefit of these low prices will be given to our representatives. Read the description of each article carefully. Pick out the article you want most. Check that article in the coupon at the bottom of this page, sign your name and address in full, and send to us with a 2-cent stamp. Complete description of the article and full information about our offer will be sent to you by return mail. Do not write unless you are really interested in our new plan for helping you earn your reward.



## Watch and Cowboy Fob

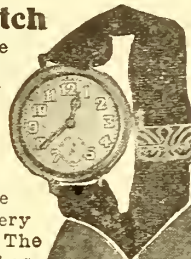


This handsome timepiece is a real watch. It is a stem wind and stem set, same as the highest-priced watches. It is the popular thin model, 12 size. It is guaranteed by the manufacturers to keep accurate time for one year. The movement is well constructed and in time-keeping service, should prove reliable for years. Tested, timed, regulated. Offer includes the Cowboy

Fob also. Every boy wants one of these watches and fobs as soon as he sees them. Use the coupon below and get full details of our Watch and Cowboy Fob offer.

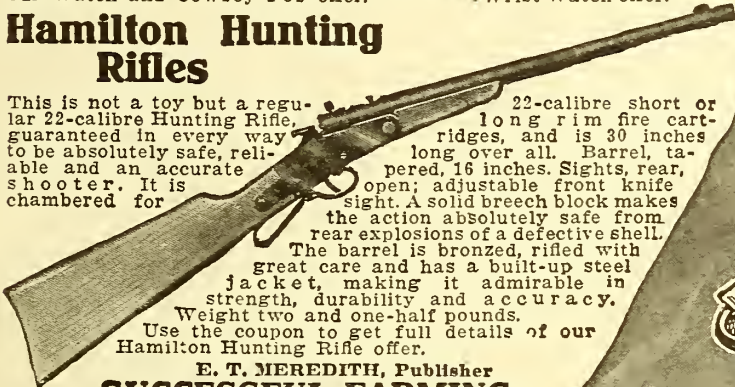
## 7-Jewel Wrist Watch

This is a high-grade, reliable watch, with 7-jewel movement, lever escapement, and it is guaranteed to keep accurate time for one year. It has a luminous face so that you can tell the time in the dark. The watch is small size and is very attractive for wrist wear. The wristlet is silk ribbon and has handsome silver fastenings. School girls especially will enjoy carrying this watch. Use the coupon below to get full details about our Wrist Watch offer.



## Hamilton Hunting Rifles

This is not a toy but a regular 22-calibre Hunting Rifle, guaranteed in every way to be absolutely safe, reliable and an accurate shooter. It is chambered for



22-calibre short or long rim fire cartridges, and is 30 inches long over all. Barrel tapered, 16 inches. Sights, rear, open; adjustable front knife sight. A solid breech block makes the action absolutely safe from rear explosions of a defective shell. The barrel is bronzed, rifled with great care and has a built-up steel jacket, making it admirable in strength, durability and accuracy. Weight two and one-half pounds.

Use the coupon to get full details of our Hamilton Hunting Rifle offer.

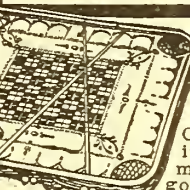
E. T. MEREDITH, Publisher

## SUCCESSFUL FARMING

96 SUCCESS BLDG. DES MOINES, IOWA

## This Knife Sent Free For Promptness

This splendid, attractive Pocket Knife will be sent free, subject to the conditions given below, to anyone living in the country who is interested in earning any one of the rewards offered on this page. Select the article, or articles, you want most, check the coupon below, and send to us with a 2-cent stamp to cover mailing charges on the knife.

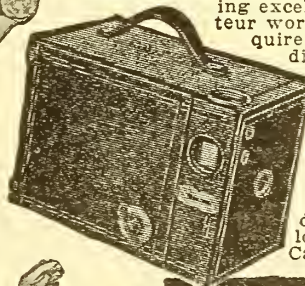


## Carrom Board 57 Games

Carrom and Crokinole are two of the most popular games going. Every member of the family will enjoy these premiums. This Board is a dandy, too—29 inches square and fitted with the famous round corner white maple carrom rim. The panel is made of three-ply white maple veneer selected stock, natural wood finish. The diagrams are bright red and black—very attractive. Fifty-seven games can be played on this board. Full equipment consists of 71 pieces. Use the coupon below to get full details of our Carrom Board offer.

## Seneca Scout Camera

This is a very simple camera, but is capable of producing excellent pictures in all kinds of amateur work. It has a fixed lens and so requires no focusing or estimating of distance. This camera takes pictures 2 1/4 x 3 1/4 inches. Size of the camera, 3 1/4 x 5 1/4 inches. Takes six exposures without reloading. Weight 12 ounces. Equipped with excellent quality lens, and two view finders. The Seneca uses standard film cartridges, which may be loaded and unloaded in full daylight. Use the coupon below to get full details of our Camera offer.



On account of high zone postage rates, and expense of shipping rewards long distances, this offer is good in the following states only: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Montana, Arkansas, Kentucky, Colorado, West Virginia, Tennessee and Wyoming. These offers are limited to farm folks.

The rewards offered on this page are fully guaranteed against defects in material and workmanship, or breakage in shipment. Successful Farming is sold to every subscriber, without exception, strictly on a guarantee of satisfaction. Any time you're not satisfied, just say so, and the money you have paid us for your subscription will be cheerfully refunded.



## Mail This Coupon For Full Details

E. T. MEREDITH, Publisher, Successful Farming, 96 Success Building, Des Moines, Iowa.

Dear Sir: Please tell me how I can get prepaid the article checked below. I enclose a 2-cent stamp for postage and mailing of free Pocket Knife.

- 7-Jewel Wrist Watch       Watch and Cowboy Fob  
 Seneca Scout Camera       Carrom Board  
 Hamilton Rifle

Name.....R. F. D.....

P. O..... State.....

## News of the American Poultry Association

Conducted by the President---Fort Wayne, Indiana

### Show Season.

The regular poultry show season will be on by the time you read this in your poultry journal. The outlook for exhibits this year is very bright indeed. In past years we have had considerable experience in showing birds at the regular poultry shows. One feature I would like to make clear here and that is for each and every member of this Association who exhibits his birds at any show, that he prepare his birds for the exhibition. Whether an exhibitor of white, red or black, it has been my experience to always wash them. You may take the black bird and wash it, and you will find it much cleaner and better than you will if you send to the exhibition unwashed. It pays to go over your bird carefully, clean their legs and toes and get in ample condition before putting them on exhibition. Washing your birds is no hard feature at all. If you will get some warm water and plenty of soap and have them in a warm room they will soon dry off and make a much better appearance. A dirty show bird, on exhibition is like dirty eggs in the market, neither beautiful nor salable.

### The New Constitution

The new constitution is in this office ready for distribution. A great number have been sent out already, and all members of the Association who has not received a copy of the

constitution if you will write to this office, a copy will be mailed you at once. The constitution consists of thirty pages. It is full and complete in every detail as adopted to the late convention in Chicago. It will pay anyone interested in the Association to have a copy of the new constitution in his hands and keep on file where you can refer to it at any time.

### A. P. A. Show Ribbons

It has just come to our notice that some of the ribbon printers in the United States are using the A. P. A. emblem which is fully protected and copyrighted. These printers are using this A. P. A. Emblem and sending out sample ribbons to the secretaries of the various shows throughout the United States and Canada. We have taken up the matter with the parties who have been printing these ribbons. It is reasonable to suppose that every secretary, president or official of the different poultry shows throughout the United States and Canada, are more or less interested in the American Poultry Association and it is our business to furnish these ribbons to the various shows throughout the country, therefore we would ask of every secretary or manager or president who receives these samples of ribbons, to send to us immediately in order that we may protect the A. P. A. copyright on this emblem. The prices quoted to the various A.

P. A. poultry shows are just as reasonable and as cheap as quoted to you direct from some man who takes up this emblem without authority from us. The American Poultry Association is furnishing you better ribbons, a better quality of goods for the same money. These ribbon printers state that they did not know the emblem was copyrighted, therefore for the benefit of each and every official of the poultry shows throughout the country, we pen this under A. P. A. news in order that you may govern yourselves accordingly, help your Association by purchasing from those who are trying to help you.

### Death of W. W. Browning

Ogden, Utah, Sept. 17, 1919.  
American Poultry Association.

It is with sincere regret that I inform you of the death through automobile accident, of W. W. Browning. We have lost one of our best friends, most efficient poultry judges and an all-round loyal supporter of poultry culture. The accident occurred in a mountain pass east of Ogden, during a heavy rain storm.

The above letter came to this office a few days after Mr. Brownings death. It is with a sad heart that I chronicle Mr. Brownings death. He and I have been personal friends since 1889. Mr. Browning was a thorough fancier and a loyal member of the American Poultry Association, having joined the Association in 1894. Mr. Browning was one of the very first to write me when I announced my candidacy for president of the Association. In that letter he gave me great encouragement, stating that he would do all he possibly could in his territory. He was arranging for a trip East and I looked forward with a great deal of pleasure as he had promised to visit me for a few days on his Eastern trip. It was through Mr. Browning in '89 that I went to Ogden, Utah, and delivered a lecture on artificial incubators, to a great number of poultry and fancy breeders. He expected to attend the late convention, but circumstances over which he had no control, prevented him from being in Chicago at the last meeting. Utah has lost one of its greatest fanciers, an honorable, and reliable man in every particular and I desire at this time to extend my sympathy to those who were connected with him and his many friends in Ogden who will miss his face very much, as he had lived in that city all his life. The Association has lost a never tireless worker. The breeders of Standard bred poultry have lost a good member and the writer has lost a very exceptionally good friend.

### United States Railroad Administration.

We are just in receipt of a letter from Mr. W. C. Kendall, manager, calling our attention to the fact of the car shortage and advises that this question be given careful study and every effort put forth to increase the proper car supplies. Last

This standard incubator of 38 years' reputation for efficiency is now guaranteed for ten years.

## PRAIRIE STATE INCUBATOR

A CONTINUOUS experience of thirty-eight years designing and building incubators is back of the 1920 Prairie State Incubator. That assures incubator perfection. And 38 years of square dealing and conscientious regard for the rights of others have established the high reputation of the Prairie State Incubator Co. That assures satisfied customers.

The world's most successful poultry farmers, fanciers and breeders, large and small, as well as agricultural college and experiment station experts, testify to the supremacy of the Prairie State. Absolutely correct in principle and design, embodying exclusive features of vital importance, the Prairie State positively hatches a higher percentage of better chicks than any other machine. See your dealer—if he cannot supply you, we will ship direct and pay the freight east of the Mississippi, making a liberal allowance to points beyond.

Write for complete catalog of Prairie State Incubators and Brooders—Free. Explains construction and tells why these machines are the accepted standards.

PRAIRIE STATE INCUBATOR CO., 36 Main Street, Homer City, Penna.



DOUBLE QUICK GRAIN SPROUTER

# SPROUTED OATS

## EGGS

**MORE EGGS**



3 BU. OF FEED FROM 1 BU. OF GRAIN

**Close-To-Nature Vapor-Bath Grain Sprouter**

We make three kinds for all conditions and climates.—Double Quick Cypress case for zero temperatures; Premium Metal Sectional; and Lampless; and many sizes from one-fourth bu. to 8 bu., for a few hens to 1,000. The grain sprouter business was originated by the Close-To-Nature Company. Its manager, W. H. Monroe, invented and put on the market the first sprouter a dozen years ago and is at the business yet. Hence we are the oldest and largest sprouter manufacturers in this country and know how to build an efficient, practical sprouting machine.

You will want your sprouter quick at this season, hence we will prepay your EXPRESS in full on any sprouter, big or little, east of the Rocky Mountains and a proportional amount west of the mountains. The difference between freight and express rates is small when compared to the difference in time of delivery. Hence we ship by express prepaid. This means that within a few days from the time you read this, you can have a Close-To-Nature sprouter in operation.

Get our circulars on **SPROUTED OATS** and **EGGS**.

**Express Prepaid**



**Close-To-Nature Company**

**20 Front St.**

**Colfax, Iowa**

winter a great number of breeders found it quite difficult to get satisfactory shipments and deliveries on time, on account of the car shortage, and Mr. Kendall states it will be no better this coming year, therefore I would advise all poultrymen buying their feed in car load lots to get busy and place their order and have it shipped at the earliest possible date, also the hundreds of people who raise baby chicks, who use hard coal, to place their order now, and have your coal delivered in your coal bins, and not depend on the railroad, who may be unable to deliver to you when you need it, on account of car shortage at that time. I mention this cause to every member as I realize what a great many breeders and poultrymen were up against last year. Lay in your supplies before the real cold winter comes.

Under the old constitution the American Poultry Association meetings were decided by a ballot. It will be noticed that it is entirely with the Board of Directors now consisting of ten members in the different zones of the United States and Canada. Kindly read over this section carefully then read it over again. In selecting the meeting place, it shall be the duty of the state offering the best inducements for same or at the place that deem and will be for the best interests of the American Poultry Association.



### My Victory Strain of Barred Rocks Continue to Win.

At the Big Rochester, N. Y. Show I won 1st ex cock, 1st ex cockerel and 1st pullet bred cock on four entries.

**Eggs** From my best matings, \$5.00 per 15. Some good cockerels to spare at reasonable prices.

Write for what you want.

**J. T. FRENCH, 838 West Grove Place, Toledo, Ohio**

**A SPLENDID WINTER FOUNTAIN**

For hens to lay in winter they must have warm water to drink. The fountain advertised in this issue by the Rippley Manufacturing Company, Box K, Grafton, Illinois, when filled with hot water in the morning will not freeze during the winter weather if emptied at night. It is made of galvanized iron that will not rust. It operates on the same basis as a thermos bottle. It therefore keeps the water warm in winter and cold in summer. I am sure you will be interested in their ad which appears elsewhere in this issue.

**HOW HE FEEDS FOR WINTER EGGS.**

Eighty-nine pullets laid from 209 to 286 eggs, while two others laid 303 and 306 eggs respectively, in the American Egg Laying Contest conducted on the American Poultry School farm, under the personal

## SOFT-HEAT

Greatest Incubator Discovery in 50 Years. Insures Strong, Healthy Chicks from every good egg. **Iron-Clad Guarantee.**

**Porter Soft-Heat Tubeless Incubator** combines hot air and water. Automatic control of heat, moisture and ventilation. Centric hatch plan, round nest, egg-tray semi-automatically without removing tray,—saves time and money. Simple, Safe, Sure, Express Priced. Write for **Big New Free Book.**

**PORTER INCUBATOR CO. Box 107 Blair, Nebraska**

direction of Prof. T. E. Quisenberry. World's Egg Laying records for one year and during several months were shattered by the females in this Contest. Beyond question, the man directing the feeding, giving definite instructions of "What, When and How" to feed those hens must be given his due share of credit for these great egg laying records.

Knowing well the importance of Prof. Quisenberry's feeding methods, we recently wrote him, and he has agreed to send this information free to readers of Poultry Keeper who write him at once. This information is published in the form of a 16-page bulletin called "How to Get More Eggs and Save Feed." Write Prof. T. E. Quisenberry, Dept. 4013, Kansas City, Mo., at once, before all these bulletins are gone.

**TOO LATE TO CLASSIFY**

**LEGHORNS**

**SINGLE COMB W. LEGHORN** Cockerels from good laying free range stock, \$2.00. M. Hait, Kingston, Ill.

**10th YEAR**

**SEE THAT "XX" ?**

POINTS THE WAY. START RIGHT YOU END RIGHT

**FOR MANY YEARS** we have challenged any person in the world to hatch one egg the Magic Egg Tester registers before incubation. 2d. We challenge anyone to produce evidence of one 200 egg layer that was not hatched from an egg rated good by the Magic Egg Tester. It is a sure loss to take a chance on weak eggs. **Unimpeachable testimonials.** You save and make money when the Magic Egg Tester picks out the eggs for hatching. Now \$2.50 each. complete with bulletins on one year's trial and no expense to use. Cost refunded if desired. Shipped by insured parcel post. Circular free.

**Magic Egg Tester Works, Dept. F** Buffalo, N. Y., also Bridgeburg, Canada

## FEEDS FOR POULTRY

(Continued from Page 12)

products of the common grains, are used to good advantage in feeding, in combination with grain and beef scrap. Ground grains and meat feeds are more forcing than the whole grains commonly used, while the combination of the whole grains with the ground feeds makes a more economical feed and a better balanced ration than the whole grains alone. The feed elements are usually cheaper in the ground than in the whole grains, as the former are by-products of many of the grains used for human consumption. Ground grains and beef scrap, in combination, either wet or dry, make what is called a "mash." These by-products are higher in protein than most of the common grains, so that a balanced ration is secured by combining whole grain with the mash. Some of the ground grains, such as bran and middlings, add a large percentage of bulk to the ration, which is beneficial.

Animal protein is considered essential to the best results in feeding. Most poultrymen feed meat in some form, while suburban poultry keepers either feed this product or table scraps; but few farmers buy any meat feed. Some form of feed containing animal protein must be supplied if any eggs are to be obtained in the fall and winter. Skim milk or buttermilk is available on many farms, and where it is not it would probably pay most farmers to buy beef scrap or some other meat feed. Fowls on free range on the farms pick up bugs and insects during part of the year, which furnish this protein feed, so that the use of additional meat feeds is regulated by individual conditions. Fowls closely confined need more animal feed than those on a good range; and in a cold climate, where no bugs or insects are available during several winter months, more animal feed must be supplied than in sections where the winters are mild.

A well-balanced ration contains the proper proportion of protein and carbohydrates for its purpose with the mineral matter, bulk, and palatability that are necessary to give good feeding results. There is no best ration, and the practical application of science in poultry feeding is to know about what proportion of these substances gives good feeding results and then to use roughly this relative proportion in making rations or in substituting different feeds, according to their price and availability.

In securing fall and winter eggs the first essential is to have pullets well matured before cold weather, which means hatching birds of the general-purpose breeds in March and April. The average farmer hatches his chickens too late to secure eggs in the fall. With well-matured pullets and improved feeding methods farmers secure more eggs in winter than they obtain under present conditions.

A well-balanced simple ration may be made of equal parts, by weight,



## There Are No "Poor Luck" Hatches With The BUCKEYE INCUBATOR

The Buckeye Incubator is producing bigger, better hatches for half million users---regularly. It isn't a question of "good luck" any more. The scientifically correct Buckeye Incubator makes practically perfect results a *certainty--every time!*

### A Proven Producer

This wonderful efficiency is the result of thirty years of constructive effort. Every single part is the result of exhaustive study, experiment and comparison. No other incubator on the market is built and assembled with such painstaking care. No other is as permanent--paste board and other materials that do not last, do not enter its construction. Each individual part tells its own story of superiority--*just as the complete incubator unfailingly demonstrates its greater worth over all other kinds.*

### Quality-Built Throughout

The genuine California redwood cabinet stands up under every atmospheric change. The Buckeye double lock-seamed, circulating hot water system, is conceded by every authority to be the *best method of incubator heating.* The galvanized iron oil lamp and boiler is fire-proof and is capable of bringing the temperature of the egg chamber up to 103 degrees *within an hour.* And the Buckeye Thermostat is the *most dependable heat regulator* ever put on an incubator.

### A Binding Guarantee

Every Buckeye Incubator is backed by an absolutely iron-clad guarantee.

It is guaranteed to produce a bigger, better hatch; to operate satisfactorily in any temperature down to freezing; and not to require attention to the regulator from the time the hatch is started until it is finished. If any Buckeye Incubator fails in any of these respects, *we will replace it without question,* at the end of 40 days trial.

### See The Buckeye at Your Dealers

Write today for the new Buckeye catalog. Study it thoroughly. Then go to your dealer and see the Buckeye in operation. Have your dealer explain every detail of its construction and operation. Then, compare its work with any other incubator you know. *This is the one sure way to make a safe choice.*



## The Buckeye Incubator Company

15 Euclid Ave., *Worlds Largest Manufacturers of Incubators and Brooders in the World* Springfield, O.

# BUCKEYE

THE PERFECT INCUBATOR

of wheat, cracked corn, and oats fed twice daily, usually in the morning and at night. The grain may be either scattered on the range in summer and in the litter in the poultry house in winter, or fed in the house throughout the year. It should be supplemented with a wet or dry mash of 2 parts of corn meal and 1 part each of wheat bran, middlings, and beef scrap. One feed of mash may be fed at any time during the day and the grain fed for the other two meals. Regulate the proportions of grain and mash so that the hen will consume about equal parts of each. About 1 quart of grain daily should be fed to every 16 Leghorn hens, or to 13 general-purpose hens, such as the Plymouth Rocks, with an equal weight of mash. This amount, however, varies, and should be regulated by the feeder, as the hens should be eager for each meal. Leghorns will eat about 55 pounds of grain and mash in a year and Plymouth Rocks, or hens of the general-purpose class, about 75 pounds.

Keep your biggest, best looking pullets and cockerels.

#### SYSTEMS OF FEEDING POULTRY

There are two systems in use for the feeding of fowls, in one of which all the feed is given dry and in the other of which one or more of the daily feeds consists of a moistened mash. For convenience they may be termed the "dry-feed" and the "mash" systems, although in the dry-feed system a dry mash is often fed. Dry feeding is used by many where it is not convenient to make and feed a moistened mash. The greatest advantages to be derived from the dry system are the saving of labor and the lessened danger of bowel trouble resulting from sloppy or soured mashes.

#### FEEDING FOR EGGS

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

#### THE ORPINGTONS

Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeders' opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drevenstedt, Breeder and Judge. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.



## Adequate Heat-- All The Time -- With The STANDARD BROODER

Weather makes no difference to the Standard Brooder. It furnishes an abundance of heat in *every conceivable temperature*. Whether there are a few chicks or a thousand, there is an adequate circulation of fresh, warm, healthful air for *every single chick*.

### Heated By A Coal Stove

For the Standard burns coal---*admittedly the best fuel for every purpose*. There is no odorous oil lamp to go out at unexpected times, no varying temperature, no wooden walls or curtains to harbor disease or to interfere with the circulation of air. Nothing but a cast iron stove that is self-feeding, self-regulating, simple and safe and an open hover that permits the chicks to find the temperature that is best for their comfort and welfare.

The Standard is *inexpensive to operate*--burns only *six to nine cents worth of coal every twenty-four hours*. It requires minimum attention because it needs filling only once every twenty-four hours and it never goes out.

Agricultural colleges, experiment stations, ten thousand dealers and a *hundred thousand poultry raisers* recommend it without question.

### A Binding Money-Back Guarantee

Every Standard Colony Brooder is *guaranteed* to raise every raisable chick--in fact, to do everything that a really good brooder should do. It is backed by a *guarantee that insures satisfaction or your money back*, after 30 days trial. *You can write the guarantee yourself* and we'll sign it.

### See The Standard at Your Dealers

The progressive hardware or seed man in your town handles the Standard. Call on him and have him explain carefully the features that make it the best brooder you can buy. Write for the new Standard catalog which illustrates graphically and tells interestingly the story of Standard construction and the service it is rendering thousands of America's most successful poultry raisers--men and women who have forgotten that there is such a thing as "poor luck" in raising chicks.



*This portable, highly efficient oil-burning brooder is simple and economical to operate--and easily kept clean. It is giving immense satisfaction wherever it is used--both by beginners and large operators. Dead air space keeps out the cold air and keeps the chicks warm and comfortable. Fully described in the new catalog.*

## The Buckeye Incubator Company

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World's Largest Manufacturers of Incubators and Brooders in the World

Springfield, O.

# STANDARD Colony Brooder

**SPROUTED OATS VITALLY ESSENTIAL TO THE FEEDING RATION**

By extensive investigation and experimenting the feeding of poultry has been reduced to a science and the person who fails to keep abreast with the times is a back number and cannot expect to compete in the business world with the progressive person who adopts modern methods. The prices of grains the past several years have brought about much experimenting by the breeders themselves, and many have told the writer, had they known a few years ago what they do today, they could have saved several hundred dollars a year as well as greatly increased their egg yield.

Probably the most valuable invention in recent years is the Grain Sprouter and for some time after this important invention was perfected it did not seem to meet with universal demand until the high prices of grain fairly forced the breeders into investigating the value of sprouted grains as a poultry food especially during the colder months. Even in the face of the fact they had known for years that scientific research work at our agricultural colleges, had developed the fact that for prolific egg production, highest degree of fertility, rapid growth of young chicks, no feed could compare to sprouted grain, and how simple it all is if we would but watch nature.

Hens may be properly housed and fed on good rations all winter, yet they seldom produce their best production of eggs until they can be let out in spring and get their fill of the tender crisp succulent sprouts of weeds and grasses. Ever watch the old hen how eagerly she is after green stuff when first let out in spring? Another of nature's lessons, is for us to learn to provide the one lacking necessary food that gives the best results.

It is truly vitally essential in

**X-RAY**  
The Profit Way Means Bigger Hatches

Poultry raising profits are not made by what you pay for an incubator. It's what the incubator does, what it costs to operate, how much time it takes. The X-Ray, famous the world over for big hatches, economical operation, simplicity, is built for a lifetime of service. It's the incubator for beginners or experts, with 20 new and important features such as X-Ray Radiator Heater--X-Ray Vapor Generator--X-Ray Gas Arrestor--X-Ray Big Capacity Oil Tank--X-Ray Automatic Regulator--X-Ray Quick Cooling Tray--X-Ray Hinged Glass Top--X-Ray Improved Chick Tray, etc.--features not found on others that have earned for the X-Ray the reputation of the World's Best Hatcher.

**THE X-RAY**  
**X-Ray Incubator Co.**  
341 X-Ray Bldg.  
Des Moines Iowa

**Millions of Chicks To Supply the Demand**

Poultry raising today is an industry that means success, big profits, interesting, easy occupation to men, women, boys and girls, especially to those who do their own hatching and get strong, healthy chicks. The demand far exceeds the supply. That's why prices are high.

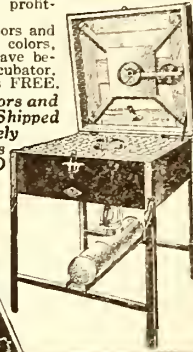
**Start Right Now!**

Lay your plans to hatch and raise your own chicks. Plan to start right with the right incubator. That means the X-Ray which has the distinction of being the most modern, easiest and cheapest operating, biggest and best hatching incubator made, with twenty big hatching features not found on any other incubator.

**Send For Free Catalog**

A regular Poultry Raiser's Guide. Full of pictures and facts about profitable hatching. Shows X-Ray Incubators and Brooders in natural colors. A book you should have before you buy any incubator. Get it today. It's FREE.

X-Ray Incubators and Brooders are Shipped Immediately by Express PREPAID



these times when it is so necessary for us to increase maximum growth and provide the greatest possible production of eggs that we avail ourselves of every possible means of getting the most out of our feeding operations. Make arrangements to feed sprouted grains this winter. Most any grain will do. Oats is perhaps the best, besides considerably cheapest. With an up-to-date sprouter it takes but a few minutes each day to produce this excellent green egg making food. One bushel oats will make from two to three bushels of the most palatable and valuable feed the poulterer ever used. Try it out and secure the results you have long wished to obtain.

**THE ORPINGTONS**

Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeders' opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drevenstedt, Breeder and Judges. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.

**LEGHORN COCKERELS**

Frank Schroepel, Mt. Carroll, Illinois, is advertising some choice Tom Barron strain Leghorns in our advertising columns. He also has baby chicks and eggs in season.

**REGAL WHITE WYANDOTTE BOOK**

I have just received from the printers, another edition of my book on White Wyandottes. It contains 68 pages and is without doubt the most complete book that has ever been published, dealing wholly with the White Wyandotte. It is full of illustrations from life and its pages deal with a variety of subjects, including chapters on origin, description, feeding, care of breeding stock, fertility, color characteristics, washing and fitting for exhibition, poultry diseases, etc.

My object in issuing this book is to bring to the attention of every White Wyandotte breeder, the Regal Dorens strain, America's finest White Wyandottes. The magnificent winnings of this strain at the leading shows have not been equalled. New York State Fair, 1906 to 1919, 70 Blue Ribbons out of a possible 82. At Madison Square Garden, January, 1919, they won Best Display with a score of 68 points, exactly 40 points more than all my competitors

combined. They also hold the record for the great Boston Show, with a score of 72 points, 12 more than my 21 competitors combined. My customers all over the country have established records just as good. In the American Laying Contest, just concluded, five Dorens pullets made a record of 1038 eggs in one year, winning first in White Wyandottes, and first over all the other heavy weight varieties in the contest. My champion layer made a record of 262 eggs in 11 months laying.

**HOW WOULD YOU LIKE SUCH A RECORD? THEN BREED REGAL DORCAS STRAIN 5000 Cocks, Hens, Cockerels and Pullets for Sale.**

SPECIAL 200 exhibition cockerels and 500 beautiful pullets ready now to win the Blue Ribbon for you. 500 well matured cockerels from my heavy laying Dorens line \$8, \$10, \$15 \$20, \$25 each. Dorens pullets, \$6, \$8, \$10 each.

Send one dime for the Regal White Wyandotte Book. The information it contains will be worth dollars to you. FREE—My catalogue and mating list is free if you will send me your name.

JOHN S. MARTIN, Box 113.

PORT DOVER, CANADA.

**PROSPECTS FOR POULTRY KEEPERS**

With eggs selling for more than a dollar a dozen in New York before the first of November, and with prices of corn and other poultry feeds on the downward trend prospects certainly look bright for the poultry keepers who will have eggs for sale this winter. The fact that the price of eggs is soaring while the prices of hogs, cattle and most other farm products are suffering a serious slump should cause many farmers to develop a more wholesome respect for the farm hen, and should create a greater interest in the methods of increasing the winter production of their flocks. From present indications poultry keepers are entering upon the most profitable era which they have ever experienced. Wise flock owners will give their birds the very best of care this season and reap handsome profits for their regard.

To get winter eggs the first essential is good laying stock says the University of Missouri College of Agriculture. Well-matured, early-hatched pullets are the best winter layers and every flock should contain a good per cent of birds of this type. The old hens should have been thoroughly culled to remove the hens which were naturally low producers. In this connection it might be well to emphasize the uselessness of keeping late-hatched or poorly developed pullets. If for any reason any pullets are not large enough to start laying soon after November 1 the sensible thing to do is to dispose of them and give all possible care to the birds that are left. The size of the flock is no sure index of the number of winter eggs which will be produced on any farm. It happens every year that some flocks of ten or twelve birds given proper care will lay more eggs during November, December and January than other flocks of two hundred immature, poorly housed and half-starved fowls.

A great many farm poultry keepers in their enthusiasm for making money attempt to keep twice as many birds as they have room for and by overcrowding almost entirely cut off the production of winter eggs. The number of birds to be kept during the winter should be carefully limited by the size of the poultry house. Each bird should have about three square feet of floor space in the house. No more than 75 hens should be kept in a house which is ten feet wide and twenty feet long. It is not at all uncommon to find 200 birds crowded into a house of this size. If the flock is too large for the house either more houses should be built or part of the birds should be sent to market before cold weather sets in.

All pullets which laid well last fall and winter should be identified with numbered leg bands so that they can be kept over and bred from next year. That is the way to build up a laying strain.

**Your old incubator deserves this thermometer**

**NOT** just a thermometer but the incubator thermometer which is preferred by the most successful chick producers. That's the time tested

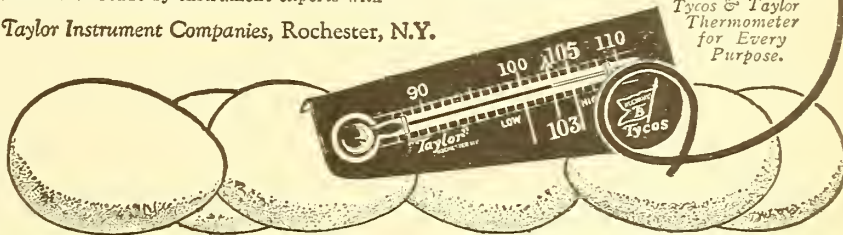
**Tycos Incubator Thermometer**

It will hold the temperature where you set it, but you must set it right to get the big hatches. If your thermometer is inaccurate and registers 103° when the heat is 101° or 105° (as thousands do) you won't get the big hatches or good chicks. But the Tycos tells the truth. Made by instrument experts with

extreme care, tested and retested. Ask your dealer or send to us direct. Price, \$1.00 and 5 cent postage for No. 5774 shown below. You'll be interested in "Thermometer Facts"—sent FREE on request. Write for it.

There's a Tycos & Taylor Thermometer for Every Purpose.

Taylor Instrument Companies, Rochester, N.Y.



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A book that has back of it the endorsement of America's best qualified practical poultrymen. A book different than the ordinary poultry books. A book that is a guide, a standard guide for beginner and experienced poultryman alike. You need this book, which contains in 196 pages the advice of such noted authorities as H. P. Schwab, Chas. D. Cleveland, H. H. Collier, Willard Thompson, Professors Lewis, Graham, Koupp, Jull and other noted breeders, judges and capable writers on all poultry subjects.

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Dept. 286E,

Hanover, Pa.



Booking eggs at \$7 per \$15; or 45 eggs for \$20. Young fowls, \$20.00 a trio next June.

**U. S. MARINE GAME FIGHTING FOWLS**

Red, White and Blue; Supreme fighters and game as death (absolutely best), HUNTING DOGS, nothing cheap, but sold on a money back guarantee. Pointers, Setters, Hounds, Blood Hounds, Collies, Etc. Information free.

ALFRED F. GRAHAM, Cameron, N. C.

A few Pure White Ancona Eggs in Spring at \$10 per 15. Let me book you now.

Both Comb of Rhode Island Reds

**HORNER'S PEDIGREE REDS**

BRED TO WIN AND LAY

50 husky rich red cockerels bred from by best layers and blue ribbon winners for \$5.00 a piece.

ERNEST G. HORNER,

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**BARTH'S BARRED ROCKS**

Healthy, vigorous, farm-raised stock that will win in hot competition. Both light and dark marking. Satisfaction guaranteed. Prices reasonable.

E. J. BARTH, R. 1,

Quincy, Illinois.

# AT LAST A Perfect Color Picture of the Perfect Rhode Island Red Type

AT LAST the correct Rhode Island Red color has been reproduced on paper.

Vast sums, thousands of experiments, have been wasted in trying to reproduce this color in printer's ink. But the Rhode Island Red Journal has at last achieved the seemingly impossible.

We have reproduced *exactly* the famous painting of the Madison Square Garden winning trio.

Every Rhode Island Red fancier should have this picture for reference. And the Rhode Island Red Journal is now prepared to give this picture to every subscriber.

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with a two years' subscription to the RHODE ISLAND RED JOURNAL at 50c. If you are now getting the Red Journal your subscription will be extended for two years. Send remittance today and a copy of the picture will come to you at once, securely packed and all charges prepaid.

Rhode Island Red Journal  
3211 E. Bremer Ave., Waverly, Iowa

## "CULL" EGG-LAYING CONTEST

Hubert E. Crosby, Missouri State Poultry Experiment Station, Mountain Grove, Mo.

A great interest has been shown during the past two years in the "culling of farm hens" for the dual purpose of reducing the feed bill and improving the egg laying tendencies of future progeny. Culling has passed the experimental stage and is now practiced by hundreds of practical poultry breeders of the country.

The principle characteristics of the profitable hen are: Moulting later than September; faded shanks; thin lay bones; ample body depth; and skin of feminine quality.

The principle characteristics of the "cull" hen are: Moulting in July or August; yellow shanks; thick lay bones; narrow body depth; and skin of coarse quality.

Hundreds of flocks have been culled on the above characteristics with marked success. The culls have been kept separate for short periods of time, but the owners becoming disgusted with them soon sold them. To show the value of culling and the accuracy with which it can be practiced by the amateur poultryman, it has been decided to trapnest the two types of hens for a full year—from September 15, 1919, to September 15, 1920. These birds were selected by County Agents and those in attendance at culling demonstrations and sent to the Missouri State Poultry Experiment Station, Mountain Grove, Missouri, for official trapnest record for the year.

Ten Silver Wyandottes owned by Max Lyons, were loaned for the test in behalf of the Lafayette County Farm Bureau, F. W. Caldwell County Agent. Ten White Leghorns and White Rocks were loaned by P. J. Yennie in behalf of the Cass County Farm Bureau, J. Robert Hall, County Agent. Ten White Leghorns were loaned by C. F. Overfield in behalf of the Butler County Farm Bureau, W. W. Lagston, County Agent, and Marion H. Rogers, Home Demonstration Agent.

Agricultural colleges, experiment stations, the press and extension poultry specialists are advocating the culling of poultry flocks to eliminate the low-producing hens. The value of culling as it is practiced by experienced poultrymen, is already well known. But the purpose of this contest is to ascertain the value to the average farmer or applying the culling principles, which he may obtain through the press, bulletins and extension workers.

The 40 hens in this contest are farm flock hens, and nothing is known of their past records, broodiness, feed and care. Therefore, it will not be surprising that, with ideal feeding and care, some of the hens selected as culls will make a better record than under their original farm care. The selection was made by amateur poultrymen and a few mistakes in selection may have

(Continued on Page 24)

# HEN-E-TA BONE GRITS

No. 1—Chicks No. 3—Turkeys  
No. 2—Fowl No. 4—Mash  
Only \$3.50 per 100 lb. Sack  
Oyster Shells, other bone, grit and charcoal not necessary when feeding "HEN-E-TA."

Use of beef scraps optional.  
Will Make Hens Lay More Eggs  
WILL MAKE CHICKS GROW  
Valuable formulae Free for your Dealers Name.

HEN-E-TA BONE CO.,  
Dept. 4, Newark, N. J.

## ROOST

No lice, no mites, all hollow roosts with oil or dlp. Write ALLION PERCH CO., Willis, Mich.



## 30 YEARS' SUCCESS

(Not an experiment.)  
Practical Poultrymen use Lambert's "Death to Lice"

because they know it to be the BEST. It will rid your flocks of vermin quickly and effectively without injurious results to the birds. Especially invaluable for sitting hens. 100 oz., \$1.00; 43 oz., 50c; 15 oz., 25c. Large trial can with booklet by D. J. Lambert, 10c. The Klein-Lambert Co., Mrs. Traders Bldg., Chicago.



## THE "BEST YET"

Aluminum Leg Bands

Cannot come off. Five sizes, pigeon to turkey; State breed, 12-15c; 25-25c; 50-40c; 100-75c.

COLORED LEG BANDS  
Red, Green, Amber, Pink, Black, White, Yellow, Light Blue, Dark Blue; Pigeon and Baby Chick sizes, 12-10c; 25-20c; 50-35c; 100-60c. Poultry sizes, 12-20c; 25-35c; 50-60c; 100-\$1.00. Circular free.



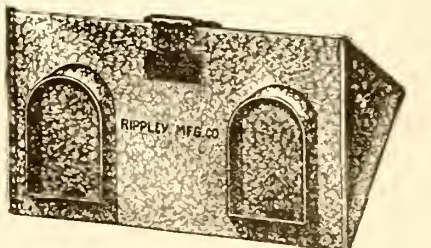
## ALUMINUM MARKER WORKS.

Dept. N. Beaver Falls, Pa.

## Potter Redybilt Poultry Houses

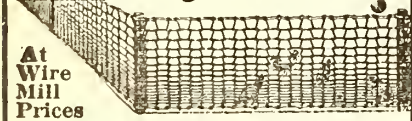
**Don't Build**  
You can buy the famous Potter Portable Houses, Coops and Roosting and Nesting Equipment cheaper than you can build. Easy to set up and take down. Complete Hennerly Outfits (roosts, nests, etc.) \$3 up. Used over 10 years by thousands of successful poultry keepers. Makes it easy to start right. Get the best and save money. Send 4c stamps for 100-page book.

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**RIPPLEY'S 4-Wall Triangle Double Fountain**  
Non-Freeze Poultry Fountain  
Made Similar to Thermo Bottle, of Non-Rust Metal  
Keeps water cool in summer and warm in winter. Order direct from this advertisement, if your dealer cannot supply you. The most up-to-date Fountain manufactured.  
PRICES: 2-gallon, \$5; 4-gallon, \$6.  
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Made of Open Hearth heavily galvanized steel wire. Strong, durable, closely woven. Requires fewer posts no base board or top rail. Not a flimsy netting but a Poultry Fence. Sold direct to user. Write for free Catalog showing many styles of Poultry, Farm and Lawn Fence.

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BROWN'S BARGAIN FENCE BOOK

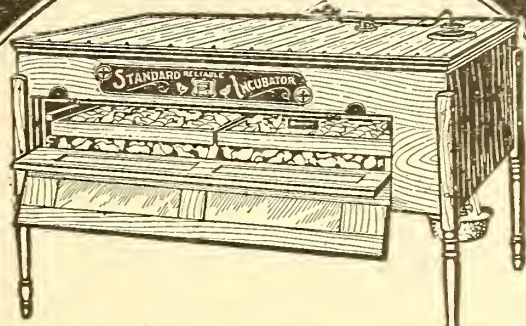
DIRECT from FACTORY—FREIGHT PREPAID  
The biggest money-saving fence catalog you ever received. Write for it today. See the money you can save—compare my Low Factory, Freight Prepaid prices on fence, gates, barb wire, etc. Don't buy until you get this Bargain Fence Book. 100 styles. Samples to test and book free.  
THE BROWN FENCE & WIRE CO., Dept. 357 Cleveland, Ohio

This pretty band GIVEN for five names of your neighbors and ten cents to pay postage &c.  
WEDDING RING  
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**J. W. MYERS, Pres.**  
Whose many years experience is at your service in solving your problems.



# 38 Years Hatching Success

Over  
**1200 Times**  
A  
**Prize Winner**

## STANDARD RELIABLE Incubators And Hovers

No matter how high eggs go it pays to turn them into early spring chicks, because each chick is worth a dozen or more eggs—either for fall meat or winter laying. The "Old Reliable" is distinguished as a cold weather hatcher, with least chance of losing a lot of costly eggs. It is a scientifically and mechanically correct machine. Its system of regulation is so nearly automatic that "it practically runs itself"—requires little attention.

Every Reliable Incubator that leaves my factory is guaranteed to be *quality built*. That means it must be up to the standard which has made the "Old Reliable" a favorite in the poultry raising world for 38 years— noted for maintaining correct hatching conditions in all weather conditions, at minimum fuel cost and with least trouble to the operator, and for sturdy construction which insures years of satisfactory service.

### The "Old Reliable" Incubator Is Distinguished

for its Enclosed Double Heating System, which is a double safeguard against chilling, a stronger assurance of uniform heat throughout the hatching chamber in severe weather. It utilizes all the heat from the lamp in two ways—saves fuel every hatch. Other valuable features are: Accurate automatic regulation of heat with thermometer tested by U. S. Government standard; correct moisture supply and ventilation; roomy chick nursery; solid wood construction; double walls and top thoroughly insulated; top and bottom tongued and grooved; strong legs; double glass doors. Built in all sizes, from 100 eggs to 2000 eggs capacity. Shipped complete ready to start except attaching legs.

### Reliable Blue Flame, Wickless, Oil Heated Colony Hover

In all my 38 years' experience manufacturing poultry raising equipment I have never offered my customers an equipment in which I have greater pride and confidence than I have in the Reliable Blue Flame Wickless Oil Heated Colony Hover.

Poultry raisers have received this hover with unbounded enthusiasm and proclaim it a marvel for convenience, economy and success. I'm giving the expressions of a few of them in this space.

Just think what these advantages mean to you and to the young chicks entrusted to the care of the hover:

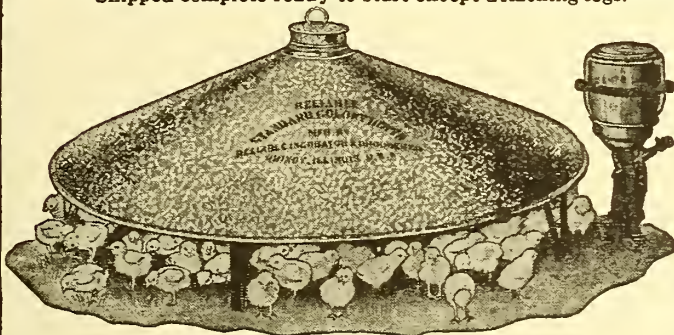
Heating with ordinary coal oil which is always easily obtainable.

A wickless burner making a clear, steady, blue flame, absolutely safe.

No wicks to trim, no smoke, no soot, no odor, no fumes, no dirt or dust.

Abundance of heat automatically regulated. Has visible oil feed,—saves fuel.

This hover offers all the conditions essential to the comfort, health and safety of chicks. Built of galvanized steel, in four sizes: 18", 30", 42" and 52".



### Owners of Reliable Incubators and Brooders Tell of Their Success

**Mrs. Clara Colwell**, Smith Center, Kans., who paid for her own farm with poultry and is now using over 100 Reliable Incubators and Brooders, writes: "I want to help a widow here who has a mortgage on her farm; as I have had good success with your incubators and brooders, I want you to send me 10 incubators at once. I will help get her started and know she will be able to pay her mortgage off the first year. The machines I bought of you are as good as when I first got them and I can beat old Biddy any time."

**D. W. Goodling**, Oriental, Pa., writes: "Send me sixteen more 300-egg size Reliable Incubators as soon as possible. This makes a total of 21 I have bought from you. Have used six other makes, but none of them hatch as well as the Reliable."

**Arthur Bruening**, Colorado Springs, Colo., writes: "The coal burning Colony Hover and Blue Flame Oil Burning Hover which you sent me to test out in this cold climate were received six weeks ago. It is

giving excellent satisfaction. Can I return the Coal Burning Brooder to you and get in its place another Oil Heated Hover, for I have never operated a brooder that gave me such complete satisfaction?"

**Chas. Reynolds**, Aberdeen, S.D., writes: "Have had fine results from your Blue Flame Coal Oil Heated Hover. I like the way the chicks lie around under it. They seem to be comfortable and happy all the time. It has been very cold here but the brooder keeps the chicks warm in coldest weather."

Ask your dealer about these machines. If he does not handle them, write me and I will supply you direct from the factory. Write also for my latest book on Poultry Raising.

**J. W. MYERS, Pres.**  
**RELIABLE INCUBATOR & BROODER CO., Box A-15, Quincy, Illinois**

**J. W. MYERS, Pres.**  
**Reliable Incubator & Brooder Co.**  
**Dept. A-15 Quincy, Ill.**

Please send me Free Illustrated Catalog on your Incubators and Brooders.

My Name.....

P. O.....

State .....

### MAKE THE POULTRY HOUSE COMFORTABLE

The poultry house is both the home of the hen and the factory where winter eggs are produced, and unless it provides suitable living and working conditions the hen cannot be expected to lay well. The chief requirement is that the house must keep the birds comfortable. To be comfortable the house must be dry, well ventilated, well lighted, and have sufficient floor space to provide exercise by scratching. Dryness is insured by having a good roof, keeping the floor of the house higher than the surrounding ground, and by providing good ventilation. Ventilation must supply plenty of fresh air without drafts. This is secured in the poultry house by having the south side relatively open and the other three sides absolutely tight. The importance of light in the poultry house has not been properly emphasized in the past, according to T. S. Townsley, of the University of Missouri College of Agriculture. Recent experiments with artificial lights show that by furnishing more light so that the working period for the birds is lengthened the egg production can be materially increased. In many farm poultry houses no windows are provided and the house is in constant twilight on cloudy days even when the door is left open. Needless to say this condition does not favor activity on the part of the hen. To insure good natural light in a poultry house the openings in the walls should equal about one-fourth of the floor space of the house. At least half of these openings should be for open front ventilation, and the windows should be so arranged that the maximum amount of sunlight will be available

### From Whom to Buy Good Poultry, Pigeons, Pet Stock

Many people are often puzzled as to where and from whom to buy breeding stock. They look over the papers, read advertisement after advertisement, all of which read well, but even when through doubt after doubt arises in their minds. On the surface the question seems to be perplexing.

The claims made by the different breeders are all good and substantiated by facts. Each advertisement seems to have a point or two over the others. High scores, long flyers, fancy Tumblers, Rufus reds, big layers, beautiful colors, lordly shapes, seem to be the order of the day. These factors are all important and should be considered carefully. The real and lasting mark, however, that should determine the final decision is "WON AT MADISON SQUARE GARDEN." After everything is said and done, buy from breeders who have won at "THE WORLD'S LEADING SHOW, MADISON SQUARE GARDEN," the DISTINCTIVELY CHARACTERISTIC AND HIGHLY DISTINGUISHED SHOW OF THE WORLD.—Adv.

to the birds. Where ever possible windows should be placed in the east and west ends of the building so that the early morning and late-afternoon light will be secured. To insure room for scratching not only must sufficient floor space be provided but the droppings must be kept off the floor and a deep litter of straw or similar material be supplied so that the birds can be made to scratch for their feed. To keep the droppings off the floor every poultry house should be provided with a droppings platform arranged underneath the roosts to catch the manure.

With all other conditions favorable but without proper feed winter egg production is impossible because the feed is the raw material that is necessary to make the egg. The first requirement in feeding is that sufficient quantity be provided. Too many farmers are afraid of over-feeding. The ancient buncombe about hens getting too fat to lay is still widely credited when as a matter of fact no hen except a fat hen can lay. Many farmers begrudge a hen every bite that goes down her neck, and numerous early risers on the farm get up to feed the hogs before daylight to keep the hens from eating with them. It is not desirable to have hens eat with the hogs but when they do this it is a sure sign that they are not getting enough feed from other sources. The kind of feed supplied the hen is fully as important as the quantity. The egg is made up of several different substances and unless these are available in the ration eggs cannot be produced. The yolk of the egg is largely fat and material for forming this is abundantly supplied by corn, oats and the other grains and grain products commonly fed. The white of the egg is largely protein and this is the element so commonly lacking in the ration. Some grains and grain products are quite rich in protein, but the hen does not appear to be able to use these vegetable proteins in making egg white. Experience shows that hens must have animal protein in order to lay prolifically. Milk, commercial meat scrap, and tankage are the animal proteins most available for feeding poultry and no flock owner can afford to neglect feeding one of these throughout the winter. The following ration is satisfactory for 100 hens; 10 lbs. corn, 5 lbs. oats, 3 lbs. bran, 3 lbs. shorts and 3 gal. of milk or 1½ lbs. of meat scrap or tankage fed daily.

### THE WYANDOTTES

A complete text book and instructive treatise. Tells how to select breeders and how to mate for best results. Care, feeding and management fully discussed. Edited by J. H. Drevenstedt, breeder and judge. Three color plates by F. L. Sewell. 160 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.

## Eggs \$1.00 a Dozen This Winter — We Predict

You can get MORE EGGS if you feed "OCULUM," the scientific Germicide, which for 13 years has made MORE EGGS for thousands. Only one drop a day per hen often doubles egg yield. "OCULUM" doubled my egg yield in 23 days.

C. E. Cornell, Tacoma, Wash.

"I got 42 eggs a day instead of 8 by feeding 'OCULUM' to 48 Leghorns 24 days.

H. C. Miller, Akron, O.,  
Judge Am. P. Assn.

It puts pep in roosters, life in chicks. It cures Cholera, Roup, White Diarrhea. Use "OCULUM" ONCE, AND YOU'LL WANT MORE. Dealers handle it.

Bottles 50c and \$1.00, Postpaid and guaranteed. Sample 10c. Pamphlet FREE.

THE "OCULUM CO., Box S, Salem, Va.  
This Journal O. K.'s us.

## TOM BARRON LEGHORNS

SOME CHOICE COCKERELS from this egg-record strain now ready. Catalogue on request. Baby chicks and eggs in season.

Frank Schroepel, Mt. Carroll, Ill.

### S. C. WHITE LEGHORNS

244 to 290 Egg Barron Strain  
FOR SALE 20 COCKERELS

from this heavy-laying strain at \$3, \$5, and \$10 each. If you want good foundation stock write me at once. Order direct from this ad. Booking orders for Hatching Eggs and Baby Chicks. Satisfaction guaranteed.

U. B. PETTINGER,

Box 194-K Mount Morris, Ill.

## FREE--One Setting Pure Bred Eggs

To each customer. Send four cents for catalogue. All leading varieties, low prices our motto. Buy the best poultry and double your profits.

BLUE RIBBON POULTRY FARM,  
Altoona, Iowa.

BEES PAY. Easy, interesting work, with honey for home use. Send 50c today for 24 page Bee Primer and six months subscription to the American Bee Journal. Catalogs of supplies sent free.

AMERICAN BEE JOURNAL,

Box 37, Hamilton, Illinois.

## NEW ZEALAND, RED RABBIT AND RUFUS RED BELGIAN HARES

Eight page pamphlet on rabbits free

J. E. JOHNSON,

Marionville, - - - Missouri.

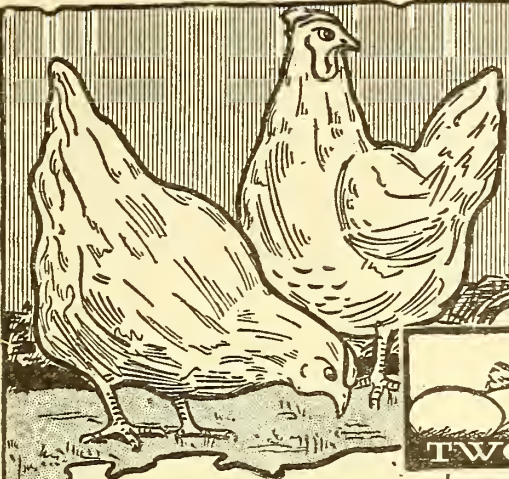


## American Poultry Almanac

Our 1920 catalog, FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. How We Win Medals at Egg-Laying Contests.

HOPEWELL FARMS,

Box L, Hopewell, N. J.



# 26 Hens 526 Eggs!



Mrs Harvey Mitchell writes: "TWO for ONE" is the grandest tonic I have ever used. Last month I received 526 eggs from 26 hens."

## "NO SLACKER'S" IN A "TWO for ONE" HEN YARD EGGS FROM EVERY HEN



Poultry raisers who have not given some thought to increasing their egg production this fall and winter, are making a big mistake. Present indications are, the price of eggs will be sky high, and if the owners of laying hens do not make every effort to profit by these conditions they will regret it later, particularly when they hear of the large profits being made by their next door neighbor. If there ever was a time when a little extra attention should be given to the poultry yard now is the time. Do not delay. A few pennies spent wisely today will bring you back dollars tomorrow.

## "TWO for ONE" WORLD'S GREATEST EGG MAKER

"TWO for ONE" is the marvel of all egg tonics. It is the most remarkable producer of eggs ever known to the poultry world. "TWO for ONE" is making records every day in egg production that were never before believed possible. Flock owners all over the country are amazed with the results. The most experienced poultry experts say they have never seen the like of it. "TWO for ONE" is not a mere food. It is an egg tonic in the truest sense of the term—a scientific preparation in concentrated tablet form—the result of scientific research and experiment. Every factor entering into the matter of egg production was scientifically studied.

As a result you have in "TWO for ONE" a tonic that conditions the hen for the utmost in laying capacity—that builds muscle and bone—that stimulates active functioning of the hen's reproductive organs—that insures fertile eggs and 100% hatchings—that makes the laggard lay and increases the production of active layers. A tonic that gets more eggs for you winter, and summer than you ever thought possible.

## FREE EGG LAYING CONTEST

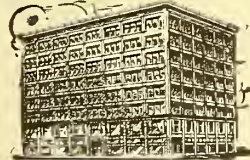
Have you entered our \$5000.00 egg laying contest? If not do so right away, free to all users of "TWO for ONE." You not only increase your egg production but you may win one of the 35 cash prizes we are giving every month. Write us today for particulars.

### ALL POULTRY RAISERS PRAISE "TWO for ONE"

- |   |   |  |  |
|---|---|--|--|
| <p><b>Tripled His Egg Supply</b><br/>Please send me two more large boxes of "TWO for ONE" at once. One for my brother and one for a cousin. I told them how the tonic tripled my egg supply and they are anxious to try it. Enclosed find \$4.00—J. P. Roberts, Missouri.</p> | <p><b>Laid Eggs in the Coldest Weather</b><br/>I used your egg tonic for the first time this winter and was truly surprised at the way my hens laid. In the coldest weather I was getting eggs every day.—Laura Higley, Michigan.</p> | <p><b>11 Hens—192 Eggs—One Month</b><br/>I gave one box of your "TWO for ONE" tonic to my hens and I got wonderful results. 11 hens laid 192 eggs in less than one month.—S. L. Chase, Kansas.</p> | <p><b>112 Hens—3241 Eggs</b><br/>Since giving "TWO for ONE" to my hens I got 3241 eggs from 112 hens in one month. My neighbors are jealous.—Clara Totzas, Ohio.</p> |
|---|---|--|--|

## Money-Back Guarantee

Don't take our word for it. Every box of "TWO for ONE" is sold under the distinct guarantee that if you are not entirely satisfied you get your money back. You take no risk. So take advantage of this offer and send in your order today.



Only \$1.00 a box, or, \$2.00 for large box containing as much as three \$1.00 boxes—enough for an entire season. This costs you 1-15 of a cent a day per hen, or less than 1c a dozen for the additional eggs you will receive from your flock.

### KINSELLA CO.

1558 LeMoyn Building - CHICAGO

"The House That Returns Your Money If Not Satisfied."

## MAIL COUPON NOW—TODAY

Kinsella Co., 1558 LeMoyn Bldg., Chicago, Ill.

Gentlemen:—I want to increase the egg-laying ability of my hens, make more money out of my chickens and take advantage of the high prices that will be paid during the coming fall and winter. So please find enclosed \$\_\_\_\_\_ for a box of "TWO for ONE" as checked below:

(Check in squares opposite size wanted:)

Small Size (Including Tax) \$1.00   
Large Size (Including Tax) \$2.00

This order entitles me to an entry in your \$5,000.00 egg-laying contest, of which you are to send me full particulars, and my money is to be returned if I am not entirely satisfied with the tonic.

Name \_\_\_\_\_  
Address \_\_\_\_\_

**"CULL" EGG-LAYING CONTEST**  
(Continued from Page 20)

occurred, but the educational value of such mistakes will be of great future benefit.

**The Contest**

The individual and total records are as follows

| Lot No. | Breed   | Loaned by   | Selected as Profitable |      | Selected as Culls |      | No. Eggs. | No. Eggs. |
|---------|---|---|------------------------|------|-------------------|------|-----------|-----------|
|         |   |   | Band                   | Band | Band              | Band |           |           |
| 1.      | Silver Wyandotte—   | Loaned by Max Lyons for Lafayette County Farm Bureau    | 1,936                  | 13   | 300               | 10   |           |           |
|         |   |   | 1,945                  | 16   | 1,937             | 0    |           |           |
|         |   |   | 1,941                  | 5    | 208               | 0    |           |           |
|         |   |   | 1,927                  | 15   | 320               | 14   |           |           |
|         |   |   | 1,931                  | 9    | 325               | 0    |           |           |
| 2.      | S. C. White Leghorns  | Loaned by G. F. Overfield for Butler County Farm Bureau | 8,164                  | 10   | 8,165             | 6    |           |           |
|         |   |   | 8,226                  | 13   | 8,220             | 0    |           |           |
|         |   |   | 8,180                  | 8    | 8,184             | 6    |           |           |
|         |   |   | 8,228                  | 13   | 8,185             | 10   |           |           |
|         |   |   | 8,161                  | 4    | 8,186             | 0    |           |           |
| 3.      | White Leghorns and Rocks—Loaned by P. J. Yennie for Cass County Farm Bureau                                   |   | 95                     | 0    | 61                | 0    |           |           |
|         |   |   | 40                     | 1    | 36                | 0    |           |           |
|         |   |   | 91                     | 1    | 94                | 0    |           |           |
|         |   |   | 68                     | 0    | 20                | 10   |           |           |
|         |   |   | 90                     | 9    | 70                | 0    |           |           |
| 4.      | S. C. Reds—Loaned by Wm. H. Black for Jasper County Farm Bureau. (Entered too late for first month's report.) |   |                        |      |                   |      |           |           |
| Totals  |   |   | 123                    |      | 56                |      |           |           |

Average egg production per profitable hen, 8 1-5.  
Average egg production per cull hen, 3 4-5.

Nine cull hens were nonproductive the first month.

Two profitable hens were nonproductive the first month.

Hen No. 320 had extremely yellow shank, but old plumage.

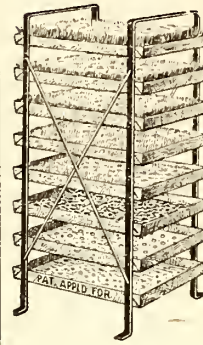
I hereby certify that the above is a correct report of the one-year farmers' "cull" egg-laying contest, from September 15, 1919, to October 15, 1919.

T. W. Noland, Director.  
Missouri State Poultry Experiment Station, Mountain Grove, Mo.

We wrote Mr. Cosby in regard to certain hens in this contest and we give herewith his reply.  
Dear Sir:

Relative to the Cull Contest being conducted at this institution, will say that I am sending you a copy of the first month's report, and a preliminary write-up which preceded this Contest. This Contest has in mind only to try and find out if the general farmer is capable of culling his own flock, after following the instructions given through the press and by Extension workers. The hen No. 20 you referred to, on September 15th had yellow shanks, medium length claws, practically through the moult, two finger body capacity, three-fourth finger between pin bones, thick pin bones, vigorous, and with average feminine qualities. Her record for the first month was

**STEVENS**



**Evergreen Oats Sprouter**

**All Metal Lamplless**

|                 |        |
|-----------------|--------|
| 8 Pan 11x15 In. | \$5.00 |
| 5 Pan 11x15 In. | \$4.25 |
| 8 Pan 11x30 In. | \$8.75 |
| 5 Pan 11x30 In. | \$6.75 |

Guaranteed to please. Order direct from this adv. or get our circular. Dealers and Agents wanted.

H. A. Stevens & Co.,  
Aurora, Ill.

higher than any other hen of this lot from Cass County. I do not believe her record for the year will be very high. Hen No. 320 had extremely yellow shanks, beak, thick type pin bones, yet on September 15 she still held her old plumage. This hen I believe had been broody and which in the hands of the amateur, would in many cases be selected as a cull. I am glad to see the different types come in because I have been actively engaged in conducting culling campaigns in Missouri both for the Government and State. Wonderful success has been attained in these campaigns, and I am only anxious to follow out these forty hens throughout the year to see what progress the general farmer is able to make. Hen No. 8165, which laid 7 eggs the first month of the Contest, had completed the moult and bore every evidence of being a poor producer on a years basis. Hens of low vitality were rejected because we are not interested so much in selecting hens that haven't vitality enough to be egg producers, as we are to judge on hens that are vigorous on the basis of their past and future egg producing qualities.

Hubert E. Cosby.

We believe our readers will be especially interested in this contest. The fact that these hens were culled by an amateur, will prove the desirability of every poultryman to cull his own flock.

**THE JOURNALS AND EXPERIMENT STATIONS PRAISE "OCULUM"**

The H. I. Co., Inc., Salem, Virginia. "Your "Oculum" has been on the market for years. At first we were skeptical like many others, but now we are firm believers in "Oculum." Everybody's P. Magazine.

"I have not hesitated to recommend "Oculum."

A. J. Rolf, Ga. Ex Station.

Many other testimonials from Journals equally as strong the Company has, and will mail them on request.

Send 10c and get sample. Use "Oculum" once and you'll never be without it.

Eat the roosters and cockerels or sell them. Buy fresh purebred, vigorous cockerels in the early spring when you get ready for breeding. Don't feed non-producers.

## Poultry Raisers

You Can Make

### Big Money with a Belle City

Because it's a time and labor saver—low in cost—economical—convenient—with a record for fifteen years of unflinching service as a wonderful hatching and brooding outfit.

Get into this profit-paying business now. It's money for you right from the start. Write today for Free catalog "Hatching Facts." It tells how easy it is to make big profits with my

\$12<sup>95</sup>

140-Egg Champion

## Belle City

Incubator

The Prize-Winning Hatcher with Fibre Board Double Walled construction—Self-regulator, Thermometer and Holder, Copper Tank, Safety Lamp, Deep Nursery, Egg Tester, etc. When ordered with my \$7.55 Hot Water, Double-Walled 140-Chick Brooder—guaranteed to raise the chicks—making a complete hatching outfit—both only **\$18.50**

**Freight Prepaid** East of Rockies  
Towards Express

and allowed to points beyond. Used by over 815,000 successful poultry raisers. With this Guaranteed Hatching Outfit your success is assured. Save time—Order now—Share in my \$1,000 in prizes—or write today, for my big, Free catalog—"Hatching Facts," and get all the particulars. Jim Rohan, Pres.

**Belle City Incubator Co.**  
Box 145, Racine, Wis.

Troy Cup

140 CHICK BELLE CITY BROODER

# FERRIS WHITE LEGHORNS



## BREEDING STOCK FROM TRAPNESTED STRAINS

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers. We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

### We Ship C. O. D. and On Approval

We ship on approval, allowing you to return within three days any birds that are not entirely satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them, send us enough money to guarantee express charges one way and we will ship C. O. D. with privilege of examination. \$1.00 will cover the express charges on a single bird, \$2.00 on a trio or pen of five, and \$3.00 on ten or twelve birds.

### Laying Pullets and Hens

Thousands of pullets and hens from our heavy laying strains are now ready for shipment. These birds will more than pay for themselves this fall and winter and will make splendid breeders next spring.

Your choice of pullets or hens at the following prices:

|                  | 200-230  | 230-264         |
|------------------|----------|-----------------|
| 4 Females.....   | \$ 16.00 | Strain \$ 24.00 |
| 8 Females.....   | 32.00    | 48.00           |
| 12 Females.....  | 48.00    | 70.00           |
| 25 Females.....  | 95.00    | 135.00          |
| 50 Females.....  | 180.00   | 260.00          |
| 100 Females..... | 350.00   | 500.00          |

### Early Cockerels and Cockbirds

Hundreds of choice cockerels, March hatched, from our very best matings will be disposed of this fall at the following prices. Also a number of yearling cockbirds that we have used in our breeding pens at the same prices—from 200-230 strain \$8.00, \$10.00 and \$12.00. From 230-264 strain \$12.00, \$16.00 and \$20.00.

Males and females of the 200-230 strain are shipped from Grand Rapids only. The 230-264 strain can be shipped from Grand Rapids or from West Palm Beach.

We will ship from Michigan unless you specify otherwise, as we have only a limited number to spare from the southern farm.

## WINNINGS AT FIVE BIG FAIRS THIS FALL

### OHIO STATE FAIR

"The class of S. C. White Leghorns was unusually strong, and it is doubtful whether any better class of S. C. Whites was ever seen at the Ohio State Fair. Outside of first pullet Geo. B. Ferris won all firsts on as magnificent a string of birds as we have ever seen at a fall fair."—Poultry Press.

1st cock 1st, 2nd and 3rd cockerel  
1st old pen 1st young pen

### MICHIGAN STATE FAIR

At the same time we were winning at the Ohio Fair, we showed another string of birds at the Michigan State Fair, where with nearly 200 White Leghorns on display, we won as follows:

1st, 2nd, 3rd and 4th cock 1st hen  
2nd, 3rd, 4th and 5th cockerel  
1st, 2nd, 3rd, 4th and 5th pullet

### KENTUCKY STATE FAIR

We sent our birds more than 300 miles to this fair and did not send any one along to look after them, yet they won every first prize and special for best display.

1st and 2nd cock 1st and 2nd hen  
1st, 2nd, 3rd, and 4th cockerel  
1st and 2nd pullet 1st old pen  
1st young pen

### WEST MICHIGAN STATE FAIR

This is the largest fair in Western Michigan and competition was very strong, there being large classes of cocks, hens, cockerels and pullets on display. Our winnings:

1st, 4th and 5th cock  
1st, 2nd, 3rd, 4th and 5th hen  
1st, 2nd and 3rd cockerel  
2nd, 3rd, 4th and 5th pullet  
1st old pen 1st young pen

### ALABAMA STATE FAIR

A remarkable winning because the birds were shipped nearly 700 miles from South Bend, with no one along to look after them.

1st cock 4th and 5th hen  
1st and 4th cockerel 1st and 2nd pen

### EXHIBITION STOCK

Cocks and cockerels hatched directly from our Chicago Coliseum winners at \$25.00 and up. Hens and pullets, \$12.50 and up. These birds will win anywhere. They have splendid low tails, good heads, wonderful shape in every section and pure white plumage. We have hundreds of early hatched cockerels and pullets to select from sired by the blue ribbon winners at top of this page and 15 others like them. For several years Ferris Leghorns have won best display at the Chicago show, and no matter where you wish to show, we have the birds that will win for you, and we will guarantee them to win. We exhibited at eight large shows last season, winning 29 first prizes and 69 other prizes—a total of 98 prizes.

## EGGS, CHICKS and EIGHT WEEKS PULLETS

It is not too early to place your order for eggs, chicks or 8 weeks stock for delivery next spring. The demand will be unusual and we may not be able to fill all late orders promptly, although we have greatly increased our capacity. The 200-230 strain can be shipped from Northern farm only; other grades from Northern or Southern farm as you prefer.

### Eggs For Hatching

|                | 200-230 | 230-264 | 265-300  |
|----------------|---------|---------|----------|
| 15 Eggs.....   | \$ 3.50 | \$ 5.00 | \$ 10.00 |
| 50 Eggs.....   | 9.00    | 13.00   | 26.00    |
| 100 Eggs.....  | 17.00   | 25.00   | 50.00    |
| 500 Eggs.....  | 80.00   | 115.00  | 235.00   |
| 1000 Eggs..... | 150.00  | 225.00  | 450.00   |

Eggs sent prepaid anywhere at above prices. Fertility guaranteed. Shipment now from Florida; Feb. 15 to June 1 from Grand Rapids.

### Day Old Chicks

|                  | 200-230 | 230-264 | 265-300  |
|------------------|---------|---------|----------|
| 12 Chicks.....   | \$ 5.00 | \$ 7.50 | \$ 15.00 |
| 25 Chicks.....   | 9.00    | 14.00   | 28.00    |
| 50 Chicks.....   | 17.00   | 26.00   | 52.00    |
| 100 Chicks.....  | 32.50   | 50.00   | 100.00   |
| 600 Chicks.....  | 150.00  | 225.00  | 450.00   |
| 1000 Chicks..... | 285.00  | 425.00  | .....    |

Chicks sent postpaid at above prices. Safe arrival guaranteed. Shipment now from Florida; March 1 to June 20 from Michigan.

### Eight Weeks Old Pullets

|                  | 200-230  | 230-264  | 265-300  |
|------------------|----------|----------|----------|
| 4 Pullets.....   | \$ 10.00 | \$ 14.00 | \$ 24.00 |
| 8 Pullets.....   | 20.00    | 28.00    | 48.00    |
| 12 Pullets.....  | 30.00    | 40.00    | 70.00    |
| 25 Pullets.....  | 60.00    | 75.00    | 135.00   |
| 50 Pullets.....  | 115.00   | 145.00   | 260.00   |
| 100 Pullets..... | 225.00   | 285.00   | 500.00   |

Shipped express collect at above prices. Safe arrival guaranteed anywhere in United States or Canada. Shipment Jan. 1 to June 1 from Florida; May 1 to Aug. 1 from Michigan. Cockerels same price as pullets.

### Exhibition Eggs and Chicks

Several pens of our choicest exhibition stock now mated on our Florida farm. If you want eggs or chicks this fall or early in the winter before our Northern pens are mated, remember we can supply them promptly. Write for prices and particulars. Eggs from South Bend ready Feb. 1; chicks Mar. 1.

## THIS FREE CATALOG TELLS THE WHOLE STORY

Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla. Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices and guarantee on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. We want you to know why Ferris Leghorns are best.



**GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICHIGAN**

# POULTRY KEEPER

520 Hampshire Street,  
Quincy, Illinois.

Issued the First of Each Month.  
A Journal for Everyone Interested in Making Poultry Pay.

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Change of address—When this is desired, be sure to give old and new Post Office addresses. All subscriptions invariably discontinued at expiration. Subscribers will confer a favor by reporting to us irregularities in receiving the Poultry Keeper.

Advertising rates made known on application.

Poultry Keepers readers are cordially invited to express their opinions on any subject of poultry that will be of interest to our readers, give helpful talks to the inexperienced and ask questions in any department.

A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## BUILDING UP A POULTRY BUSINESS

Editor Poultry Keeper.

When I was thirteen years old I was taken with a great desire to run a poultry farm, so buying up a good number of mongrel hens, I started out to make my fortune. Needless to say in one year's time I was not only bankrupt but sorely disgusted with the poultry business. My failure kept me quiet for some time and I did not try poultry raising again for several years. So my first venture was a failure due to the fact that there is no money to be made in keeping mongrel or dung hill hens.

In my next venture I induced a friend to go in partnership with me. We started this time with one setting each of eight different breeds and a small sized cheap incubator. To this we added forty more eggs, which we bought of a local breeder. After staying up nights to watch the incubator and giving our setting hens all possible attention, at the end of three weeks we expected great results. But once more I was disappointed. Our sixty egg incubator only hatched twelve chicks and our hens forty-two out of one hundred sixty eggs. Right here let me say don't invest your money in a cheap clap-trap of an incubator when there are plenty of good ones on the market.

Out of the fifty-four chicks, I managed to raise forty-eight of them. From these we managed to get a start of six different breeds to which we added two more breeds, making eight breeds of good laying strains.

After keeping a record of eggs laid by the different breeds for a year, we cut down to the two breeds that laid the most eggs for the year, Columbian Wyandottes and S. C. White Leghorns. To these we added

a pen of ten S. C. Ancona pullets.

About this time my friend and partner tired of the poultry business and dropped out leaving the whole business on me.

After keeping a record of our pen of Anconas for six months, I sold my Leghorns keeping only the Anconas and Wyandottes, the latter I sold six months later deciding to put all my efforts to breeding S. C. Anconas.

After deciding on the breed I intended to keep, I began to advertise, beginning in two good poultry papers and two farm papers. I was again disappointed with the few inquiries I got and after the hatching season was over I stopped my ads. until fall whereas I should have let them run for future business. The next fall I sold a few breeders then stopped my ads. until spring and was again disappointed for I only sold a few settings of eggs.

At last I learned the secret of successful advertising—keeping my ads. constantly before the public—and now advertising is pushing me up the road to success.

Poultry raising is not a lazy man's job. It takes hustling, bustling and lots of hard thinking to attain success in this field. But there is no reason for failure if you work and put your attention to the business as you should. Others have made good so can you. Never give up. After I was tempted to give up, but kept struggling and putting all possible attention to building up a strain that would give perfect satisfaction to all customers and whatever success I attain I hope it can be accredited to the fact that I have tried to please all customers and give them their dollar's worth.

No dishonest poultryman need expect to prosper long. So let your motto be "A square deal to all and perfect satisfaction guaranteed."

Advertise in two or three farm papers and as many or more good poultry papers and keep it up. Don't stop and soon you will get all the orders you can handle. When business is booming don't think you can put off a \$5.00 bird for \$10.00 and get by with it. Remember a satisfied customer means more business next year.

But the idea is start with good stock, keep it good and try and improve it. Advertise and keep on advertising. Give every one a square deal and don't get careless in your management. Read everything you can get hold of on poultry culture that is practical. Read several different poultry journals and keep things sanitary on your place and there is no chance for failure.

Worth M. Lewallen.

N. Car.

## DUCKS AND GEESE

A complete guide to profitable Duck and Goose rearing. Article by foremost breeders. Complete, instructions on breeding, rearing, feeding, housing, marketing and exhibiting these profitable fowls. 104 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

## LIGHT BRAHMAS

Cockerels For Sale at very reasonable prices. Grand sturdy birds. Satisfaction guaranteed.

M. O. WING, Callender, Ia.

## Berndt's Orpingtons

Winners Wisconsin State Fair, La Crosse, Eau Claire Menomonie. Stock for sale.

C. F. BERNDT, Menomonie, - - - Wisconsin.

## White Wyandottes

FOR SALE. PRICES REASONABLE

These birds have size, shape and Standard quality, and also high records as layers. Have just been tested by Hogan system by Judge Heimlich. Write today.

E. A. KERR, Harvel, Illinois.

## GERMOZONE The Best Pet Stock Remedy

For Poultry, Pigeons, Dogs, Cats, Rabbits, Parrots, Canary and other birds or pet animals, Germozone is a universal and safe remedy for colds, snuffles, roup, sore throat, loss of voice or singing, influenza, bowel trouble, distemper, sore eyes or ears, canker, gleet, loss of fur or feathers, sores, wounds, skin disease, or other affections of skin or mucous membrane.

"My hens have never done so well as this year and haven't lost a single chick" --Mrs. Flora Kapple, Walker, Ia. "Simply grand for rabbits" --L. W. Browning, Boone, Ia. "Cannot praise Germozone enough I use it for chickens, stock and household" --Mrs. Wm. Hoepfel, Hugo, Okla. "My bird puppies don't know what distemper is and I never had such good success before with chicks" --Curley Smith, Kennett, Mo.

Germozone is sold by most drug, seed and poultry supply dealers, or mailed postpaid in 25c, 75c, and \$1.50 packages from Omaha. Book on treatment of diseases free with each package.

GEORGE M. LEE CO., Dept. 300 OMAHA, NEB.

### HATCH THE X-RAY WAY

That means bigger hatches, healthier, stronger chicks with less attention; less operating expense than any other incubator made. That's why the X-Ray is the acknowledged World's Best Hatcher and profit producer.

**20 HATCHING REASONS**

exclusive new improvements such as the X-Ray Automatic Regulator, Radiator Heater, X-Ray Vapor Generator, Hinged Glass Top, Big One-Fill Oil Tank, etc., make users say "the X-Ray way is the sure way to make poultry raising pay." Send for FREE colored catalog. Get all the facts about X-Ray Incubators and Brooders. Write today. Address

**BIG COLOR CATALOG FREE**

**X-Ray Incubator Co.**  
341 X-Ray Bldg.  
Des Moines, Iowa

## Rheumatism

A Home Cure Given by One Who Had It

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case.

I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but, understand, I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay. Write today.

Mark H. Jackson, No. 694 F. Gurney Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true.—Pub.



**SAVE MONEY ON EVERY DRESS YOU MAKE**

Fight the H. C. L.

Fight the H. C. L.

These days it is imperative that the housewife save every penny possible. How can you save money on your sewing? By using our money saving patterns. HOME INSTRUCTOR patterns are the only kind ever sold in this country for less than ten cents, and as the price of patterns at the stores have now advanced to sell from fifteen to twenty-five cents each, HOME INSTRUCTOR patterns mean a real saving. Thousands upon thousands of women have been using them for years. They give universal satisfaction. These patterns sell for eight cents each or two for fifteen cents. They are made by a reliable well known firm and correct in every detail.

**Big Fashion Book FREE!**

As a special inducement to get you in touch with our money-saving patterns, we are offering our big Fashion Book free with a yearly trial subscription to HOME INSTRUCTOR. This big book illustrates hundreds of the latest styles. It contains illustrated lessons on dressmaking, and also illustrations showing the various kinds of stitches that are now in common use. And what is perhaps more important, we will sell you dress patterns of any style shown in the book at 8c each or 2 for 15c. We are making this special offer because we want you to read the

**HOME INSTRUCTOR FASHION MAGAZINE**

It is bright, entertaining, clean and instructive—just the sort of paper you should have in your home. It has a department for every feature of home life. Its fashion department is illustrated entirely with our money-saving patterns. It gives you an opportunity to see the new styles each month as they come out and thus keeps you in touch with the latest in women's and children's wear.

**MY SPECIAL OFFER:**

Send me twenty-five cents and I will send you the HOME INSTRUCTOR for one year, and will send my big Fashion Book to you free as a premium. Each issue for twelve months, HOME INSTRUCTOR will bring you the latest and best information about styles for women and children. Just think of the money it will save you. Stores are raising the price on patterns, and these money-saving HOME INSTRUCTOR patterns will mean much real money saved for you. I can sell them at this special price because I buy them by the thousands especially for our readers. I want your subscription to the Home Instructor, and I will save you all this money in return for getting your name on our subscription list.

Show this offer to your neighbors. Ask them to send in their subscriptions with yours. Don't put this offer by—send immediately.

Address

**A. OTIS ARNOLD**  
Dept. P K  
**QUINCY, - ILLINOIS**

A. OTIS ARNOLD, Publisher,  
Quincy, Illinois.

Dear Sir:—Enclosed find 25 cents for which send me the Home Instructor Fashion Journal every month for One Year. Also send me FREE and postpaid as a premium one copy of your latest special Fashion Book, illustrating your money-saving Patterns for women's and children's clothes.

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**RAISING PULLETS — ALFALFA FOR HENS—INCREASE IN POULTRY PRODUCTION—POINTS ON SELECTION**

Editor Poultry Keeper.

In raising pullets the purpose for which they are intended should first be taken into consideration. If they are wanted for eggs only, and not intended to be kept longer than the first laying year it will not be necessary to take the pains in care and feeding as if we were raising them for breeders, or were to keep them over to the second year for egg production. An early hatched pullet which began laying in the fall, will as a rule produce her greatest number of eggs during the following ten months. If she is kept over for another year, ordinarily she can be depended upon to lay one-half to two-thirds as many more eggs. The period of usefulness of a pullet may be extended if hatched in April or May and carefully grown, and while there is a great difference in hens, they will lay on an average the second year about seventy-five per cent of their first year's production. Pullets hatched very early makes hens prematurely old, while very late hatches are not favorable to winter egg production, unless we have an early and quick maturing breed and strain.

Alfalfa has an established reputation as a stock feed, and it has been found to be one of the best as an additional ration for fowls during the winter months when green and bulky food is not plentiful. A comparatively small plot of ground well seeded to alfalfa will produce all that is required for an ordinary

**Stop Hatching Weak Chicks**



**With Cheap Incubators**

Remember it is not how many you hatch that counts, but how many you raise. Chicks that hatch out weak and wobbly, and live but a few days, mean nothing to you except trouble and loss. They make one sick of the poultry business. Most of the chicks you lose in the first two weeks die because they did not hatch out with enough vitality or strength for a good start.

**Queen Incubators**

**Hatch Chicks That Live and Grow**

The Queen is accurately regulated—taking care of a temperature variation of 70 degrees without danger. It is built of genuine California Redwood—very scarce in these days of imitation and cheap substitution. Redwood does not absorb the odor from the hatching eggs. Cheaper woods, and pasteboard lining in iron and tin machines, retain the odors, to weaken and kill the hatching chicks.

Start your chicks with a Queen constitution and they will make money for you. The Queen is not a cheap incubator, compared with many of the cheaply constructed machines on the market, but it is cheap in the long run. It will be turning out high percentage hatches years after the cheap machines have been junked.

Sold by dealers. Catalog sent free on request.

**QUEEN INCUBATOR CO., Lincoln, Neb.**

Sizes  
60-egg to 2000-egg  
PRICES, \$12.00 UP

sized flock, both summer and winter. To have it tender and palatable for the hens it should be cut before it blossoms and when promptly cut and taken care of at least three crops may be had in one season and probably four. We generally cut the first two crops when the plants are beginning to blossom. Fowls yarded during the summer in quite close quarters, and when the green stuff is apt to run short after a while will appreciate and pay well, in eggs and growth for a daily feed of green alfalfa. This should be cut while

quite young and tender and when about six inches high. It can then be fed whole, and large quantities will then be consumed by closely yarded fowls. When the stems have reached a larger growth, so as to become somewhat tough and wiry, they can then be used for hen feed only after being run through a cutting machine.

There will be a large increase in the number of chickens raised this year over what there was last, and a much larger per cent of them will be kept over this coming winter than there was the past winter. This condition is due principally to the scarcity and high cost of feed during war time. While prices are still away up, we do not notice this so much since business has settled to a more even basis. A certain per cent of this increase in poultry this year will come from beginners in the business, hence a few notes on the merits of the breeds may not be out of place. Every beginner with poultry is anxious to select the breed that will give the best results, and if the breeds combined all the desired points there would be no difficulty. It is almost impossible to produce a breed combining the best table qualities, market appearance, egg production, hardiness and adaptability to all conditions. There are some breeds that will lay more eggs in a mild climate than they will in a section where the winters are long and cold, and there are breeds that will thrive in a limited area, while other breeds demand plenty of room for foraging. There is one point in selection which we can not dwell too long upon and that is to invest or start with no stock lacking in vitality, be absolutely positive that the birds are healthy and vigorous, and that the eggs from which you hatch the chicks come from strong, hardy birds.

v. M. Couch.

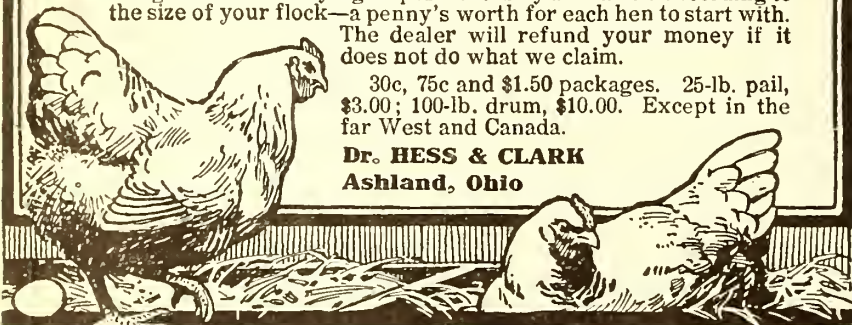
**Get Eggs All Winter**

You want more and more eggs to sell at these war-time prices. Speed up the laying. Dr. Hess Poultry Pan-a-ce-a will put your hens and pullets in top-notch laying condition. It contains ingredients which act on the dormant egg organs—livens them up and makes them active. Feed Pan-a-ce-a regularly to make hens healthy—to aid the digestion—to keep them singing and cackling and give them the laying disposition. Buy Pan-a-ce-a according to the size of your flock—a penny's worth for each hen to start with.

The dealer will refund your money if it does not do what we claim.

30c, 75c and \$1.50 packages. 25-lb. pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

**Dr. HESS & CLARK**  
Ashland, Ohio



**DR. HESS POULTRY PAN-A-CE-A**



# TRY THE NEW WAY TO KILL LICE

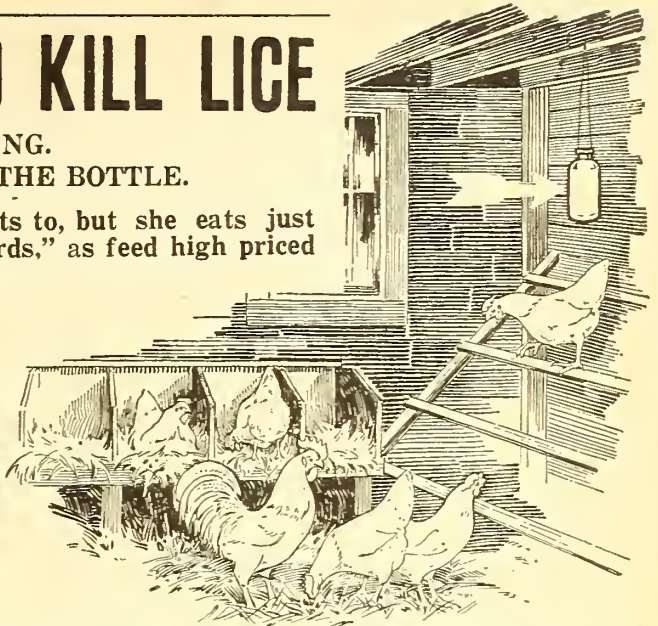
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

# Licecil

**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

## GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatimie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$2.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$2.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russell, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you sometime ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

"Received a bottle of your LICECIL some time ago and think it is all right. I am anxious to buy more. Have you an agent in Spokane from whom I can get it?" W. H. Wooster, Post Falls, Idaho.

## HOW TO USE LICECIL

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

Bottle, \$1.00; 3 Bottles for \$2.50, 12 Bottles, \$9.00. Prepaid.

**AMERICAN SUPPLY COMPANY** Dept. P. K. Quincy, Illinois

## CLASSIFIED ADVERTISING

The classified advertisers in **POULTRY KEEPER** are coming money fast this year.

It pays to keep your announcement before the people. That is the way to establish a reputation for your business. Why not go after the people, get good prices, and make more money this year?

### RATES:

| Rates for Ads. Classified Under Proper Headings Are as Follows: |              |
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| 1 month .....   | 5c per word  |
| 2 months .....  | 9c per word  |
| 3 months .....  | 12c per word |
| 4 months .....  | 15c per word |
| 1 year .....  | 36c per word |

### ANDALUSIANS

**S. C. BLUE ANDALUSIANS.** First at St. Louis, Chicago and Peoria. Show-birds and breeders for sale. \$3.00 to \$50.00. G. F. Kramper, St. Libory, Ill. 10-3

### ANCONAS

**ANCONAS—PRIZE WINNERS.** Bred-to-lay. 11 years experience. Stock for sale. John Lent, Malta, Ohio. 12-3

**S. C. ANCONA COCKERELS—**Exhibition and breeders. Sheppard strain. Stock, eggs, chicks. Write. Satisfaction guaranteed. W. H. Beck, Sherburne, N. Y.

**SINGLE COMB ANCONAS—**Cockerels and pullets—prize winners and fine breeders. Prices right. Satisfaction guaranteed. Lon Miller, Martinsville, Ill. 11-2

**S. C. ANCONAS—**Our Anconas are bred to win and lay. March and April hatched cockerels \$3.00 to \$10.00 each. Mrs. Chas. P. McBroom, Fortuna, Mo. 10-3

**SHATIO'S S. C. ANCONAS—**Fine breeding cockerels, \$3 and \$5 each. Guy Shatto, Dun-Elk, Ind.

**SINGLE COMB ANCONA PULLETS,** April hatched, \$2.50. June hatched, \$1.75. Year old hens, \$2.25. Satisfaction guaranteed. Joseph Hughes, Irving, Illinois.

**MY WINTER LAYING ANCONAS** cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write, Geo. Hecker, Earlville, Iowa. 2-12

**SHEPPARD STRAIN R. C. Ancona** cockerels, March and April hatched. Some fine birds, cheap, if taken at once. Mrs. E. J. Crawford, Owatonna, Minn.

**ANCONAS, SINGLE COMB—**331 egg strain, cockerels, \$2.50. Hens, \$2.50. Satisfaction guaranteed or money returned. Strasburg Poultry Yards, Strasburg, Illinois. 8-12

**LEWALLEN'S LEADERS—**The laying, paying strain of Single Comb Anconas. The egg producers of today. Several selected cockerels for sale. Write your wants to the South's foremost Ancona Farm, Worth M. Lewallen, High Point, North Carolina. 10-4

### BUTTERCUPS

**BARGAINS—BUTTERCUP COCKERELS.** Matie Robb, Oak Grove, Mich.

### CORNISH

**QUALITY DARK and White Cornish** reasonable. Stamp for prices. E. W. Grynier, Elroy, Illinois. 11-3

**DARK CORNISH OF QUALITY.** From Madison Square and Chicago winners. C. A. Buss, Shannon, Ill. 12-3

### CANARIES

**CANARIES—**Fine singers, crested or plain heads, yellow and dark birds, \$6.00 up. Mrs. Ben Litwiller, Hopedale, Ill.

### CAMPINES

**GOLDEN CAMPINES—**Cockerels Native home, La Campine Plain. For eggs and beauty, none better. Book your order for eggs now. E. E. Mott, Glenwood, Mich. 12-3

## WINNINGS FALL OF 1919.

The winnings of Ferris Leghorns at several of the largest shows in the country this fall is a record that has never been approached by any other breeder. Here is the list up to the time this catalog went to press:

### Ohio State Fair.

Columbus, Ohio, August, 1919.

"The class of S. C. White Leghorns was an unusually strong one, and taking bird for bird, it is doubtful whether any better class of S. C. Whites was even seen at the Ohio State Fair. Outside of first pullet, Geo. B. Ferris won all firsts on as magnificent a string of birds as we have ever seen at a fall fair. We congratulate George on coming all this distance and making such a grand win."—Poultry Press.

"All the old and popular breeds were well represented, especially the Leghorns, of which breed 305 birds were shown. The first prize cock and cockerel were high class and attracted much attention."—American Poultry Journal.

We won as follows: 1st cock, 1st, 2nd, and 3rd cockerel, 1st old pen, 1st young pen.

### Michigan State Fair.

Detroit, Mich, 1919.

At the same time that we were winning at the Ohio Fair, we showed another string of birds at the Michigan Fair, where with nearly 200 White Leghorns on display we won as follows:

First, 2nd, 3rd and 4th cock, 1st hen, 2nd, 3rd, 4th, and 5th cockerel, 1st, 2nd, 3rd 4th and 5th pullet.

### Kentucky State Fair.

Louisville, Ky., September, 1919.

We sent our birds more than 300 miles to this fair, and did not send anyone along to look after them, yet they won every first prize and special for best display:

First and 2nd cock, 1st and 2nd hen, 1st, 2nd, 3rd and 4th cockerel, 1st and 2nd pullet, 1st old pen, 1st young pen.

### West Michigan Fair.

Grand Rapids, September, 1919.

This is the largest fair in Western Michigan and competition was very strong, there being large classes of cocks, hens, cockerels and pullets on display. Our winnings:

First, 4th and 5th cock, 1st, 2nd, 3rd, 4th and 5th hen, 1st, 2nd and 3rd cockerel, 2nd, 3rd, 4th and 5th pullet, 1st old pen, 1st young pen.

### Alabama State Fair.

Birmingham, Ala., October, 1919.

Birmingham is nearly 700 miles from South Bend, and a long journey is very hard on white birds. To come this distance and make the following record in one of the largest shows of the South is conclusive proof of quality.

### MINORCA CLUB MEETS GOES TO THE "GARDEN"

The members of the International S. C. Black Minorca Club voted to hold their Twenty-sixth Annual Meeting and show at Madison Square Garden, January 20-24, 1920. It has been a number of years since the Meet has been held in the

## BREEDER'S CARDS

### LEGHORNS

**FOR BARGAINS IN LEGHORNS** and reliable information on all varieties consult The Leghorn World, Dept. C. Waverly, Iowa. Fall year's subscription 25c.

### BUFF LEGHORNS

**STAMINA—PROLIFICACY—**2½ oz. eggs. Trap-nested, pedigreed. "Business Beauty" Catalog. Send Stamp. Joseph Benedict, Chevy Chase, Maryland.

**SINGLE COMB BUFF** Leghorn cockerels. Also eggs for hatching. Karr's Buff Leghorn Farm, Lacygne, Kansas. 11-4

**EGGBRED BUFF LEGHORNS,** (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Munger, DeKalb, Ill.

**SINGLE COMB BUFF LEGHORN** cockerels. Fine, healthy, solid golden buff birds. Prices reasonable. Arthur Worthington, R. 3. Two Rivers, Wis. 3-4

### BROWN LEGHORNS

**LOOK! LOOK!** Pecans 10 cents per pound, about 2,000 lbs. for sale. S. C. Brown Leghorn cockerels. Write for prices. Henry Simmel, R. 1, Pilot Point, Texas. 11-3

**SINGLE COMB BROWN LEGHORNS—**First cockerel Illinois Fair, 1918. Cocks, cockerels, \$3.00. Pullets, \$3.50. Trio, \$10.00. Pen, \$17. M. Edwards, Rockbridge, Ill. 11-3

**KULP'S BIG ROSE COMB** (200) and Single Brown, 200 records. Large eggs. Stock. Catalog. W. W. Kulp, Pottstown, Pa. Box 30. 1-12

### WHITE LEGHORNS

**S. C. WHITE LEGHORNS—**A dozen high class cockerels and cocks, \$2.50 to \$3.00 each if taken soon. Northern grown, heavy laying stock. H. A. Smith, Washburn, Wis. R. 1.

**50 MARCH HATCHED S. C. W. Leghorn** cockerels from trap nested stock, \$3.00 each. Money back guarantee. T. F. Langaber, 508 W. Oak St., Fairbury, Ill. 12-2

**BARRON 230-290 EGG** Strain Cockerels, March hatched. Big vigorous fellows. Special offer. Write for circular. M. D. Finkenbinder, Pearl City, Ill.

**SINGLE COMB WHITE LEGHORNS—**Breeders. Eggs. Baby Chicks. Order early. Satisfaction guaranteed. High Mitchell, Weldon, Ia. 11-12

**275-288 EGG WHITE LEGHORNS.** Early hatched, vigorous cockerels and pullets that will make splendid breeders for coming season. Ernestine Bott, Brighton, Ill., Box 5 10-3

**YOU WANT HIGH EGG PRODUCTION.** My pedigreed and trap-nested S. C. W. Leghorn males are guaranteed to increase your egg production or your money back. M. M. Jacobs. Dept. K, Fairbury, Ill. 10-3

### WHITE ORPINGTONS

**WHITE ORPINGTONS—**Choice birds, from Cook's best stock. Mrs. S. J. Cowden, Bolivar, Mo.

**WHITE ORPINGTONS —** Cockerels, pullets, hens, cocks, \$5.00, \$7.00, \$10.00, \$15.00 up. Catalogue free. R. E. Sandy, Box J. Stuarts Draft, Va.

**MILLER'S CRYSTAL WHITE ORPINGTONS—**We offer cocks, cockerels, hens and pullets from our prize winning and heavy laying strain. Write us your wants today. We ship C. O. D. R. H. Miller, Morton, Ill. 12-2

**S. C. WHITE ORPINGTONS.** Two hundred egg strain. Cockerels and cocks for sale, \$2.50 to \$10.00. G. F. Kramper, St. Libory, Ill. 10-3

**SOME EXTRA FINE S. C. White Orpington** cockerels, \$3, \$5, \$10 and \$15 each. Write me your wants on S. C. White Orpingtons. Neal Myers, Queen City, Mo. 11-4

East, having been at Kansas City, Cleveland, St. Louis and Chicago, but now they are coming back to the Garden and it promises to be the mightiest Minorca show ever held. The Eastern members felt that the Meet was due them this year and they are back of it to a man, but it is not going to be a show of birds of this section alone. Secretary Junius Johnson writes that no sooner was it known that the meet was going to the Garden than letters began coming in from members that were going to send their birds to the Meet, and these were from all parts of the country, East, West, North and South, especially strong from the Central West. Canada promises to be on hand stronger than ever before and there is a possibility of a good entry from Mexico. New York State members are coming out in double force; the New York State Meet will be held at this time and competition for the "New York State Minorca Cup" and other Specials for the State members, will be exceptionally strong, and of course they will have their hat in the ring for national honors.

Any breeder of S. C. Minorcas is missing a great opportunity if they do not send an entry to this great show and be on hand to see the largest collection of Minorcas ever brought together. Write at once to Mr. D. Lincoln Orr, Secretary, Madison Square Garden Show, Orr's Mills, N. Y., for a copy of the premium list. If not a member of the Minorca Club, join today and identify yourself and Minorcas with this great organization. \$1.00 will pay up to December 31, 1920; send direct to Junius Johnson, secretary, 6001 Harrison Rd., Kansas City, Mo., and he will send you membership Certificate, entitling you to compete for all Club Specials, also

**BREEDER'S CARDS**

**BUFF ORPINGTONS**

**SINGLE COMB BUFF ORPINGTON COCKERELS** for sale. Bred from heavy winter layers. Write for particulars. Walter Goessling, 930 Jefferson St., Quincy, Ill. 11-2

**BURGER'S BUFF ORPINGTONS** have won at the leading shows in the Middle West. Show birds and choice breeders in old and young stock. Satisfaction guaranteed. A. F. Burger, Keokuk, Ia. 10-4

**GUINEA PIGS**

**EXTRA PROLIFIC GUINEA PIGS**—Pairs, mated, \$2.50 each. John Fretwell, Ruston, La.

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**PEDIGREED NEW ZEALANDS**, 3 months, \$2.50 each; 6 months, \$3.50 each; vigorous stock. Order from advt. "Shoreacres" Ranch, Vancouver, Wash., R. I.

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**LARGE HUSKY COCKERELS** from superior layers. Bred from my Chicago and St. Louis winners, \$2.50, \$3.50 and \$5.50 each. Absolute guarantee. Shipped C. O. D., if desired. Box 190, G. J. Gerber, Dalton, Ohio. 12-4

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**GOLDEN AND SILVER PHEASANTS**, Mill-fleur and Cochin Bantams, Salmon Favorele cockerels, and domesticated Canadian geese. C. H. Wilson, Sunbury, O.

**WANTED**—Hens and pullets. All varieties. Also ducks. Hillcrest Farm, Garden Prairie, Illinois.

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The cream of the winter's sales are made in January, February and March. Now is the time to start your classified advertising. We are entering the best season ever known in the poultry industry. Get your share. The cost is very small. Here is how it figures out for a three months ad—January, February and March.

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| Twenty words .....      | 2.40   |
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Yearly advertising always pays best in the long run. Keep your name before the buying public. You can change your copy as often as you wish. This is the way it figures for one year's advertising.

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Contains valuable information for breeders of any variety. Suitable for amateur and fancier. Articles by best breeders and judges. Color plates of S. C. White Leghorns and Brown Leghorns feathers by F. L. Sewell. Edited by J. H. Drevenstedt. 140 pages, 9-12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

The number of eggs broken in transit, it is believed, could be greatly reduced if only sound, new cases were used, proper packing employed, a proper system of nailing on the covers followed, and an efficient method of stowing and bracing the cases in the car practiced. A study of egg cases has established facts as to thickness of wood, and has shown that there is a right and a wrong way to drive every nail employed in putting cases together.

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There never was a time in the history of farming when there was as much interest in poultry raising as there is right now.

Thousands of men and women all over the country who sold or killed off their flocks during the war are coming back into the business, because they know it pays.

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This new book "Pratts Practical Pointers on the Care of Poultry" is a 48-page handbook, written by authorities in the work.

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The Pratt Food Company of Philadelphia offer to send it free on request to all who are interested enough in poultry raising to ask for it and mention the name of this publication when writing. Get a copy, study it carefully and keep it handy in your poultry library.

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**SILVER SPANGLED HAMBURG** cockerels for sale. Guaranteed to please. Chriss King, Boscobel, Wis. 12-2

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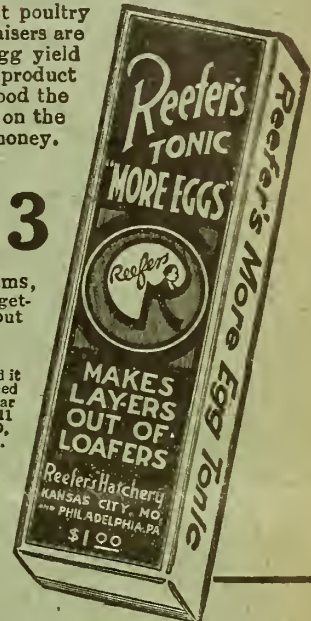
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## 16 Eggs a Day

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That's the experience of one enthusiastic poultry raiser who wrote me. And Lulu Williams, of Parratt, Ga., writes: "Before using your tonic I was getting only 2 or 3 eggs a day. I am now getting 16 eggs a day from 18 hens". Read the letters below and remember that they are just a few out of thousands.



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Some time ago I got from you "More Eggs" and it now means MORE EGGS. I am now fully convinced of its utility. I have 14 pullets and 14 hens one year old and the first 10 days of December they laid 11 dozen eggs.—Yours very truly, H. F. POHLAND, President, The Citizen's Bank of Ashland, Oregon.

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I have fed 2 boxes of "More Eggs" to my hens and I think they have broken the egg record. I have 100 White Leghorns and in exactly 21 days I got 125 dozen eggs.—MRS. H. M. PATTON, Waverly, Mo.

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| Illinois Farmer ..... | .50    |                 |
| Home Instructor ..... | .25    |                 |

### Club No. 7

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.00</b> |
| Mother's Magazine ..... | 1.00   |                 |

### Club No. 2

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.00</b> |
| McCall's .....       | 1.00   |                 |

### Club No. 8

|                           |        |                 |
|---------------------------|--------|-----------------|
| Poultry Keeper .....      | \$ .50 | } <b>\$1.25</b> |
| Illinois Farmer .....     | .50    |                 |
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|                            |        |                 |
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|                       |        |                 |
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|                            |        |                 |
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### Club No. 11

|                         |        |                 |
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### Club No. 6

|                             |        |                 |
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| Am. Poultry Advocate .....  | .50    |                 |
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|                            |        |                 |
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Vol. XXXVI

JANUARY, 1920.

No. 10.

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# FERRIS WHITE LEGHORNS



## BREEDING STOCK FROM TRAPNESTED STRAINS

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers. We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

### We Ship C. O. D. and On Approval

We ship on approval, allowing you to return within three days any birds that are not entirely satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them, send us enough money to guarantee express charges one way and we will ship C. O. D. with privilege of examination. \$1.00 will cover the express charges on a single bird, \$2.00 on a trio or pen of five, and \$3.00 on ten or twelve birds.

### Laying Pullets and Hens

Thousands of pullets and hens from our heavy laying strains are now ready for shipment. These birds will more than pay for themselves this fall and winter and will make splendid breeders next spring.

Your choice of pullets or hens at the following prices:

|                  | 200-230 Strain | 230-264 Strain |
|------------------|----------------|----------------|
| 4 Females.....   | \$ 16.00       | \$ 24.00       |
| 8 Females.....   | 32.00          | 48.00          |
| 12 Females.....  | 48.00          | 70.00          |
| 25 Females.....  | 95.00          | 135.00         |
| 50 Females.....  | 180.00         | 260.00         |
| 100 Females..... | 350.00         | 500.00         |

### Early Cockerels and Cockbirds

Hundreds of choice cockerels, March hatched, from our very best matings will be disposed of this fall at the following prices. Also a number of yearling cockbirds that we have used in our breeding pens at the same prices— from 200-230 strain \$8.00, \$10.00 and \$12.00. From 230-264 strain \$12.00, \$16.00 and \$20.00.

Males and females of the 200-230 strain are shipped from Grand Rapids only. The 230-264 strain can be shipped from Grand Rapids or from West Palm Beach.

We will ship from Michigan unless you specify otherwise, as we have only a limited number to spare from the southern farm.

## WINNINGS AT FIVE BIG FAIRS THIS FALL

### OHIO STATE FAIR

"The class of S. C. White Leghorns was unusually strong, and it is doubtful whether any better class of S. C. Whites was ever seen at the Ohio State Fair. Outside of first pullet Geo. B. Ferris won all firsts on as magnificent a string of birds as we have ever seen at a fall fair."—Poultry Press.

1st cock 1st, 2nd and 3rd cockerel  
1st old pen 1st young pen

### MICHIGAN STATE FAIR

At the same time we were winning at the Ohio Fair, we showed another string of birds at the Michigan State Fair, where with nearly 200 White Leghorns on display, we won as follows:

1st, 2nd, 3rd and 4th cock 1st hen  
2nd, 3rd, 4th and 5th cockerel  
1st, 2nd, 3rd, 4th and 5th pullet

### KENTUCKY STATE FAIR

We sent our birds more than 300 miles to this fair and did not send any one along to look after them, yet they won every first prize and special for best display.

1st and 2nd cock 1st and 2nd hen  
1st, 2nd, 3rd, and 4th cockerel  
1st and 2nd pullet 1st old pen  
1st young pen

### WEST MICHIGAN STATE FAIR

This is the largest fair in Western Michigan and competition was very strong, there being large classes of cocks, hens, cockerels and pullets on display. Our winnings:

1st, 4th and 5th cock  
1st, 2nd, 3rd, 4th and 5th hen  
1st, 2nd and 3rd cockerel  
2nd, 3rd, 4th and 5th pullet  
1st old pen 1st young pen

### ALABAMA STATE FAIR

A remarkable winning because the birds were shipped nearly 700 miles from South Bend, with no one along to look after them.

1st cock 4th and 5th hen  
1st and 4th cockerel 1st and 2nd pen

### EXHIBITION STOCK

Cocks and cockerels hatched directly from our Chicago Coliseum winners at \$25.00 and up. Hens and pullets, \$12.50 and up. These birds will win anywhere. They have splendid low tails, good heads, wonderful shape in every section and pure white plumage. We have hundreds of early hatched cockerels and pullets to select from sired by the blue ribbon winners at top of this page and 15 others like them. For several years Ferris Leghorns have won best display at the Chicago show, and no matter where you wish to show, we have the birds that will win for you, and we will guarantee them to win. We exhibited at eight large shows last season, winning 29 first prizes and 69 other prizes—a total of 98 prizes.

## EGGS, CHICKS and EIGHT WEEKS PULLETS

It is not too early to place your order for eggs, chicks or 8 weeks stock for delivery next spring. The demand will be unusual and we may not be able to fill all late orders promptly, although we have greatly increased our capacity. The 200-230 strain can be shipped from Northern farm only; other grades from Northern or Southern farm as you prefer.

### Eggs For Hatching

|                | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|----------------|----------------|----------------|----------------|
| 15 Eggs.....   | \$ 3.50        | \$ 5.00        | \$ 10.00       |
| 50 Eggs.....   | 9.00           | 13.00          | 26.00          |
| 100 Eggs.....  | 17.00          | 25.00          | 50.00          |
| 500 Eggs.....  | 80.00          | 115.00         | 235.00         |
| 1000 Eggs..... | 150.00         | 225.00         | 450.00         |

Eggs sent prepaid anywhere at above prices. Fertility guaranteed. Shipment now from Florida; Feb. 15 to June 1 from Grand Rapids.

### Day Old Chicks

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 12 Chicks.....   | \$ 5.00        | \$ 7.50        | \$ 15.00       |
| 25 Chicks.....   | 9.00           | 14.00          | 28.00          |
| 50 Chicks.....   | 17.00          | 26.00          | 52.00          |
| 100 Chicks.....  | 32.50          | 50.00          | 100.00         |
| 600 Chicks.....  | 150.00         | 225.00         | 450.00         |
| 1000 Chicks..... | 285.00         | 425.00         | -----          |

Chicks sent postpaid at above prices. Safe arrival guaranteed. Shipment now from Florida; March 1 to June 20 from Michigan.

### Eight Weeks Old Pullets

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 4 Pullets.....   | \$ 10.00       | \$ 14.00       | \$ 24.00       |
| 8 Pullets.....   | 20.00          | 28.00          | 48.00          |
| 12 Pullets.....  | 30.00          | 40.00          | 70.00          |
| 25 Pullets.....  | 60.00          | 75.00          | 135.00         |
| 50 Pullets.....  | 115.00         | 145.00         | 260.00         |
| 100 Pullets..... | 225.00         | 285.00         | 500.00         |

Shipped express collect at above prices. Safe arrival guaranteed anywhere in United States or Canada. Shipment Jan. 1 to June 1 from Florida; May 1 to Aug. 1 from Michigan. Cockerels same price as pullets.

### Exhibition Eggs and Chicks

Several pens of our choicest exhibition stock now mated on our Florida farm. If you want eggs or chicks this fall or early in the winter before our Northern pens are mated, remember we can supply them promptly. Write for prices and particulars. Eggs from South Bend ready Feb. 1; chicks Mar. 1.



## THIS FREE CATALOG TELLS THE WHOLE STORY

Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla. Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices and guarantee on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. We want you to know why Ferris Leghorns are best.

**GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICHIGAN**



# THE



# POULTRY



A JOURNAL FOR  
EVERYONE  
INTERESTED

# KEEPER

IN MAKING  
POULTRY  
PAY

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JANUARY, 1920.

No. 10

## Feeding Hens for Egg Production

Harry M. Lamon and Alfred R. Lee

Animal Husbandry Division

Feeding is one of the most important factors in egg production. On poor rations hens will live and even keep in fair health; but well-balanced, palatable feeds are necessary to get good egg production. The additional cost of a good ration compared with a poor ration is repaid many times by the extra eggs obtained. As a rule the simplest feed mixtures composed of home-grown grains and their by-products, supplemented by sweet or sour milk or some animal feed rich in portein, such as meat scrap, will prove most profitable and will produce eggs at the lowest cost.

There is no one best ration for all conditions, but many of the grains can be fed interchangeably, depending on their availability and price. The rations described in this bulletin are recommended as the result of extensive feeding experiments conducted at the government farm at Beltsville, Md.

### Use of Grains and Their By-Products

Corn, wheat, oats, and barley are the principal grains fed to poultry; kafir corn and buckwheat are used also, but are not so generally available and usually cost more. Corn and wheat are the two best grains and are about equal in value as poultry feeds, although wheat can be fed alone better than corn, which is inclined to be fattening. Oats and barley, on account of their hulls and higher fiber content, are not so good as corn or wheat. Rye is not well relished by fowls and is seldom fed. Wheat screenings or slightly damaged grains sometimes may be bought to advantage, their value depending entirely upon their quality and condition, but as a rule only sound grains in good condition should be fed to poultry, and moldy grains should never be used. The locally grown grains which poultry will eat freely may generally be used to the best advantage. A scratch mixture, consisting of whole or

cracked grains made of a combination of any two or more of those mentioned, can be fed to advantage. It is not advisable to feed continuously any single grain, especially corn, owing to its fattening properties already mentioned.

A mash made of ground grains, mill products, and meat scrap should be fed usually in addition to the scratch mixture. Corn meal, wheat bran, wheat middlings, and meat scrap form the basis of a good mash, while corn chop, corn-and-cob meal, ground oats, and low-grade flour also may be added or substituted to advantage. Just as good results can be obtained from a simple mash containing 3 or 4 ground grains and meat scrap as from a highly complicated mash containing 10 to 12 products.

A large number of commercial mixtures both of scratch grains and of ground grains are prepared for poultry feeds, but the value of any mixed commercial feed depends upon its composition and the quality of the grains used in its preparation. If a poultry raiser does not produce any grain and keeps a comparatively small number of fowls it is often better for him to buy commercial mixed feeds. The average farmer, however, should feed home-grown

grains supplemented with mill feeds and meat scrap, and the large poultryman usually can mix his own feeds to best advantage. When 2 or 3 kinds of grain are raised, and ground or mill feeds are not readily available, good results can be obtained by feeding only the grains, provided they are supplemented with meat scrap or milk.

### Balanced Rations.

A balanced egg-laying ration is a combination of feeds which furnish just the necessary amount of nutrients (protein, nitrogen-free extract, and fat) to produce the highest and most economical egg yields. Protein is a nitrogenous nutrient which supplies material for body structure, while nitrogen-free extract consists of the starches and sugars, and supplies heat, energy and fat. Feeds used primarily to supply protein are meat scraps, fish meat, cottonseed meal, and milk products. Feeds especially high in nitrogen-free extract are corn, wheat, oats, and their by-products.

### The Nutritive Ratio.

A good egg-laying ration should include (1) a scratch mixture and (2) a mash composed of palatable feeds containing some animal-pro-

(Continued on Page 8).

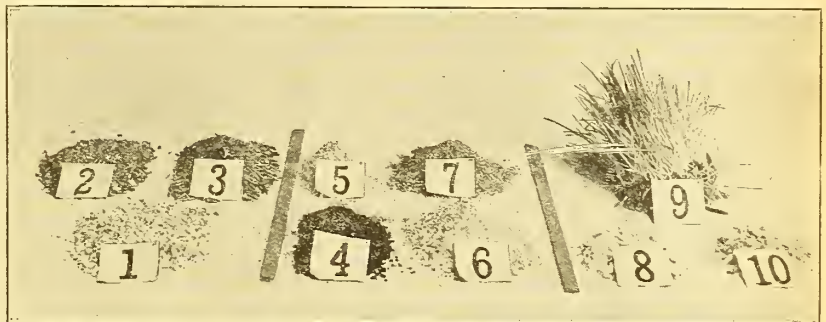


Fig. 1.—A balanced ration. 1. Corn. 2. Wheat. 3. Oats. 4. Meat scrap. 5. Middlings. 6. Corn meal. 7. Bran. 8. Oyster shell. 9. Sprouted oats. 10. Grit. Nos. 1, 2, and 3 make up the scratch mixture; 4, 5, 6 and 7 mixed together make the mash.

# Standard Bred Poultry

## Characteristics of Meat Breeds

In our issues of November and December we gave the pictures and illustrations of the more familiar meat breeds. We will now enter upon a discussion of the heavy type of poultry that is not so well known but which deserves all the publicity you can give them.

We have received quite a number of letters commenting us for publishing these special descriptions of the meat breeding fowls. Up to date we have discussed what is known as the Asiatic class. In this issue we take up what is called the English class. In a later issue we will give attention to the French class, with illustrations of the male and female.

**Partridge Cochin.**—The Partridge Cochin is a very beautiful and attractive variety. In general the plumage of the male consists of a rich-red top color extending over the shoulders and back, the hackle and saddle being striped with black. The rest of the body plumage, including the main tail feathers and sickles, is black. The wings when folded show a bar of black extending across below the shoulder.

In the female the general trend of color is a brown or mahogany with delicate, distinct, concentric, dark penciling on each feather except the hackle, each feather of which is red or bay with a black center, showing a slight penciling of brown, and the main tail feathers, which are black, with the two top feathers showing some brown penciling. The undercolor in both sexes should be slate throughout.

**White Cochin.**—The White Cochin should be a pure white throughout in both sexes, free from any foreign color whatever. The surface color should show no brassiness and there should be no indications of creaminess in the surface or the undercolor. Brassiness is more likely to occur in the male than in the female.

**Black Cochin.**—The Black Cochin should be black throughout in both sexes, the surface color showing a greenish sheen free from purple, while the undercolor is dull black.

### Langshan

The Langshan, like the Brahma and the Cochin, is one of the oldest standard breeds of poultry in this country. It originated in China and was imported to the United States either directly or through England.

The Langshan is characterized by its length of leg and great height. It is very much taller in proportion to its length of body than either the Brahma or the Cochin, and in conse-

(Continued on Page 23)



Fig. 8.—Black Langshan male.



Fig. 9.—Black Langshan female.

# 160 Hens— 1500 Eggs

**L**AST winter eggs sold as high as \$1.00 a dozen. I predict that this winter eggs will go even higher. This is my judgment as America's foremost poultry expert. Poultry raisers are going to reap tremendous profits. You, too, can make sure of a big egg yield by giving your hens a few cents' worth of Reefer's "More Eggs" Tonic. This product has already been tried, tested and proven by 400,000 chicken raisers. It has stood the test of years and is acknowledged the best and most successful egg producer on the market today. Every day that you don't use it means that you are losing money. Start with a few cents' worth of Reefer's "More Eggs" Tonic. Act NOW.

## Got 117 Eggs Instead of 3

That's the experience of one enthusiastic poultry raiser who wrote me. Read the wonderful testimonials printed below and remember they are just a few out of thousands.

### Banker Endorses "More Eggs"

Some time ago I got from you "More Eggs" and now it means MORE EGGS. I am now fully convinced of its utility. I have 14 pullets and 14 hens one year old and the first 10 days in December they laid 11 dozen eggs. Yours very truly, H. F. FOHLAND, President, The Citizens' Bank of Ashland, Oregon.

### A Godsend

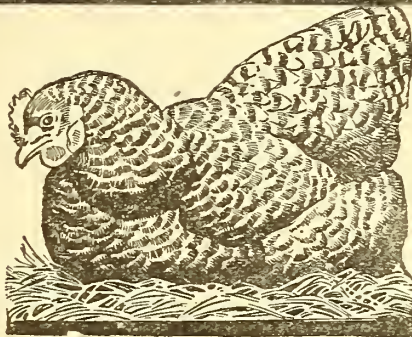
Please accept my thanks for advertising such a Godsend to the poultry. It is more than a miracle. — THEODORE ARMSTRONG, Suow Hill, N. C.

### Doubles Egg Production

I have been using "More Eggs" Tonic 3 or 4 weeks now. My egg production has been doubled. — J. C. KOENINGER, Paradise, Tex.

### "More Eggs" Paid the Pastor

I can't express in words how much I have been benefited by "More Eggs." I've paid my debts, clothed the children in new dresses, and that is not all—I paid my pastor his dues. I sold 42½ doz eggs last week, set 4 doz., ate some and had 1½ doz. left. — MRS. LENA McBRON, Woodbury, Tenn.



### 8938 Eggs from 125 Hens

Since using the "More Eggs" I have got more eggs than at any time I have been in the poultry business, about 30 years. Since March 15th to Nov. 15th I have marketed 740 dozen and only have 125 hens. I highly recommend "More Eggs" tonic to all poultry raisers. — MRS. W. S. DEAHL, Exline, Ia.

### 160 Hens—1500 Eggs

I have fed 2 boxes of "More Eggs" to my hens and I think they have broken the egg record. I have 160 White Leghorns and in exactly 21 days I got 125 dozen eggs. — MRS. H. N. PATTON, Waverly, Mo.

# FREE

## This \$1 Package

## Results Guaranteed!

The Million Dollar Merchants Bank of Kansas City, Mo., absolutely guarantees that "More Eggs" will produce satisfactory results, that you will be satisfied in every way or your money back. You do not run the slightest risk.

I have convinced over 400,000 poultry raisers of the value of my "More Eggs" tonic. If I haven't as yet convinced you, it's merely because you haven't given me the chance. I want to convince you; in fact, am more than anxious that you may know, not from the experience of others alone, but from your own experience, of its great advantage in increasing the egg yield of your hens.

Will you give me the chance to prove to you its great merit? My free offer is made in the sincere hope and with the sole purpose of getting you to give me this very opportunity. I know what your verdict will be when once you try "MORE EGGS"—but my great difficulty is to get you to ACT—to get you to decide NOW that you will give "MORE EGGS" an honest and fair trial. Won't you do this—won't you do it when, in your own interest, I offer you a package FREE, just to show you what I can do for you in making your hens lay more eggs? Why doubt? Why delay? Others are getting more eggs than they ever dreamed of getting; you can do the same, and eggs today, you know, represent real dollars.



## How to Get the Free Package

Fill in and mail to me the coupon below. When I receive it, I will send you two \$1.00 packages of "MORE EGGS." You pay the postman upon delivery only \$1.00, the price of only one package, the other package being FREE! Keep extra package; or better still, sell it to a poultry friend, so you can get your money back and have your own package for nothing.

## Send No Money

Don't send any money; just fill in and mail coupon. I will immediately send you two \$1.00 packages of "MORE EGGS." Pay the postman upon delivery only \$1.00, the other package being FREE. Don't wait—take advantage of this free offer TODAY! Eggs are steadily advancing in price and will reach the \$1.00 per dozen mark long before the middle of winter. Reap the BIG profits "MORE EGGS" will make for you. Don't let your neighbor get the advantage of you—you, too, can have plenty of eggs to sell when the price is highest, if you'll only act NOW! Send today! Right now!

\$1 Package

**FREE**

**E. J. Reefer, Poultry Expert**  
3921 Reefer Bldg., Kansas City, Mo.

Dear Mr. Reefer—I accept your offer. Send me two \$1.00 packages of Reefer's "More Eggs" for which I agree to pay the postman \$1.00 when he brings me the two packages. You agree to refund me \$1.00 if both of these packages do not prove satisfactory in every way.

Name.....

Address.....

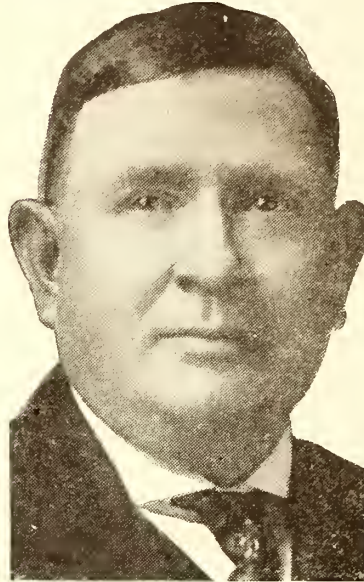
**E. J. Reefer Poultry Expert**  
3921 Reefer Building  
Kansas City, Missouri  
*Backed By a Million Dollars!*

# Artificial Hatching and Brooding

A great deal depends, for success in hatching and rearing of your chickens artificially, upon the manner in which the parent fowl has been bred, and the new beginner ought to pay particular attention, not only to the breeding of the chickens, but in the gathering of the eggs for hatching, both for the artificial and hen method. Always see that you have good live males with your females. In gathering your eggs for hatching, handle them carefully, placing them in an egg case or cabinet, and turn them once every twenty-four hours. Be careful that your eggs are not chilled while gathering in cold weather and keep them in a temperature of about 40 degrees. Fowls with large range, where they can scratch and get sufficient exercise, also obtain bugs and worms for meat food, with good lively males and not inbred to any great extent, are the very best fowls for fertile eggs production. The reason we advise turning eggs every twenty-four hours while having, is for the same reason that you turn them while in your incubator. The germ of an egg floats near the top, though it is not visible to the eye previous to incubation, yet if the egg is fertile and lies for any length of time in one position, the germ adheres to the shell. It may be possible that the germ will barely start to stick, so that in turning it three or four times you injure the germ, weakening it so that it will barely start to incubate and then die. You will often find, in testing eggs that you have saved a long time, a dark spot that will not move away from its location when you turn the egg. You will often find an egg clouded with red spots, as if drops of blood had been dropped into it, and floating around the upper part of the shell. This is seldom found in good fertile eggs, but generally in eggs that had been placed away for hatching and not properly turned at all times.

After you have saved your eggs and have them ready for incubation, you must pay attention to the incubator and read thoroughly the direc-

Healthy Eggs Hatch Healthy Chicks  
—Care of the Parent Stock—The  
Day of Experimenting a Thing of  
the Past.



J. W. Myers, Pres. Reliable Incubator & Brooder Co., Quincy, Ill.

tions given by the manufacturer, as different incubators have different ventilations and different directions for operating. One thing of importance is the proper heating of the egg chamber and the proper regulation of this heat. Then there is the question of moisture and ventilation, indeed, we desire to say that it is of first importance, for more hatches are ruined by ill-ventilated incubators than by all other causes. The question of moisture and ventilation is so intimately connected that they are practically one, for by successfully solving one, we have solved both. The Reliable has accomplished this proper ventilation by providing for a constant circulation of air throughout the machine, fully heated to the proper temperature before entering the egg chamber, and to this rapid movement of the air is due largely the success of the hatch, and almost entirely the drying pro-

cess of the moisture in the egg.

An incubator should be placed in some room where there is sufficient good, fresh air for ventilation and not a heavy draught of air. An incubator should be double-walled, wool-packed and insulated between these walls, if you intend to operate this incubator in any kind of a room where the variation of the temperature changes. Of course, the lighter built machines can be operated in rooms that are especially built for artificial incubation, that is, where there is no change in the temperature to any extent, but the heavily built, double-walled machines, packed between the walls and heavily insulated on the top, ends and backs, can be operated in any place where the temperature does not go below freezing point, and in fact, has been operated in such places, but it is not advisable.

Experimenting in artificial incubation is a day gone by. Incubators today are built to perfection and will give positive satisfaction, just as well as any other farm machinery, providing the eggs are properly fertilized when they are placed in the machine. The poultry industry of the world has come to such a point where it is absolutely necessary to have artificial incubation so as to produce larger quantities, and it is not a matter of experimenting with incubators, but a matter of purchasing an incubator that is made properly for the location in which you intend to operate it. The yearly increase in the production of poultry is wonderful. The writer is looking for the coming year to be the largest in the history of artificial incubation in all countries of the world. It is not a matter of selling the goods this year; it is a matter of filling the orders.

The artificial hatching and rearing of chickens is, without a doubt, one of the most profitable and easiest vocations to be had, where the right kind of hatchers and hovers are used, and is, without a doubt, the most pleasant business that we know of. After one gets his chickens hatched out, good, strong and healthy; then comes the brooding of them. The writer is now entering upon his thirty-ninth year of manufacturing incubators and brooders and of operating a poultry farm, and in his experience from year to year, has found that the oil-heated colony hover, as illustrated here, is one of the best and easiest operated, with less trouble, than any hover or brooder that we have ever offered to the trade. This hover burns gas, generated from coal oil, with a steady, blue flame, comfortable and easy to operate, gives abundance of heat, no oil fumes, has a visible oil feed, and is equipped with a needle-point valve, that when once regulated, will give the same amount of heat at all times. It is also equipped so that any sediment that happens to



A Blue Flame Hover, Manufactured by the Reliable Incubator and Brooder Company.

be in your oil can be drained off by removing a little plug without any trouble whatever. If adjusted according to instructions, all that is necessary for the operator to do, is to re-fill the glass oil container in which can be readily seen, the amount of oil that is in it.

In operating this hover, one should be sure that they place about an inch and a half or two inches of sand over the entire bottom. The heat from this hover naturally warms this sand, and you will be surprised to find the chicks coming to and from this hover without being molested, the same as they would with the old hen, happy, contented and healthy. These hovers should be placed in some room where there is no draught, but, of course, there should be ventilation, for the chickens themselves, make a certain amount of stench, which is provided for in this hover by a ventilator, which carries any and all dirt or stench out of the hover. These hovers are built strong enough, that by removing the ventilator from the top, a two-hundred-pound man can stand his weight on top of it.

After you have your chickens under your hover, then comes the feeding. Do not feed soft and sloppy feed at an early age, for it is detrimental to them. Do not over-feed your chickens. When they are first hatched you cannot be too careful in the feeding, and care of them. Chickens are hatched with enough nourishment to last them for twenty-four to thirty-six hours without feeding a particle or even watering them, but when you begin to feed, be careful not to over-feed them, for this is the most important time in the chick's life, and it is up to you, whether or not you stunt your chickens. It is best to feed a little at a time and often. Never feed enough so that the food will not be eaten up entirely. Always leave them hungry, especially when they are just hatched. There is no kind of fowl that can thrive healthfully without obtaining green food of some kind, and no fowl can succeed in fertilizing her eggs properly or become a good laying fowl, unless she has plenty of green food.


Here are a few principal points: First, you must have good lively males not over three years old, and the females must not be over three years old, and not inbred; must be fed a sufficient amount of live and green food, must have a sufficient amount of range, and must be properly housed and taken care of.

You must have incubators properly ventilated and properly regulated to hatch them, and hovers which will give sufficient amount of steady heat to rear them.—Everybody's Poultry Magazine.

**GOOD BREEDING STOCK**

W. H. Snowman, Industry, Ill., is advertising eggs from some of the Ferris strain White Leghorns that have been winners at Macomb. His price on eggs should insure him a good sale.

# "Cash in" now when eggs are high



Fresh Eggs

**HAVE** eggs to sell—plenty of them—*all through the season.* There's a nice profit in table eggs, so making money is only a matter of healthy hens—assured by the use of


## Pratts Poultry Regulator

Tones up the digestive system and keeps layers and breeders in a normal, natural condition so that they keep on laying. Used by thousands of successful poultrymen and farmers all over the world. Always sold with this guarantee:

**"Your Money Back if YOU are Not Satisfied"**

Sold by 60,000 dealers  
There's one near you


Write for Pratts NEW Poultry Book—Free



Pratts Poultry Regulator

**PRATT FOOD COMPANY**  
Philadelphia Chicago Toronto

Makers of Pratts Animal Regulator, Hog Tonic, Cow Remedy, Dip and Disinfectant, Veterinary Remedies.



Both Comb of Rhode Island Reds

## HORNER'S PEDIGREE REDS

BRED TO WIN AND LAY


A few more rich red cockerels bred from my best layers and blue ribbon winners for \$5.00 a piece.

**ERNEST G. HORNER,** R. 7, Box 20. Quincy, Ill.

## Ballard's Supreme White Rocks

Winners wherever shown. My Grand Champion White Rock Male at the Quincy Show has 6 Blue Ribbons and 4 Grand Championships to his credit. He is the sire of all my winners. We have sons and daughters of this male for sale at prices to suit. Will mate 4 fine pens for egg trade. Write for prices.

**P. W. BALLARD,** Galesburg, Illinois.



Booking eggs at \$7 per \$15; or 45 eggs for \$20. Young fowls, \$20.00 a trio next June.

### U. S. MARINE GAME FIGHTING FOWLS

Red, White and Blue; Supreme fighters and game as death Also (absolutely best), HUNTING DOGS, nothing cheap, but sold on a money back guarantee. Pointers, Setters, Hounds, Blood Hounds, Collies, Etc. Information free.

**ALFRED F. GRAHAM,** Cameron, N. C.

A few Pure White Ancona Eggs in Spring at \$10 per 15. Let me book you now.

## BARTH'S BARRED ROCKS

Healthy, vigorous, farm-raised stock that will win in hot competition. Both light and dark marking. Satisfaction guaranteed. Prices reasonable.

**E. J. BARTH,** R. 1, Quincy, Illinois.

# Modern Hatching Methods

AS I think of the topic and what it may be made to include, I am discouraged. The word "modern," according to my dictionary, means "pertaining to the present time." Just at present and not very far from me, is a man with two small copper wires running into a building where they are connected with what electricians call "heating elements" and these warm the egg to 103 degrees. This is the latest method I know of, but it's not by any means the only modern method for only a few days ago, I was going along the road and a farmer was mowing in the field near the road. There was a squawk, a flutter and a hen lighted in the road ahead of me. She was clucking. Her nest contained eleven eggs. According to the definition above, "pertaining to the present time," the hen is still a modern method of hatching. She is, in all probability, hatching just as many chicks as she ever did. I mean by this that the increase in demand and in use of poultry is being met with artificial incubation and that the hen is no longer able to do it all as she was only a few years ago. The hen could not possibly do all the hatching that's done today. The great idea of today concerning poultry is to increase egg production. There is no substitute for the egg or any way to produce it except by the hen, but the hen as an incubator is expensive, inefficient and uncontrolable. So far as incubators go, they are not new. The only new thing about them is their practical application to present day needs. In China where they still have the stone oven or stove and make themselves black in the face for want of flue or stove pipe, they have hatching ovens. Nobody knows when the Egyptians first discovered they could hatch eggs without hens but they are doing it.

So as I think of the topic "Modern Hatching Methods," I am inclined to let my fancy roam over the hundreds of years since hatching was first accomplished without hens. I can think of no method that has quit. The hen is still on, the oven is still in benighted China with the Chinese keeping the heat right by placing the eggs to their naked eye-ball, and here in America we are using hens, incubators, and Mammoth hatchers and still it's keeping us busy. Do you

*Pertaining To Incubation from the Time of the Egyptians to the Present Time.*



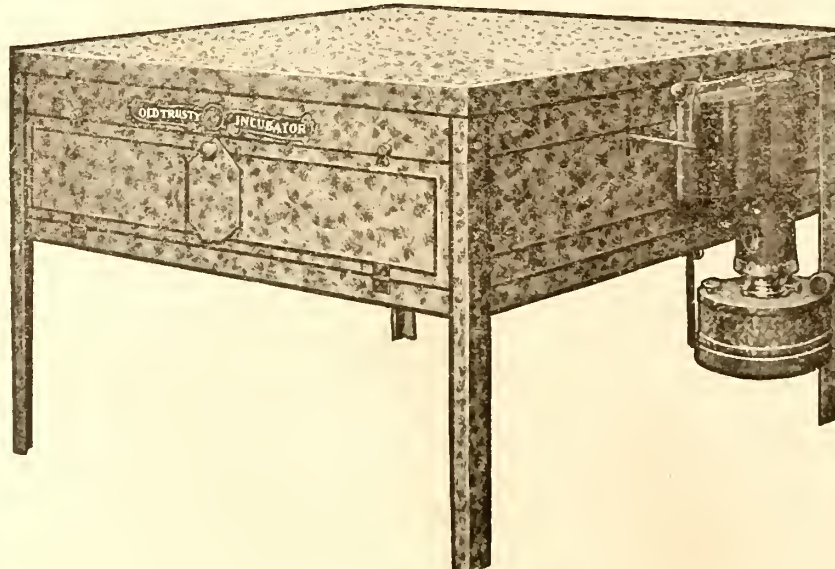
H. H. JOHNSON,  
President M. M. Johnson Incubator Co.,  
Clay Center, Neb.

order chicken when you want to economize?

Since this is a free country and the editor has told me to say what I pleased, I will say I would much rather have the topic "Practical Hatching Methods." How does that look to you and how does it sound? We want to do these things the cheapest and easiest way don't we? Well it seems to me that means practical. If I can't have the topic, "Practical Hatching Methods," I'll balk and take the one "The Method That Delivers the Goods." A boy of about 15 years was stuck in the road with a load of wheat. His chum telephoned a nearby town asking the garage man and country editor to come out with their car and pull him out but while they were putting in some new spark plugs, pumping a

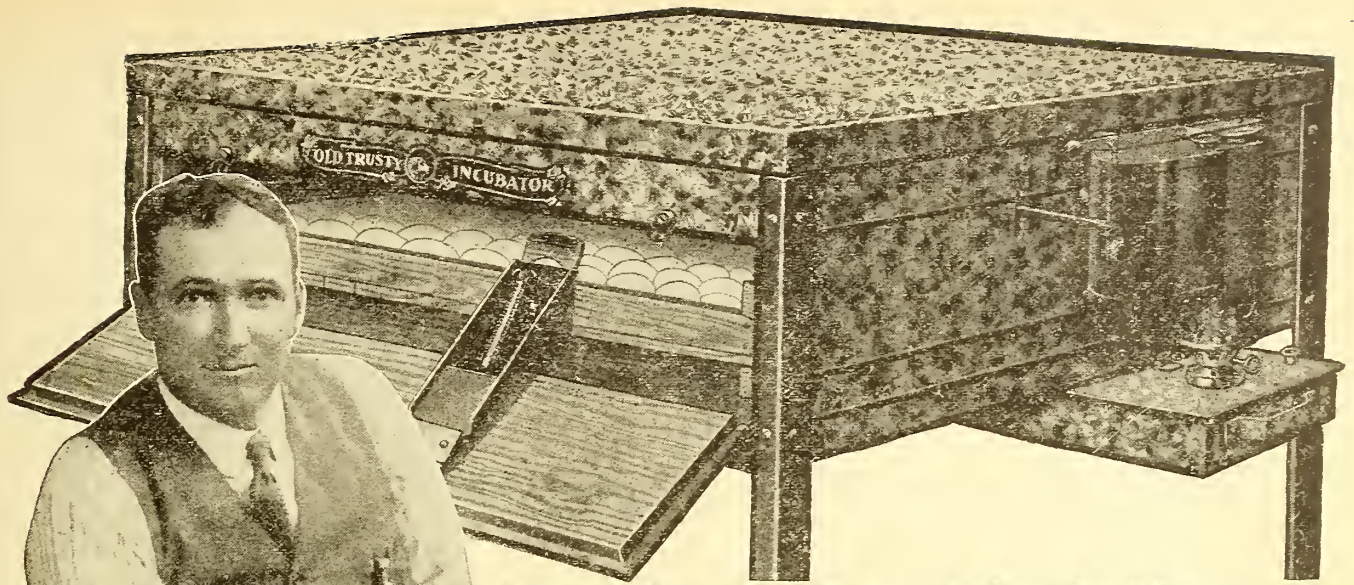
tire, up and coaxing the buzz wagon to start, another boy with an old mule came along, pulled them out and spoiled a column and a half story. The mule was both modern and practical and delivered the goods. The auto was modern but it was not practical and it did not in this case deliver the goods. My business, as the editor has told you in the heading is making incubators and brooders and I admit selling most of what I make. I do not sell them to folks who have better method, and I am free to say whenever there is a better method, I'll adopt it. Where one can't hatch but with hens, use hens. Where you can use incubators, use them and keep your hens laying. I need not argue that a setting hen cannot also be a big egg producer or that hens with high egg records are setters, for it goes without saying that a hen that sets is unfit for laying, or by the time she sets three weeks and runs with the chicks for six or seven weeks more she has used up a lot of time. Besides how many poultrymen can get eggs ready and depend on the hen going to set Sunday morning? I do not know what value should be placed on having all chicks of one age, even in size, etc., or what if any value should be given to the idea that there are no mites with incubator chicks until they get them from the hen but I do know that 19 or more chicks, large and some of them small do not get on well together and it's common to see two hens fighting, stepping on the chicks or throwing each other's chicks, sometimes killing them. Think well, ask yourself if there is a better way and what is its advantages? The incubator is proving itself. It's adopted in size to all needs and it's priced so that its purchase is made back several times each season. It sets early in the season before hens start.

It don't cost as much to buy an incubator as it costs to keep hens all winter to set in the spring. There is no limit to the number of chicks one can get using incubators, while with hens you are always limited by the number of available setting hens. Today the question is more how many incubators to use than whether to use an incubator or not. The most of America's poultry supply is incubator hatched, the cheapest production is incubators. The incubators.



Showing an "Old Trusty" Incubator.

(Continued on Page 30)



## I'm Swatting High Prices With the Greatest Incubator Value Ever Offered

Old Trusty has not deserted its old-time policy of giving you the most for the money. Everybody knows that prices have been soaring. Everybody knows that metals are costing big money. But over 850,000 Old Trusty owners know that no matter what prices are, Old Trusty is always true to its name in giving you the most for the money.

Old Trusty has never included a profiteering program. Father invented it with a pure copper tank and it is still built with that material. We might have used galvanized metal, or something else, to cheapen it, but we expect Old Trusty to give you years of service, and a cheaper construction will not do that.

My price on Old Trusty is still many dollars below what other folks ask for a good incubator. This is because Old Trusty is built in the largest exclusive incubator and brooder factory in the world. We buy materials in big quantities at quantity discounts, manufacture parts at lowest cost with modern machinery and experienced workers. Old Trusty would cost you almost again as much if built elsewhere.

**Mail the Coupon** and get my book quoting my price on Old Trusty, with or without the metal cover, freight prepaid to your station. Four handy home sizes to choose from. It may surprise you to know that Old Trusty costs less now than it did several years ago. It took more dozens of eggs in 1912 to bring its price. It cost more pounds of fat hens, more bushels of wheat, oats, corn, tons of hay, or almost any farm products—to buy it then than it does now. Dollar for dollar, Old Trusty is a bigger value today than it ever was.

### Don't Put High-Priced Eggs in a Poor Incubator

The more valuable the eggs, the more you need Old Trusty construction. You cannot afford to experiment.

I believe poultry raisers are going to make money in 1920. Two years ago feed prices were high and poultry and egg prices were not. Now

poultry and egg prices have moved up and there is lots of feed. If you get the idea you can see that there is good money in poultry this year. More I think than ever before in the history of poultry raising, but send me your name and

### Get My New Big Poultry Book FREE

IT TELLS THE WHOLE STORY. It will give you the facts and the best helpful suggestions that 27 years of experience could crowd into one book. "How to Save Money on Feed," "How to Keep Winter Layers," "How to Market Eggs and Chickens at Good Prices," "How to Choose the Best Breeds," "How to Hold Down Expenses," "When to Start Hatches for Best Results"—are just a

few of hundreds of subjects you will find covered in this book. 72 pages, size 9 x 12. Cover printed in 4 colors, with beautiful flock of pure bred chickens on the back. Send today for your copy. Yours truly,

HARRY JOHNSON  
"The Incubator Man"

M. M. JOHNSON COMPANY, Clay Center, Neb.

# Old Trusty

## Incubators and Brooders

M. M. JOHNSON COMPANY, Clay Center, Neb.  
Please send me your 1920 Book for Poultry Raisers, FREE.

Name \_\_\_\_\_

Address \_\_\_\_\_

Tell us how many chickens you keep  
Do you live in the city or on a farm?  
Have you used any incubator  
What breed of chickens do you keep?

**FEEDING HENS FOR EGG PRODUCTION**

(Continued from Page 1).

tein feed, considerable bulk, and supplying roughly about 1 part of protein to 4½ or 5 parts of nitrogen-free extract and fat, the fat being changed to terms of nitrogen-free extract, which is done by multiplying the fat by 2¼.

**Table 1.—Composition of poultry feedstuffs.**

| Feedstuff                                    | Water | Ash  | Protein. | Fiber. | Nitrogen free extract. | Fat. |
|--|-------|------|----------|--------|------------------------|------|
|  | Pct.  | Pct. | Pct.     | Pct.   | Pct.                   | Pct. |
| Corn .....                                   | 10.9  | 1.5  | 10.5     | 2.1    | 69.6                   | 5.4  |
| Kafir corn .....                             | 12.8  | 2.1  | 9.1      | 2.6    | 69.8                   | 3.6  |
| Barley .....                                 | 10.9  | 2.4  | 12.4     | 2.7    | 69.8                   | 1.8  |
| Oats .....                                   | 11.0  | 3.0  | 11.8     | 9.5    | 59.7                   | 5.0  |
| Rye .....                                    | 11.6  | 1.9  | 10.6     | 1.7    | 72.5                   | 1.7  |
| Wheat .....                                  | 10.5  | 1.8  | 11.9     | 1.8    | 71.9                   | 2.1  |
| Rice .....                                   | 12.4  | .4   | 7.4      | .2     | 79.2                   | .4   |
| Buckwheat .....                              | 12.6  | 2.0  | 10.0     | 8.7    | 64.5                   | 2.2  |
| Sunflower seed (whole) .....                 | 8.6   | 2.6  | 15.3     | 29.9   | 21.4                   | 21.2 |
| Soy bean a .....                             | 8.7   | 5.4  | 36.3     | 3.9    | 27.7                   | 18.9 |
| Cowpea a .....                               | 11.9  | 3.4  | 23.5     | 3.8    | 55.7                   | 1.7  |
| Canada field pea a .....                     | 15.0  | 2.4  | 23.7     | 7.9    | 50.2                   | .8   |
| Peas a .....                                 | 13.4  | 2.4  | 22.4     | 6.4    | 52.6                   | 3.0  |
| Egyptian corn .....                          | 12.6  | 1.9  | 9.9      | 1.9    | 69.7                   | 3.9  |
| Hempseed .....                               | 8.0   | 2.0  | 10.0     | 14.0   | 45.0                   | 21.0 |
| Corn meal .....                              | 15.0  | 1.4  | 9.2      | 1.9    | 68.7                   | 3.8  |
| Barley meal .....                            | 11.9  | 2.6  | 10.5     | 6.5    | 66.3                   | 2.2  |
| Soy-bean meal a .....                        | 10.2  | 5.0  | 35.9     | 3.4    | 28.0                   | 17.5 |
| Gluten meal a .....                          | 8.6   | .6   | 30.0     | 2.6    | 49.2                   | 8.8  |
| Gluten feed a .....                          | 8.1   | 1.3  | 23.2     | 6.4    | 54.7                   | 6.5  |
| Brewers' grains a .....                      | 8.0   | 3.4  | 24.1     | 13.0   | 44.8                   | 6.7  |
| Wheat bran .....                             | 11.9  | 5.8  | 15.4     | 9.0    | 53.9                   | 4.0  |
| Wheat middlings .....                        | 12.1  | 3.3  | 15.6     | 4.6    | 60.4                   | 4.0  |
| Wheat shorts .....                           | 11.8  | 4.5  | 14.9     | 7.4    | 56.8                   | 4.5  |
| Wheat screenings .....                       | 11.6  | 2.9  | 12.5     | 4.9    | 65.1                   | 3.0  |
| Cottonseed meal a .....                      | 8.2   | 7.2  | 42.3     | 5.6    | 23.6                   | 13.1 |
| Linseed meal, old process a .....            | 9.2   | 5.7  | 32.9     | 8.9    | 35.4                   | 7.7  |
| Linseed meal, new process a .....            | 9.9   | 5.6  | 35.9     | 8.8    | 36.9                   | 3.0  |
| Peanut meal a .....                          | 10.7  | 4.9  | 47.6     | 5.1    | 23.7                   | 8.0  |
| Skim milk, cream raised by separator b ..... | 90.6  | .7   | 3.2      |        | 5.2                    | .3   |
| Buttermilk b .....                           | 91.0  | .7   | 3.0      |        | 4.8                    | .5   |
| Animal meal b .....                          | 5.7   | 39.9 | 39.4     |        |                        | 10.7 |
| Meat scrap b .....                           | 7.9   | 17.4 | 49.7     |        |                        | 18.5 |
| Meat meal b .....                            | 6.3   |      | 48.4     |        |                        | 12.9 |
| Fresh bone b .....                           | 34.3  | 22.8 | 20.6     |        | 1.9                    | 20.5 |
| Dried alfalfa hay .....                      | 8.1   | 8.8  | 14.6     | 28.9   | 37.4                   | 2.1  |
| Mangel beets .....                           | 90.9  | 1.1  | 1.4      | .9     | 5.5                    | .2   |

a Contains a high proportion of vegetable protein.

b Contains a high proportion of animal protein

**How to Determine the Nutritive Ratio.**

The following example, which is ration No. 1, given later in this bulletin, illustrates how a nutritive ratio is worked out. In this example the scratch mixture and the mash have been combined on the basis that the same number of pounds of scratch mixture (300) are fed as of mash. The mash as given in ration No. 1, totals only 24½ parts, so that in bringing this total up to 300 pounds we have to multiply each part by 12.25, which gives

**Table 2.—Ration No. 1 worked out to determine its nutritive ratio.**

| Feed                      | Nitrogen-free |         | Fat  |
|---------------------------|---------------|---------|------|
|                           | Protein       | extract |      |
|                           | Pct.          | Pct.    | Pct. |
| 100 pounds corn.....      | 10.5          | 69.6    | 5.4  |
| 100 pounds wheat.....     | 11.9          | 71.9    | 2.1  |
| 100 pounds oats .....     | 11.8          | 59.7    | 5.0  |
| 196 pounds corn meal..... | 18.0          | 134.6   | 7.5  |
| 80 pounds meat scrap..... | 39.8          |         | 14.8 |
| 12 pounds bran.....       | 1.8           | 6.5     | .5   |
| 12 pounds middling.....   | 1.9           | 7.2     | .5   |
| Total .....               | 95.7          | 349.5   | 35.8 |

in 1 pound of corn meal and this is then multiplied by 196. A similar process is gone through in the case of the meat scrap, bran, and middlings. The constituents of the corn, wheat, and oats will be the same as in Table 1, since exactly 100 pounds of each of these feeds is used.

The fat, 35.8, is multiplied by 2¼, giving 80.5, which is added to the nitrogen-free extract, 349.5, making a total of 430.0. This, divided by the protein, 95.7, gives a nutritive ratio of 1 to 4.5 for this ration.

(Continued on Page 28)



This is the most complete, authoritative and readable book ever written on the care of Rhode Island Reds. It contains the experience of the best, most successful breeders.

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is used as a TEXTBOOK in many colleges and as a guide by county agents and leaders in the poultry world.

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Greatest Incubator Discovery in 50 Years. Insures Strong, Healthy Chicks from every good egg. Iron-Clad Guarantee.

Porter Soft-Heat Tubeless Incubator combines hot air and water. Automatic control of heat, moisture and ventilation. Center heat plan, round nest, evaporators semi-automatically without removing tray,—saves time and money. Simple, Safe, Sure. Express Prepaid. Write for Big New Free Book.

PORTER INCUBATOR CO. Box 107 Blair, Nebraska

**DEATH IN THE SHELL**

Stop wasting eggs; nature intends that every fertile egg will hatch. A recent discovery shows this is possible (by a new system); works with all kinds of incubators, also hens; resulting chicks very easy to raise. Let me help you save this great loss. Price \$2, cash with order. A. CRUICKSHANK, Manchester, Mass.

**S. C. WHITE LEGHORNS**

Exhibition quality combined with heavy winter laying makes our strain the best. We guarantee 10 eggs to hatch or will replace free eggs for hatching. Baby Chicks.

C. G. BROWN,

R. No. 1.

Hawesville, Ky.



**FINAL REPORT OF MISSOURI  
1919 FARM FLOCK LAY-  
ING CONTEST**

By T. S. Townsley, Extension Poultry Specialist.

The White Plymouth Rocks carried away first honors as a breed in the 1919 Missouri Farm Flock Laying Contest which closed on October 31st. The average production for the White Rocks was 134 eggs per bird. The White Leghorns ranked second with an average of 125.9 eggs, while the White Wyandottes averaged third with an average of 109.5 eggs per bird. The average production for all varieties during the year was 106.3 eggs per each hen entered in the contest.

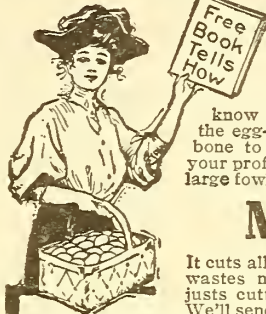
For October, the White Wyandottes made the best average with a production of 11.5 eggs from each of the 126 hens representing that breed. The average for all breeds during October was 6.7 eggs per hen.

The average income for the year from each farm flock represented in the contest was \$577.40. The cost of feed on the average farm for the year was \$257.74, leaving an average profit over feed cost of \$319.66.

This Farm Flock Laying Contest will be continued during the next year and more than three hundred farm flock owners have agreed to take part in the contest beginning November 1st.

**CAUTION:** Any Bone Cutter claiming to be MANN'S without F. W. MANN CO. cast on its surface, is an imitation. The genuine MANN'S is made only in Milford.

**Make Hens Lay**

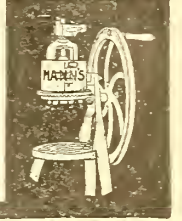


**READ THE BOOK THAT TELLS HOW**

Tells you how to **make hens lay**. Gives you in a nutshell the whole matter of right feeding. Read it if you want to know the **real value** of fresh, raw bone, which contains four times the egg-making ingredients that grain has. You **must** feed raw, green bone to promote **growth, development and laying**. It doubles your profits in number of eggs, fertility, strong chicks, large fowls. It is easily and quickly prepared with

**MANN'S Latest Model  
Bone Cutter**

It cuts all green bone with all adhering meat and gristle; wastes nothing and never **clogs**. Automatically adjusts cutting to your strength. Any one can turn it. We'll send you one on **10 Days' Free Trial. No money down**. If not satisfactory return at our expense. Send for book today.  
**F. W. MANN CO. Box 57, Milford, Mass.**



**THE FIRST AD.**

In today's mail we have renewal of the advertising of the Ralph H. Lamer, Zeeland, Michigan. He writes "The advertising season is at hand and as usual we send Poultry Keeper the first ad. For several years we have begun the season with Poultry Keeper."

**FEEDING FOR EGGS**

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can

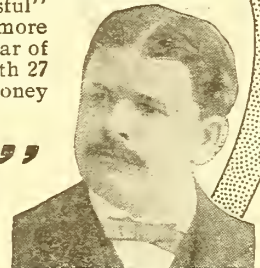
lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

"When the farmers adopt the 40-hour week," mused the city man who who was born and raised on a farm, "I guess one of our problems will be to find a substitute for eats."

**SELL MORE  
High-Priced  
Eggs and  
Chickens**

**Hatch Two  
Chicks, Where You  
Produced Only One Before**

"Successful" Incubators will do it, and the country needs every chick you can raise. But, what's more important, *you* want the profits that you can make with "Successful" Incubators. Help answer the food problem—raise more chickens—get more eggs—sell more meat. And this year of all years you need the time-tried "Successful"—backed with 27 years of experience—the machine used by the biggest money makers in the poultry business. Write for my 1920 offer on



**J. S. GILCREST, President**  
Life Member American  
Poultry Association

**"SUCCESSFUL"  
Incubators and Brooders**

The only incubator I know of guaranteed to be cabinet made. The only hatcher that heats around the *colder edges* of the body first. Guaranteed to vary not over a *fraction of one degree* throughout the entire hatch—because of the fact that our own patented lamp and water thermostat regulator are 99-9-10 per cent perfect.

**Sold Under the Strongest, Most Liberal Guarantee  
to Hatch a Chick from Every Hatchable Egg**

"Successful" Incubators have been built and sold for 27 years. "Successful" Brooders, too, are built too good to compare with others. Raised floor, glass drop top, real hot water heating plant, rain and cold proof. Write for catalog and prices.

**Get 50 Per Cent  
More Eggs**

Feed sprouted oats. Change 1 bushel oats into 3 bushels green, tempting, egg-making food with a "SUCCESSFUL" Grain Sprouter. Made in all-steel sections, fire-proof—double steel walls, separate sections. Save one-third on feed cost. Write now for circular and prices.



**Poultry Lessons FREE**

to every buyer of a "Successful" Incubator or Brooder. Famous little booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," sent for 10 cents. Big catalog is free. Send for it.

J. S. Gilcrest, Pres. and Gen'l Mgr.

**Des Moines Incubator Co.**  
47 Second St.  
Des Moines, Iowa



**Don't overlook the fact that  
"Successful" Incubators have  
had 27 years of experience.  
Write for my 1920 offer.**

If interested in hatching in big numbers, state hatching capacity desired and write for special proposition

**POULTRY WILL KEEP BETTER IF UNDRAWN; COMMERCIAL HANDLING OFTEN CONTAMINATES**

Undrawn poultry, contrary to the general impression, keeps better in cold storage and while passing through trade channels than does drawn poultry, say the specialists of the Bureau of Chemistry, United States Department of Agriculture, who have made extensive studies of the handling of poultry from the time it is killed to the time it reaches the consumer.

Careful observations of a large number of shipments of both drawn and undrawn poultry, made under commercial conditions, showed that the undrawn poultry reached the

consumer with fewer bacteria and with less chemical change in composition than the drawn poultry. The shipments were accompanied by the scientists from the time the poultry was killed, while en route on trains, and until placed in the cold-storage warehouses, and after being taken out of cold storage were followed while being handled by the wholesalers, commission men, and the retail dealers. Recording thermometers accompanied the shipments through their entire course and the varying temperatures to which the shipments were subjected were recorded.

**Much Drawn Poultry Spoiled**

Samples were taken from the shipments at the time the poultry was killed, at the time it entered cold

storage, at intervals while in storage, at the time they reached the commission men, again when the shipments reached the retailers, and finally when sold to the ultimate consumer. Bacteriological examination and chemical analysis were made of all the samples taken at the various stages. Changes as they developed were noted and studied. Comparisons were made of the samples taken from the undrawn poultry with samples taken from the drawn poultry. It was found that bacteriological and chemical indications of deterioration developed much quicker in the drawn poultry, and as the shipments progressed through the various steps of commercial handling, the difference in the signs of deterioration became more marked. By the time the shipments reached the consumer, much of the drawn poultry was unfit for food.

**Contamination From Handling**

The experiments revealed that the drawing of poultry as practiced commercially always resulted in the bird becoming contaminated with bacteria which caused spoilage. These bacteria multiply rapidly, and while their growth is checked by cold storage it is not entirely stopped. If it were practicable to draw poultry with the same precautions to avoid contamination that a surgeon uses in performing an operation—that is, with the use of sterile instruments and rubber gloves and under strictly scientific sanitary conditions, so that there would be no bacterial contamination in the process of drawing—the drawn poultry would be preferable to the undrawn. However, it is not practicable under ordinary commercial conditions to prevent some bacterial contamination in the drawing of poultry. To produce this result a trained bacteriologist and highly skilled workmen would be required in every poultry-killing establishment. The cost of such a process would be prohibitive.

It is the opinion of the specialists, therefore, that under usual commercial conditions undrawn poultry will keep much better than drawn poultry. The experiments upon which this conclusion is based were continued observation of thousands of shipments of poultry under ordinary commercial conditions since then has served only to strengthen the opinion of the specialists who made the original experiments.

**A STAND BY FOR SEVEN YEARS**

"Oculum Co., Salem, Va.

I have used "Oculum" for seven years and find it the greatest remedy on the market. I have recommended "Oculum" to many breeders and have gotten excellent reports from its users.

Respectfully,

C. J. Schilling, M. D.,  
Oakland, Calif.

The "Oculum" Co., Salem, Va., will send you testimonials like this from any state. Send 10c and try a sample. They are O. K.



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Hatched from healthy, vigorous, pure bred, heavy laying, unusual utility stock, in the world's largest incubator, which holds over one million, or

**SIXTY TONS OF EGGS AT ONE SITTING**

Best system of incubation—Strongest chicks produced  
The air in our incubator is completely changed every three minutes and moisture is furnished by live steam

We have chicks hatching every day in the week and every hour in the day  
First delivery March first to fifteenth

**WE HATCH THE FOLLOWING BREEDS**

- |              |                   |                  |                        |
|--------------|-------------------|------------------|------------------------|
| Barred Rocks | Rhode Island Reds | Buff Leghorns    | Anconas                |
| White Rocks  | Brown Leghorns    | White Wyandottes | Buff Orpingtons        |
| Buff Rocks   | White Leghorns    | Black Minorcas   | Assorted, for Broilers |

Thirteenth Season—Write for Catalog Today—Free  
**THE SMITH STANDARD COMPANY**  
1994 W. 74th STREET, CLEVELAND, OHIO



**Make Your Hens Lay High Priced Winter Eggs**

by giving them plenty of good drinking WATER. To make your hens lay \$1 a dozen WINTER EGGS they must have water to drink and plenty of it. You simply must keep UNFROZEN water before them at all times. Your egg production may be stopped for a whole month by ONE COLD DAY with water frozen and inaccessible. Pure, fresh drinking water is equally, if not more, important than feed for production of eggs.

WE GUARANTEE OUR

**"Eureka" Sanitary Non-Freezing Fountain**

to keep the WATER UNFROZEN at all times. Requires absolutely NO ATTENTION except to be filled. No lamps to fuss with and no fire risk. It is the only up-to-date sanitary method of supplying the fowls with water under proper conditions. Made of heavy, galvanized iron and is similar in construction to the fireless cooker. The drinking cup does not project beyond the outer can, consequently there is no chance for catching litter or filth, which in the drinking water would be the cause of disease.

Warm water in winter and cool water in summer is what you want for your hens. These fountains supply water in this manner, winter and summer. No lamps to fuss with and no fire risk.

In winter, fill the fountain in the EVENING with hot water and set it in its place. During the night the packing around the water chamber becomes heated and retains the heat until the next evening, when the hot water should be renewed. Gauge the heat of the water you fill

fountain with according to the weather; in extreme cold weather, of course, fill with hotter water than in milder weather. In summer, fill in the evening with as cold water as can be procured, and be sure the fountain is always in the shade.

- 2 gal. size, 15 1-2 ins. high, 13 ins. diameter, 15 lbs. weight. Price each \$4.00  
3 for \$11.50; 6 for \$23.00.
- 3 gal. size, 18 ins. high, 14 ins. diameter, 20 lbs. weight. Price, each \$4.50  
3 for \$13.00; 6 for \$26.00
- Also made in 5-gallon size. Price, each \$5.75  
3 for \$16.50; 6 for \$33.00.

Order direct from this Ad. We issue no further description.

We open no accounts and proper remittance must come with all orders in every instance.

**EUREKA SUPPLY HOUSE**  
3 Wesley Ave., MOUNT MORRIS, ILL.

# Henderson's "Champion" Barred Plymouth Rocks WIN at TWO of the WORLD'S GREATEST SHOWS

Coliseum Show, Chicago, Ill.  
Nov. 25th, 1919-Dec. 1st, 1919.

1st Exhibition Cockerel.  
1st Exhibition Pullet.  
1st and 2nd Exhibition Hen.  
4th Exhibition Cock.  
2nd and 5th Pullet Bred Cock.  
2nd, 5th and 7th Cockerel Bred Pullet.  
2nd and 4th Pullet, Mated Pens.  
4th Cockerel, Mated Pen.  
5 Best Exhibition Cockerels.  
5 Best Exhibition Pullets.

Heart of America Show, Kansas City, Mo.  
Nov. 25th, 1919-Dec. 1st, 1919.

1st and 5th Exhibition Cockerel.  
2nd and 4th Exhibition Pullet.  
1st Exhibition Pen.  
Sweepstake Champion Pen of the Entire Show.  
Best Shape Male.  
Best Color Male.  
Best Shape Female.  
9 "CHAMPIONS" competed.  
9 "CHAMPIONS" were winners.

Henderson's "CHAMPIONS" have met the best that could be produced by fifty-seven of the foremost breeders of the United States, at three of the World's Most Renowned Shows, "Iowa State Fair, August, 1919, Chicago Coliseum, November, 1919, and Heart of America Show, Kansas City, November, 1919, and have won more awards than all competitors combined, winning fifteen out of twenty-five first prizes, the most coveted of all prizes. First exhibition cockerel at each of the three shows, Sweepstake Champion cockerel at Iowa State Fair, and Sweepstake Champion pen at Heart of America Show. In the three combined shows eighty-nine "champions" have competed. Seventy-seven of them have been under the ribbons, this phenomenal record stands alone and unchallenged.

We can furnish winners for any show, or breeders that will put quality into any breeding yard. "We challenge the world to produce as many high class exhibition females as can be seen at any time on this farm." Write for mating list which fully describes the most wonderful matings in America.

J. C. Johnston **HENDERSON FARMS** W. W. Henderson  
Superintendent **Box K** Bridgeton, Mo. Proprietor

## Scott's Reds Are Far Famed

They are constant winners having competed with the best Reds that have been produced from the Atlantic to the Pacific, from Manitoba on the North to the Gulf of Mexico on the South.

### Their Ability To Win

is not all of their accomplishment. They produce eggs when they are high. Few there be who have not come within the range of the magic spell when the big brown eggs begin to shell.

## Five Females of Scott's Reds In the American Egg Laying Contest Layed 102 Eggs During Month of November

They were hatched March 20th being a few days over 6 months old when they entered the contest. Their record was 68 per cent in November, there being 51 pens in competition, 255 birds of various variety selected for this contest, yet this pen of S. C. Reds outlayed their nearest competitors by 11 eggs.

*The pullets in this contest are Exhibition Quality with a score of 90 points and better*



Scott's Reds for the past two years have won the highest honors in the Single Comb class and rank third in the American Class, having won a certificate from the American Egg Laying Contest for a 200 egg laying Pen.



**C. P. SCOTT**  
Route 7 PEORIA, ILLINOIS

# BUCKEYE

THE PERFECT INCUBATOR

## The One Incubator That Is Efficient and Permanent

Every single part of the Buckeye tells its own story of superiority. Fibre board (paste board) and other impractical materials are not used in its construction.

The strong, well built California redwood cabinet is unaffected by weather changes. The double lock-seamed circulating hot water system is the *most perfect system of incubator heating that has ever been devised*. The galvanized iron oil lamp and boiler work with never failing accuracy and the Buckeye Thermostat *is the most dependable heat regulator on any incubator*.

### Permanent---Efficient

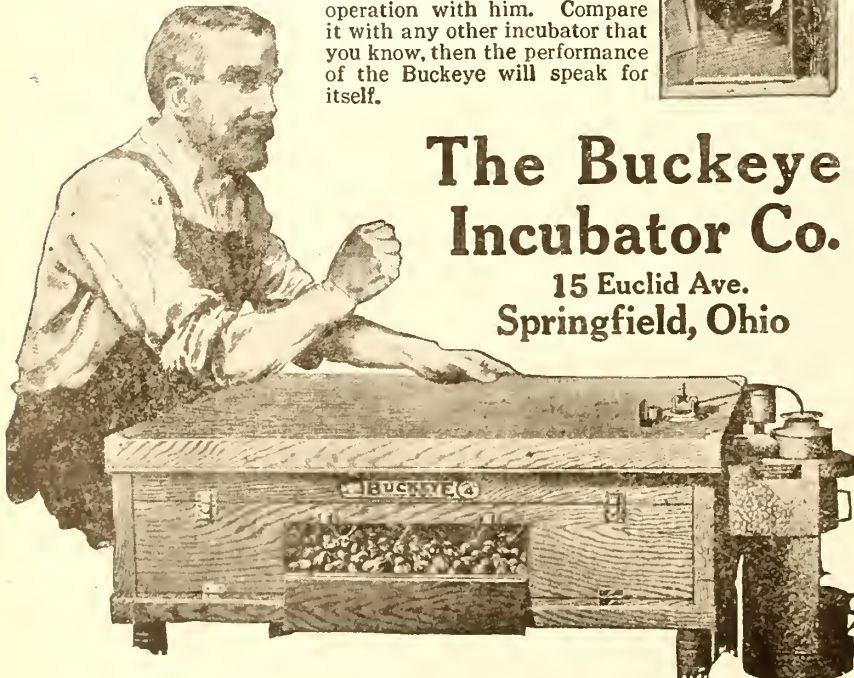
This superior construction not only makes the Buckeye a permanent incubator, but an unusually efficient incubator. It is producing strong, vigorous hatches for half a million poultry raisers regularly. *Every Agricultural College and Experiment Station in the country concede it to be the most unailing "producer" in the incubator field.*

### Backed By An Iron-Clad Guarantee

Thirty years of successful incubator building has placed us in a position to guarantee the Buckeye to the very limit. If it does not operate satisfactorily in all kinds of weather without artificial moisture or attention to the regulator at any time during the hatch, and produce more, strong, healthy chicks, it will be replaced without question at the end of forty days.

### Write For a Catalog--Talk to Your Dealer About The Buckeye

Write for the Buckeye catalog. Ask your County agent about the Buckeye. Your local dealer will show you its exclusive features. Go over every single detail of its construction and operation with him. Compare it with any other incubator that you know, then the performance of the Buckeye will speak for itself.



## The Buckeye Incubator Co.

15 Euclid Ave.  
Springfield, Ohio

## Questions and Answers

### Housing Methods

(1) My first venture with chickens was in December, 1918, with 10 S. C. R. I. Reds, two years old. Roosting space is 15x5x9 feet, with a covered runway of about 250 feet square. Keep floor of roosting space covered with straw, also run way where scratch is fed. The 24 in. dropping board I scrape and sweep clean once each week and spray with mixture of crude carbolic acid and coal oil. Have dusting bed always accessible 6x6. Is this a good outfit for that number of chickens?

(1) With the room and protection that the above housing facilities afford your chickens should do their best. The space you have given is quite enough and your care of same could not be much improved. Would suggest that you do not keep the hens too long, as hens that are over two years old are beginning to approach the non-productive stage.

### Feeding Methods

(2) Have been feeding 1 pound of good scratch feed per day in the morning, and scraps from the table when any, otherwise scratch in the evening, with a good dry mash before them at all times. Also feed ground meat cracklings, oyster shell before them. For green food chickens run on the lawn for a time every day. Can you beat this for feeding to get eggs?

(2) Your feeding methods are good and you are giving them a good variety of nourishing food that should turn into eggs right along. In the winter months you might find it to advantage to feed something extra in the way of green food. Hens need a lot of it and it helps them to lay and maintain the system in good condition.

### How They Lay

(3) My egg yield for the whole time, or up to the present, has been 1341 eggs, or an average of 149 eggs per month for the whole period. Did not trap them, but during the heaviest laying months have gotten six to nine eggs per day, and occasionally 10 eggs in one day. But now and then I get a soft shelled egg, which I do not like. What do you think about this? C. E. S., Kentucky.

(3) You could hardly ask your hens to do better than this record. Where you have gotten such results it is difficult to suggest any change which would be likely to improve the output. The fact that there is a soft shelled egg occasionally may indicate that the hens are not working quite as hard as they should—make them hustle for the scratch feed in deep litter when they are getting good, rich feed like you are giving them. Possibly they are getting a trifle fat, or this may apply only to one or two individuals. After two years they may tend to do this. I would suggest that you write to the Kentucky State Experiment Station, Lexington, Ky., in regard to feeding formulas best adapted to your locality. It is their business to figure these things out for the citizens of your state, and they will be glad to help you. To hasten the moult you should withhold feed for a few days, or feed very lightly, and then feed liberally of a rich nitrogenous diet for a few days. This will hasten the shedding of the feathers, but where hens have done as well as yours I would not try to rush them too much—give them the normal moult, they need it.

### The Laying Hen

Can the Hogan system of finding the laying hen, as explained in the book "The Call of the Hen" be applied to large breeds as well as to the Lezhorn? F. G. H., New York.

The Walter Hogan system of detecting the laying hen can be applied to any breed of chickens regardless of weight or size. The book ex-

plains how this can be done and how with reasonable certainty the non-laying hen can be picked out and eliminated from the flock.

#### Where to Locate

I have had experience only in commercial lines, but am anxious to live more out of doors and am thinking of the poultry business. I have plenty of capital, but am thinking of beginning in a limited way and extending as the thing developed. Would like to locate near the Philadelphia market and will appreciate any advice you are able to give me that will assist as to location and in overcoming difficulties.

J. J. W. E., New Jersey.

You are in the position of many who have been in commercial life for long years and are anxious to get out in the open. There are many who are turning toward poultry keeping as a means to this end and also as a source of income. You will do well to begin in a moderate way and let the growth and expansion come with increased experience. It is too common a thing for those with no experience and some money to plunge in this business and come out wiser and poorer than when they went in. While your commercial experience should be invaluable to you in many ways, there are still many things to learn about the poultry business—things that can only be learned by experience. It is a business of small units and of infinite details, so that skill and wisdom come in very handy at every turn. The New Jersey Agricultural College, New Brunswick, N. J., is doing valuable experimental work in poultry and are in position to give you much advice. If you will write to them, I think they will be glad to help you, indeed you might wish to visit the station which would be better yet. You will find them in touch with all conditions in the East as may affect this industry and it is their business to help in every way possible the citizens of the state which supports them. I could not suggest anything better than that you communicate with them and visit the Station at your convenience. There are also many poultry farms about New York and Philadelphia which you might visit with profit. Generally speaking it may be said that one should never start out in the poultry business on any extensive scale until he has learned it pretty well by experience. If you intend to give your own time to the business the chances are much better for success than if you are intending to make an investment and depend to a considerable extent on the management of some one else. For skilled management and good judgment there are fine opportunities for success and a good return on the money, but these can only be realized by one who has a thorough grasp of the infinite details of this branch of farm work and who is really interested in the business itself—I mean one who enjoys working with chickens. Recently the interest in this business is increasing greatly because of the fine prices which poultry products bring. Of course everything that goes into the business has risen also, but the margin of profit is good for the one who is prepared to get it out. The demand for fresh laid eggs will never grow less and it is probable that prices will always be high for the AI product.

# STANDARD Colony Brooder

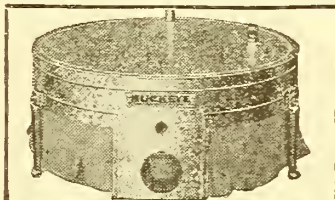
## The Coal-Burning Brooder That Heats ALL The Time

There is no hit-or-miss brooding with the Standard. The dependable, self-feeding, coal-burning stove *regularly supplies adequate, life-giving heat to the newly hatched chicks every hour of the twenty-four*, day in and day out, warm weather or cold. The use of coal--the best fuel for any heating purpose--for brooder heating has been the big vital factor of Standard Brooder success.

In theory and construction the Standard is absolutely correct. The self-feeding, cast iron stove burns *only six to nine cents worth of coal a day* and requires filling *only once every twenty-four hours*. The patented thermostat regulates the heat according to temperature changes. The open galvanized iron hover holds it close to the floor and allows the chicks to find a temperature that is best for their welfare.

### A Binding Money-Back Guarantee

Put down on paper all the things that you can reasonably expect of a Standard Colony Brooder *and we will sign it*. If it does not do everything we claim it will do, *we will return your money* at the end of 30 days without question.



### BUCKEYE OIL-BURNING BROODER

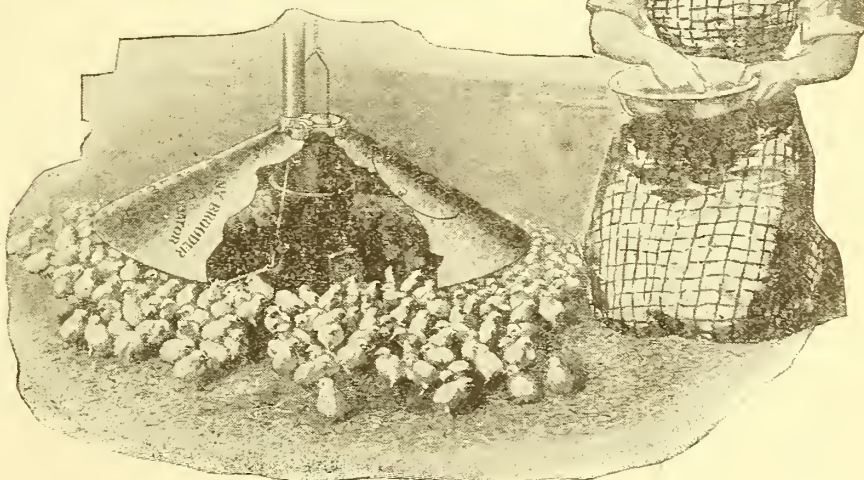
Here is a scientific oil-burning brooder that keeps chicks warm and comfortable with a minimum amount of cheap fuel. It is low in first cost, highly efficient, portable and easily cleaned. The big Buckeye Catalog tells all about it.

### Write For Catalog--Or See The Standard at Your Dealers

Ask your County Agent what he thinks of the Standard. Ask him why 100,000 poultry raisers, and every Agricultural College and Experiment Station endorse it so highly. Write for the new catalog. Then go to the Standard dealer in your town and ask him to explain its simple, dependable operation. Then make comparisons with every other brooder and let the convincing facts about the Standard guide you in your choice.

## The Buckeye Incubator Co.

15 Euclid Ave., Springfield, O.  
World's Largest Manufacturers of Incubators and Brooders



# Sprouted Oats--One of Nature's Greatest Poultry Feeds

By W. H. MONROE,

President and Manager Close-to-Nature Co., Colfax, Iowa.

The Poultry Keeper is pleased to publish this splendid article on sprouted oats by the original inventor of the oat sprouter and which appeared in December issue of the Western Poultry Journal. It has been a pleasure to have known Mr. Monroe many years before he thought of an oat sprouter. He was a fancier and a breeder for pleasure and a superintendent of a city school system for an avocation. He learned of sprouted oats, fed them and found that they did all that was claimed for them, but the old "Grundy" method of sprouting was tantalizing and full of drudgery. This led to the Monroe sprouter, a blessing to poultry culture, and an easy, safe and economical method of making one of the greatest poultry feeds especially for winter egg production.

brought the price down to ten cents. All perfectly fair. But there was more to that term "processed feed." Anyone after going through all the manipulations laid down in the directions would come to the conclusion that it surely was "processed." Some of us who had previously made use of sprouted oats felt a little inclined to ask the return of the money with the explanation that there was too much "process" for a dollar. And right here let me say with no object of advertising at all that the old hard work and trouble of "processing" was the "mother of invention" of the modern grain



sprouter. But to many thousands of poultry keepers, it was the best dollar they ever invested, and while it is not the place here to mention the inventor of processed feed, his name should not be lost to the poultry fraternity for he certainly contributed wonderfully to profitable poultry keeping.

Just to what extent sprouted oats conduce to increased egg yield is hard to state. But backed and confirmed by personal correspondence covering more than ten years with several thousand people in every part of this country and several of the foreign countries, I have no hesitancy in saying that the testimony is unimpeachable that sprouted grains increase the yield of eggs. The thing has been tested and tried under every condition and in every season and every climate, and the testimony is all the same thing. Give the hens the best of egg-laying ration, feed them cabbage, beets, etc., have them laying well, and toss them once a day what sprouted oats they will eat—crisp, succulent sprouts, please, and in a few days they begin to lay a few more eggs. Or put the hens out on fresh blue grass pasture, let them get the worms and all the tit-bits which they know how to scratch out of the earth, have them laying well, then give them some quickly germinated wheat, or oats, or rye, or barley, simply germinated, for they do not need the forage of the long sprouts, and those hens make a jump in egg production. There is no doubt about it. Too many men have made actual tests of the matter. Sprouted oats bring the eggs.

At what stage of growth to feed is often asked. It depends on other things. If the chickens are fed cabbage, beets, etc., or if they have access to grass runs, then the sprouted grains should be fed when the sprouts are very short, or simply in the germinating stage, which means when the starch has been converted

Some twelve to fifteen years ago the reader of poultry journals often saw an advertisement with such catchy phrases as "Processed Feed," "Feed at 10 cents a bushel," "Good egg-producing feed," etc. The reader was invited to remit a dollar and learn all about this remarkable feed. We all sent our dollar, of course, for there is no class of people on earth that are as "easy" as poultry people. And the higher the fever, the easier the patient. All that anyone needs to do to "work" us is simply to "let on" as though he had some remarkable discovery about chickens, simply say enough to arouse our curiosity and imagination, holding back the big part of the discovery till we remit, and we soon put him where he has to use two sheets in reporting to the Internal Revenue Department. Our dollar brought us full information about the "Processed feed," "10 cents a bushel," etc. You know now what it was—sprouted oats. A bushel of oats in those days cost from twenty-five to thirty cents, which, when sprouted into two or three bushels

## Ironclad

TRADE MARK

**150-EGG Ironclad Incubator**  
Don't class this big galvanized iron covered dependable hatcher with cheaply constructed machines. Ironclads are not covered with cheap, thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications: Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering. Large egg tray, extra deep chick nursery, hot water top heat, COPPER tanks and boiler, self-regulator, Tyco's Thermometer, glass in door, and many other special advantages fully explained in free catalog. Write for it TODAY or order direct from this advertisement.

**The Iron Covered Incubator**  
**BIGGEST HATCHING**  
Value Ever Offered

Investigate the Ironclad Incubator before you buy. Get my new catalog and learn why the Ironclad is the safest and best incubator. It tells how they are made and why they are better. My special offer of Iron covered incubator and roomy brooder for only \$17.25 freight paid east of Rockies

**30 DAYS' TRIAL**  
**Money Back If Not Satisfied**  
is the greatest incubator offer of the season. You can use the machine for 30 days and if not satisfactory, we will refund your money and pay return freight charges. Machine come to you complete, ready to use, and accompanied by a

**10 YEAR IRONCLAD GUARANTEE**

**Both for \$17.25**  
**Freight Paid East of Rockies**

**MADE OF CALIFORNIA REDWOOD**  
**150 Chick Brooder**

**IRONCLAD INCUBATOR COMPANY, Box 41 RACINE, WIS.**



DOUBLE QUICK GRAIN SPROUTER

**MORE EGGS**

# SPROUTED OATS EGGS

**Close-To-Nature Vapor-Bath Grain Sprouter**

To produce the energizing, vitalizing, vapor-bath sprouts with their vegetable milk, grape sugar, etc., that bring the big egg yields,—to change high price grain into low price egg producing green feed, get a

We make three kinds for all conditions and climates.—Double Quick Cypress case for zero temperatures; Premium Metal Sectional; and Lampless; and many sizes from one-fourth bu. to 8 bu., for a few cents to 1,000.

The grain sprouter business was originated by the Close-To-Nature Company. Its manager, W. H. Monroe, invented and put on the market the first sprouter a dozen years ago and is at the business yet. Hence we are the oldest and largest sprouter manufacturers in this country and know how to build an efficient, practical sprouting machine.

You will want your sprouter quick at this season, hence we will prepay your EXPRESS in full on any sprouter, big or little, east of the Rocky Mountains and a proportional amount west of the



**Express Prepaid**

mountains. The difference between freight and express rates is small when compared to the difference in time of delivery. Hence we ship by express prepaid. This means that within a few days from the time you read this, you can have a Close-To-Nature sprouter in operation.

Get our circulars on **SPROUTED OATS** and **EGGS**.

**Close-To-Nature Company**      **20 Front St.**      **Colfax, Iowa**

—when the little sprout begins to appear. But if the hens have no forage, then feed when sprouts are from three to five inches or taller. If the oats are put in the trays or pans about one and one-half inches deep, and not stirred too long or too late, there will be all stages of sprouts—those that get most air will be three to five inches long, while others in the center of the mass and denied much air will be perhaps only in the stage of germination. In this way the hen gets everything she needs from the forage or fodder to the vegetable “milk” with all its necessary ingredients.

How much to feed depends upon what results are wanted. If it is a flock of fine hens held back for eggs during the hatching season, feed during the winter only sufficient to keep them in prime condition. Since when sprouted oats are first fed they are a laxative, some people prefer to feed but two or three times a week, thus producing the laxative effect each time. But when eggs are wanted, and more eggs, and many eggs, feed all the hens will eat each day. Begin, of course, gradually, because of the laxative effect mentioned, but after they have become accustomed to the feed, have it before them if possible most of the day. A flock of a hundred hens will consume about one bushel every four to six days. This means a bushel before sprouting, or two to three bushels after sprouted. No hard and fast rule can be given for it depends on several things, such as whether the sprouts are grown slowly or quickly, whether they are tough and not much relished, or are crisp and sweet and greatly relished. Also whether the hens have other forms of green feed. But a good rule for a modern growth-forcing grain sprout-

(Continued on Page 22)

S. — C. — R. — I.

## Reds of Quality

My birds are winners at the best shows in Missouri and Illinois.

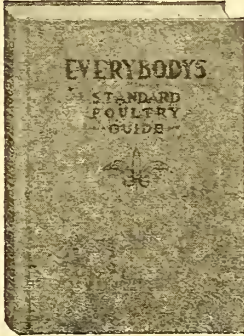
At the last Quincy show I won 1st and 3rd cockerel, 3rd cock, 4th young pen, best color male and female, best display, and the champion pullet of the show, all breeds competing. At the Great Heart of America Show, 1918, I won 2nd pullet in a class of 51. If it is quality you want I have it. A number of very fine cockerels, pullets and hens for sale.

Eggs from as good matings as the country affords. Mating List Free

**C. M. EWALT, Specialty Breeder,**

Canton, ————— Missouri

## Everybodys Standard Poultry Guide--Vol. I



The advance sale of this book has been beyond our fondest expectations, and already letters are being received from purchasers all over America complimentary of this Standard Guide for poultry success. One reader writes:

“The finest poultry book I ever read, send me four copies; I wish to give them as Xmas presents to some friends. To my mind it is the finest work on poultry ever published.”

Another reader away out on the Pacific Coast writes: “Everybodys Standard Poultry Guide received and I am delighted. It contains such good, sound advice; so different from lots of trashy books widely advertised. Truly you can call it a Standard Guide.”

These are only a few of the many letters received and the book has only been in the mails since December 1. Order your copy today. A dollar invested in this Standard Guide to Poultry Success will save you countless hours of wasted time, worry and dollars.

**Price \$1.00.**

Prepaid to any address in the United States or Canada. Order your copy today. Deliveries now being made. The advance sale is enormous and those who have reviewed the book pronounce it the finest Poultry Book Publication put out to date.

**HERE ARE ITS EDITORS—MEN YOU KNOW BY REPUTATION AS SUCCESSFUL POULTRYMEN**

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**YOUR COPY IS READY. WRITE FOR IT TODAY.**

**EVERYBODYS POULTRY MAGAZINE PUBLISHING CO.,**  
 Book Dept. 286-E      Hanover, Pa.

WHEN WRITING ADVERTISERS, PLEASE MENTION THIS PAPER



J. W. MYERS, President,  
Reliable Incubator and  
Brooder Co.

I have been building Reliable Incubators and Brooders since 1882. Have sold many thousands of them and do not know of a single dissatisfied customer. Have also been raising poultry for over 40 years, and my experience has enabled me to help many of my customers to succeed. So if you have any problem that puzzles you, drop me a line and I may be able to help you solve it. You ought to have my Poultry Book which will be valuable to you, no matter what machine you are using. Write for it.

#### THE USERS "OK" COUNTS

D. W. Goodling, Oriental, Pa., writes: "Send me 16 more 300-egg size Reliable Incubators, as soon as possible. This makes a total of 21. I have bought from you. Have used six other makes but none of them hatch as well as the Reliable."

Mrs. Clara Colwell, Smith Center, Kan., who paid for her own farm with poultry hatched and raised in over 100 Reliable Incubators and Brooders, writes: "I want to help a widow here who has a mortgage on her farm, and as I have had good success with your incubators and brooders, I want you to send me 10 incubators at once. I will help get her started and know she will be able to pay her mortgage off the first year. The machines I bought of you are as good as when I first got them and I can beat old Biddy any time." Oct. 25, 1919: "I enclose you herewith my order for 74 more 340-egg standard incubators."

A. L. Drummond, Norton, Kas., writes: "If you will look up your files you will find that I have bought from you ten 300-egg size and ten 400-egg size incubators. I need ten more, as I have a standing order for 2000 chicks per week. I like the Reliable better because I get more chicks."

J. B. Woodhanssee, Highland, O., writes: "Your Blue Flame Wickless Oil Heated Hover is just what I have been looking for during my poultry life. It is almost 100 per cent better than the coal heated brooder."

*Guaranteed Quality - Tried And Proven  
Poultry-Raising Equipment*

# STANDARD RELIABLE Incubator Oil Heated, Wickless Colony Hover

### WHAT IT IS DOING FOR OTHERS IT WILL DO FOR YOU.

There can be no stronger guarantee of success in poultry raising than that which goes with the "Old Reliable" Incubator and Hover. It is a much stronger guarantee than any that can be written or printed on paper—it is the **Actual Experience** of some hundreds of thousands of people, men, women and children, beginners as well as experts, extending over a period of 38 years. Many of these people have made fortunes in the poultry business by the aid of this equipment, and all of them take pleasure in giving the Old Reliable full credit for its part in their success.

Two of the rules that I have always firmly insisted upon during my 38 yrs. experience in building and selling poultry-raising equipment are:

1st—The "Old Reliable" must be quality built—every machine which leaves my factory must fully back up, in every detail of construction, the long standing, world-wide reputation of the Reliable, for stability, economy and hatching success.

2nd—All my advertising must be written conservatively—no claims shall be made for my machines which can not be made good in the practical experience of the users.

Now, I do not claim that the Reliable is the only good hatching machine on the market, but I do claim that it is as nearly a perfect hatching machine as modern science has devised and as high quality material and expert workmanship can produce.

#### FEATURES WHICH APPEAL TO PRACTICAL POULTRY RAISERS

**Sturdily Built** of thoroughly seasoned wood.

**Double Walls and Tops**, well insulated; top and bottom tongued and grooved; double glass doors; strong legs; roomy chick nursery; safety all-metal lamp, burner and chimney.

**Double Enclosed Heating System** which utilizes all the heat from the lamp in two ways—saves fuel every hatch; a double safeguard against chilling—makes the Reliable a dependable cold weather hatcher.

**Patented Super-Sensitive Heat Regulator**, with thermometer tested by U. S. Government standard; automatic moisture supply and ventilation, maintaining correct hatching conditions in varying weather; requires little attention.

Reliable Incubators and Hovers are in use in many State and National Experimental Stations, in the United States, Canada, England, Italy, France, Spain, New Zealand, Norway, Sweden and many other countries.

We build the Reliable in all capacities, for 100 to 2,000 eggs. Shipped ready to start except attaching legs.

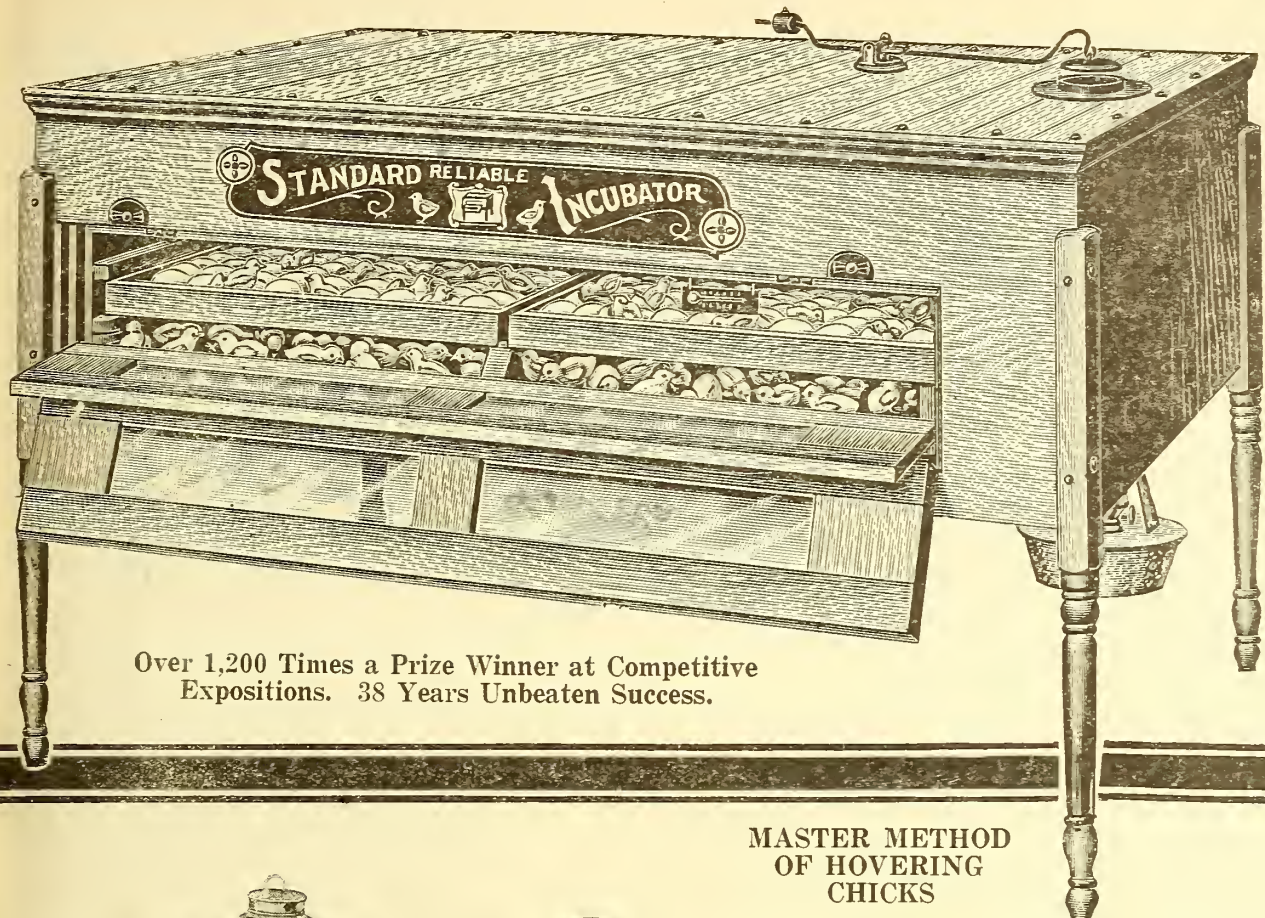
Ask your dealer about this machine—also about the Reliable Blue Flame, Wickless Oil Heated Hover shown on opposite page, the most perfect chick mother ever offered poultry raisers. If your dealer can not supply you, write me and I will ship direct from factory.

J. W. MYERS, President,

Reliable Incubator & Brooder Co.

Box A-15, Quincy, Ill.





Over 1,200 Times a Prize Winner at Competitive Expositions. 38 Years Unbeaten Success.

### MASTER METHOD OF HOVERING CHICKS

Raise the chicks you hatch. The heaviest losses in the poultry business are by the death of young chicks before they are able to care for themselves, through chilling, crowding and smothering.

In all my 38 years experience in manufacturing poultry-raising equipment, I have never offered my customers an equipment in which I have greater pride and confidence than I have in the

### RELIABLE BLUE FLAME, OIL HEATED WICKLESS HOVER

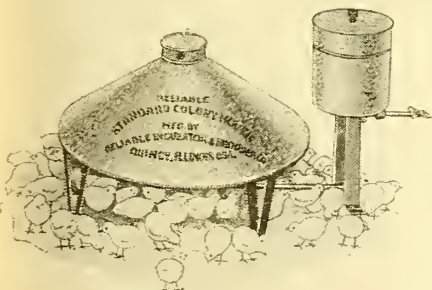
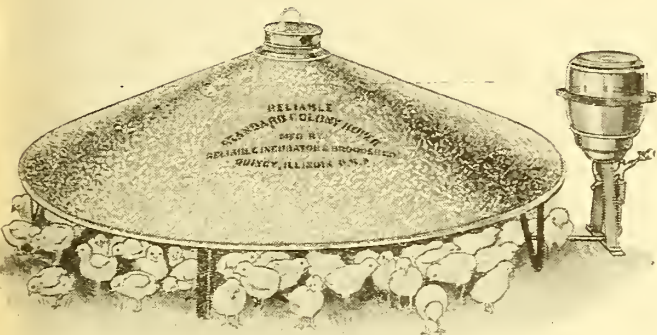
This hover offers all the essentials of comfort, health and safety for chicks, combined with convenience, economy and success. Just think what these advantages mean to you and to the young chicks entrusted to the care of the hover:

Heated with ordinary coal oil which is always easily obtainable.

A wickless burner making a slow, steady blue flame, absolutely safe.

No wicks to trim, no smoke, no soot, no odor, no fumes, no dirt or dust.

Abundance of heat automatically regulated by visible oil feed—saves fuel.



Built of Galvanized Steel in Four Sizes: 18 in., 30 in., 42 in., 52 in.

Try raisers are enthusiastic about this hover. I am you the expressions of a few of them on the opposite page. Read them. They are convincing.

J. W. MYERS, Pres.  
Reliable Incubator & Brooder Co.  
Box A-15, Quincy, Ill.

Please send me Free Illustrated Catalog on your Incubators and Brooders.

My Name .....

P. O. ....

State .....





J. W. MYERS, President,  
Reliable Incubator and  
Brooder Co.

I have been building Reliable Incubators and Brooders since 1882. Have sold many thousands of them and do not know of a single dissatisfied customer. Have also been raising poultry for over 40 years, and my experience has enabled me to help many of my customers to succeed. So if you have any problem that puzzles you, drop me a line and I may be able to help you solve it. You ought to have my Poultry Book which will be valuable to you, no matter what machine you are using. Write for it.

Guaranteed Quality - Tried And Proven  
Poultry-Raising Equipment

# STANDARD RELIABLE Incubator Oil Heated, Wickless Colony Hover

## WHAT IT IS DOING FOR OTHERS IT WILL DO FOR YOU.

There can be no stronger guarantee of success in poultry raising than that which goes with the "Old Reliable" Incubator and Hover. It is a much stronger guarantee than any that can be written or printed on paper—it is the Actual Experience of some hundreds of thousands of people, men, women and children, beginners as well as experts, extending over a period of 38 years. Many of these people have made fortunes in the poultry business by the aid of this equipment, and all of them take pleasure in giving the Old Reliable full credit for its part in their success.

Two of the rules that I have always firmly insisted upon during my 38 yrs. experience in building and selling poultry-raising equipment are:

- 1st—The "Old Reliable" must be quality built—every machine which leaves my factory must fully back up, in every detail of construction, the long standing, world-wide reputation of the Reliable, for stability, economy and hatching success.
- 2nd—All my advertising must be written conservatively—no claims shall be made for my machines which can not be made good in the practical experience of the users.

Now, I do not claim that the Reliable is the only good hatching machine on the market, but I do claim that it is as nearly a perfect hatching machine as modern science has devised and as high quality material and expert workmanship can produce.

### FEATURES WHICH APPEAL TO PRACTICAL POULTRY RAISERS

- Sturdily Built** of thoroughly seasoned wood.
  - Double Walls and Top**, well insulated; top and bottom tongued and grooved; double glass doors; strong legs; roomy chick nursery; safety all-metal lamp, burner and chimney.
  - Double Enclosed Heating System** which utilizes all the heat from the lamp in two ways—saves fuel every hatch; a double safeguard against chilling—makes the Reliable a dependable cold weather hatcher.
  - Patented Super-Sensitive Heat Regulator**, with thermometer tested by U. S. Government standard; automatic moisture supply and ventilation, maintaining correct hatching conditions in varying weather; requires little attention.
- Reliable Incubators and Hovers are in use in many State and National Experimental Stations, in the United States, Canada, England, Italy, France, Spain, New Zealand, Norway, Sweden and many other countries.

We build the Reliable in all capacities, for 100 to 2,000 eggs. Shipped ready to start except attaching legs.

Ask your dealer about this machine—also about the Reliable Blue Flame, Wickless Oil Heated Hover shown on opposite page, the most perfect chick mother ever offered poultry raisers. If your dealer can not supply you, write me and I will ship direct from factory.

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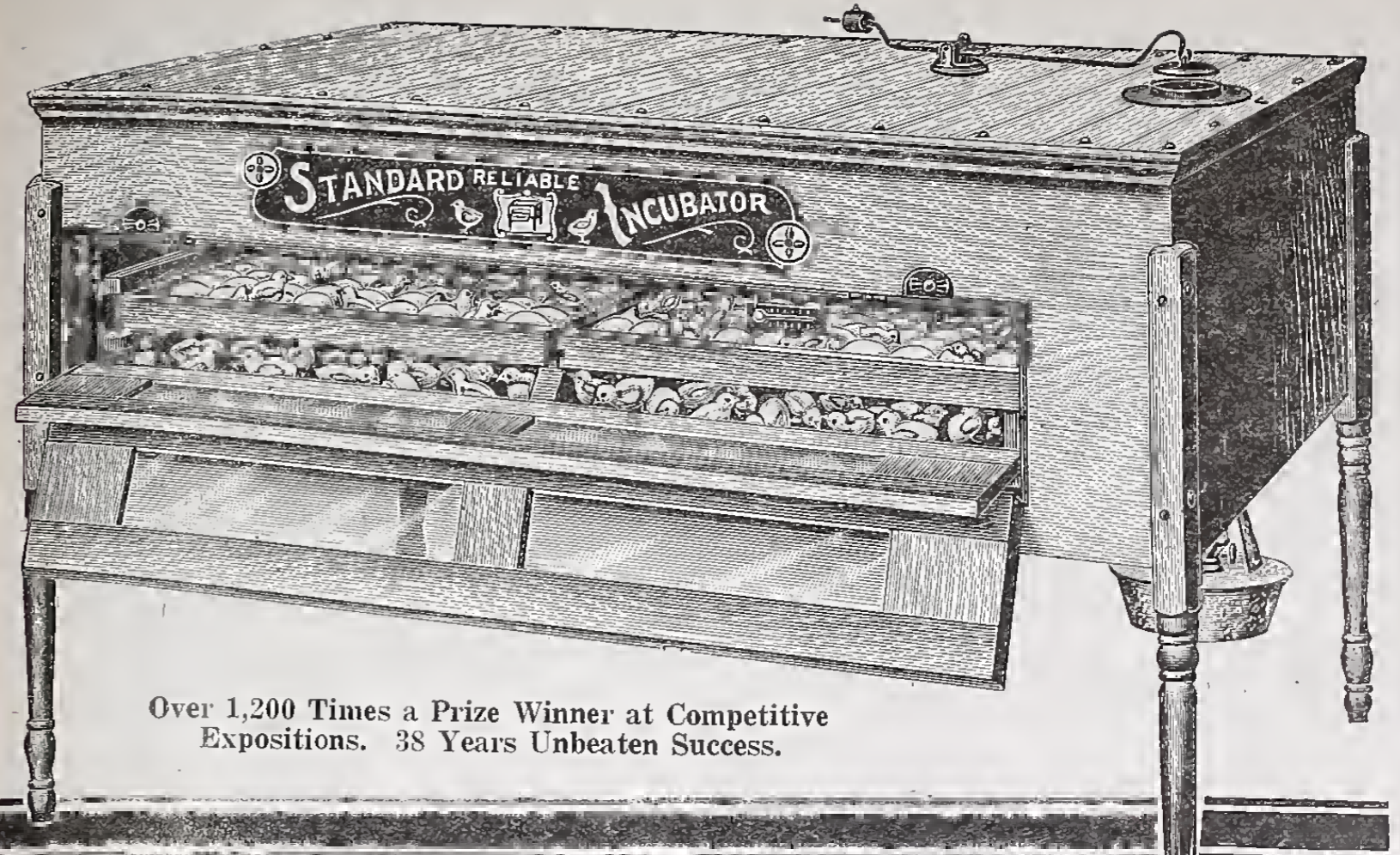
### THE USERS "OK" COUNTS

D. W. Gooding, Oriental, Pa., writes: "Send me 16 more 300-egg size Reliable Incubators, as soon as possible. This makes a total of 21. I have bought from you. Have used six other makes but none of them hatch as well as the Reliable."

Mrs. Clara Colwell, Smith Center, Kan., who paid for her own farm with poultry hatched and raised in over 100 Reliable Incubators and Brooders, writes: "I want to help a widow here who has a mortgage on her farm, and as I have had good success with your incubators and brooders, I want you to send me 10 incubators at once. I will help get her started and know she will be able to pay her mortgage off the first year. The machines I bought of you are as good as when I first got them and I can beat old Biddy any time." Oct. 25, 1919: "I enclose you herewith my order for 74 more 340-egg standard incubators."

A. L. Drummond, Norton, Kas., writes: "If you will look up your files you will find that I have bought from you ten 300-egg size and ten 400-egg size incubators. I need ten more, as I have a standing order for 2000 chicks per week. I like the Reliable better because I get more chicks."

J. B. Woodmansee, Highland, O., writes: "Your Blue Flame Wickless Oil Heated Hover is just what I have been looking for during my poultry life. It is almost 100 per cent better than the coal heated brooder."

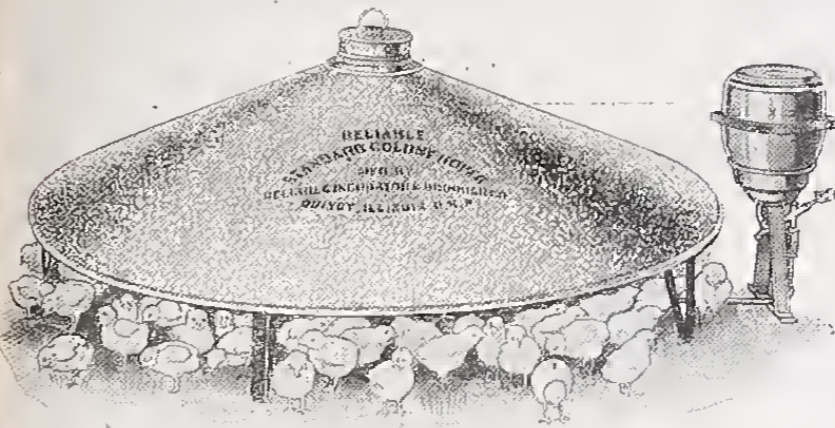


Over 1,200 Times a Prize Winner at Competitive Expositions. 38 Years Unbeaten Success.

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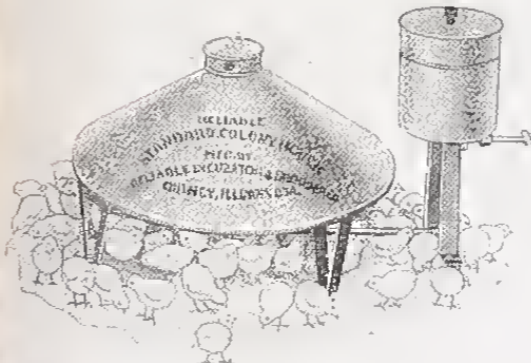
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Heated with ordinary coal oil which is always easily obtainable.

A wickless burner making a slow, steady blue flame, absolutely safe.

No wicks to trim, no smoke, no soot, no odor, no fumes, no dirt or dust.

Abundance of heat automatically regulated by visible oil feed—saves fuel.



Built of Galvanized Steel in Four Sizes:  
18 in., 30 in., 42 in., 52 in.  
Poultry raisers are enthusiastic about this hover. I am giving you the expressions of a few of them on the opposite page. Read them. They are convincing.

J. W. MYERS, Pres.  
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Box A-15, Quincy, Ill.

Please send me Free Illustrated Catalog on your Incubators and Brooders.

My Name \_\_\_\_\_

P. O. \_\_\_\_\_

State \_\_\_\_\_

### Made Farm Poultry Pay

#### A Farmer's Wife Tells How She Increased Winter Egg Yield and Saved Feed

Some time ago I read a notice in your paper where Prof. Quisenberry had published a free 16-page bulletin in which he told how and what he fed the thousand hens on his big poultry farm where several broke world's egg laying records, one producing as high as 304 eggs in one year.

I wrote Mr. Quisenberry to send me one of those free bulletins which he did, besides sending me several helpful letters. After reading how and what he had fed his hens it was plain to see why my hens had not been laying well and that I had actually wasted most of the feed given them.

I used the same grains and feed as before, but began to mix and proportion it as Mr. Quisenberry had done. A few days after feeding the Quisenberry way, my hens began laying. From 10 eggs a day, they increased to 15, then 25, then up to 39, then 51, and so on until they reached the high mark a few days ago of 163 eggs from 201 hens and pullets.

Thanks to Mr. Quisenberry and your paper which put me in touch with him, my hens have made big money during the past winter months.—Mrs. Lelia Berry, Wichita, Kan.

### Get More Eggs—Save Feed

#### A New 16-Page Bulletin Gives Free Information

Egg prices are high and going sky-high, higher than ever before. Those who know how and what to feed to get the most eggs will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed-loss and disappointment. Prof. T. E. Quisenberry, Director-in-Chief

of the great American Egg Laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." This bulletin also tells how he starts and feeds baby chicks to prevent white diarrhea and bowel trouble and how he feeds breeding stock to insure strong, fertile eggs, strong chicks and to avoid dead chicks in shell at hatching time.

He will mail this bulletin to readers of Poultry Keeper who will write him without delay. Send no money. Over a thousand hens under Quisenberry's direction laid from 200 to 306 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him today for his free bulletin, addressing Care The American Poultry School, Department 4014, Kansas City, Mo.—Adv.

#### A. P. A. ADVANCE SUB RATE

With the January issue the American Poultry Advocate advance their subscription price to seventy-five cents per year. The American Poultry Advocate is perhaps the best advertising poultry publication in the land and this advance in subscription rate is forced upon them on account of the extremely high cost of production which is facing all publications. We recommend American Poultry Advocate highly to our subscribers. We are sure you will like it and find it well worth the seventy-five cents which they are asking.

#### BABY CHICKS

The Miller Poultry Farm and Hatcheries, Box K, Lancaster, Missouri, conduct one of the largest hatcheries in the middle west. At Lancaster they have a hatching capacity of 84,000 eggs per setting. They have five new 14,400 egg and one 12,000 egg machines. They have a

**EXPRESS PREPAID**

### Mankato Incubator



**Express Prepaid Quick Delivery**

**The Old Reliable Hatch** now better than ever and sold at bed-rock price. Built of best material, all latest improvements, has redwood case, triple walls, hot water copper tank, double heating system, self regulator, large oil tank—one filling to hatch, safety lamp, nursery, tested thermometer, automatic ventilation, etc. **Most simple, durable and successful machine.** All set up ready for use. Direct from factory to user with strong binding guarantee. 26 years' experience building incubators and raising poultry. Largest factory in Northwest. **Big incubator book and catalogue free.**  
**Mankato Incubator Co., Box 735 Mankato, Minn.**

## IRRIGATED LANDS

In the famous Rio Grande Valley. Three crops a year. Best place in the United States for poultry and growing Citrus fruit. No winters, no drought and no richer lands. Come to the Sunny South and live long. Write us for full particulars.

**C. A. CHRISTENSEN & SONS.**  
 Box 200. Downee, Tex.

## Thrice as Many Eggs

"Have been using O-Hen-O three weeks; it has tripled the egg production of my hens," says Mrs. D. D. Moseley, 1626 E St., Lincoln, Neb. Poultry-raisers everywhere praise O-Hen-O to the skies. Has no equal. N. J. Research Laboratories, Elizabeth, N. J., report: "Have made analyses of other preparations and consider your formula superior." Send no money and!

## Pay Nothing for O-Hen-O

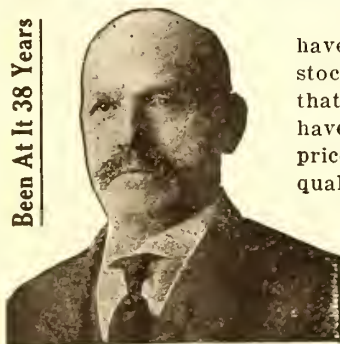
if it fails! We take your word for it. Without your remitting one cent, now or upon delivery, you receive a full size package, prepaid, entirely at our risk! Try O-Hen-O 30 days; then, if perfectly satisfied with results, remit \$1; otherwise remit nothing. Don't delay taking advantage of this remarkable offer. Begin at once making those big extra egg profits! Send name and address today; no money!

**O-HEN-O CO., Dept. A-6, Freeport, Ill.**

branch hatchery in St. Paul, Minnesota, under the management of J. R. Curran with a capacity of 72,000 eggs per setting. They also have a branch and a poultry farm located at Kirksville, Missouri. At this plant they have eighteen of the 2440 egg Mammoth Buckeye machines. Their capacity for this season will be over seven hundred thousand chicks consisting of twenty leading varieties. As mentioned above their general office and farm is located at

## WHY NOT BUY YOUR STOCK AND EGGS FROM THE OLDEST BREEDER OF REDS IN THE WEST?

Been At It 38 Years



I have devoted my entire time to the poultry business since 1881—38 years. I have bred Rhode Island Reds longer than any other breeder west of New York. My stock is the best money, experience and careful breeding can produce. Everything that goes toward making fine Rhode Island Reds can be found in my flock. My birds have the type and color that is demanded by the leading judges of this country. My prices for eggs and stock are less than half what some others charge for same quality.

### SATISFACTION GUARANTEED

One of my customers says: "The only difference between your eggs and the \$15 to \$25 kind is the price."

**Eggs for Hatching and choice Cockerels and Pullets (both combs) for Sale.**  
**Stock the Best. Prices Very Reasonable.**

I Also Breed THOROUGHbred PEDIGREED AIREDALE DOGS

My Illustrated RED BOOK tells what I do and how I do it. 1920 RED BOOK and Mating List now ready, and will be sent to you FREE. Don't fail to write for them,

**P. K. SPRAGUE, Maywood, Illinois [NEAR CHICAGO] U. S. A.**



Lancaster, Missouri, under the direct management of K. I. Miller.

You will find their ad elsewhere in Poultry Keeper and in view of their location, we are sure many of our subscribers in Illinois, Missouri and Iowa especially will be glad to trade with them. Their baby chicks are well packed and they are in a position to guarantee shipments to all parts of the country.

**REGAL DORCAS WHITE WYANDOTTES**

We want to call our readers attention to the advertisement of the above strain by John S. Martin, Box 408, Port Dover, Canada, which appears in this issue. Mr. Martin's Dorcas Wyandottes are so called because of their ability as layers. Mr. Quinby bought eighteen pullets which laid 754 eggs during the months of January and February or an average of forty two eggs per bird. From all sources come testimonials of the laying qualities of his strain.

During the month of May his pen in the American laying contest laid 286 eggs which is a wonderful record and proves that his birds are year round layers.

If your white wyandottes are not laying as they should or winning as you would like for them to win at the poultry shows, why not make a fresh start by getting a pen of Regal White Wyandottes.

**HENDERSON'S "CHAMPION"**

The long list of winners in the ad of the Henderson Farms in this issue should appeal to our readers who are in the market for prize winning Barred Rocks. These winnings were made in hot competition in some of the largest shows this fall. This one firm won fifteen of the twenty-five first prizes in their class at the "Heart of America" show last fall and the most coveted of all prizes, first "Champion" cockerel. Not only did they win this coveted prize but they also won the first "Champion" prize at the Iowa State Fair and at the Coliseum show in Chicago.

It is a pleasure for us to commend to our readers the Henderson Farms. The men connected with it are high class gentlemen who are giving their life's work to the bettering of the poultry industry.

**SUCCESSFUL POULTRY KEEPING**

A text book for the beginner and for all persons interested in better

**For Sick Chickens**

Preventive and curative of colds, roup, canker swelled head, sorehead, chicken pox, limber neck, sour crop cholera, bowel trouble, etc Mrs T. A. Morley of Gallen, Mich. says: "Have used Germozone 17 yrs for chickens and could not get along without it." Geo F. Vickerman, Rockdale, N Y. says: "Have used Germozone 12 years, the best for bowel troubles I ever found." Frank Sluka, Chicago, Ill. writes: "I have lost but 1 pigeon and no chickens in the 3 yrs I have been using Germozone." C O Petrain, Moline, Ill. "I never had a sick chick all last season." Bernard Horning, Kirksville, Mo. says: "Cured my puniest chicks this spring." Ralph Wurst, Erie, Pa. says "Not a case of white diarrhoea in 3 yrs I raise over a thousand a year." Cood also for rabbits, birds, pet stock.

GERMOZONE is sold generally at drug and seed stores Don't risk a substitute We mail from Omaha postpaid in new 25c, 75c and \$1 50 sizes. Poultry books free GEG. H. LEE CO., Dept. P-20 OMAHA, NEB.

Choose this machine not merely because it is endorsed by authorities and guaranteed 10 years, but because it is first in hatching efficiency.

**PRAIRIE STATE INCUBATOR**

YOU want to know that the machine you are considering has been tested by competent authorities: Prairie State has been used and is unqualifiedly endorsed by poultry instructors and investigators at the leading agricultural colleges and government experiment stations.

You want to know that a guarantee really means just what it says: Prairie State guarantee is broad and clear and protects you absolutely for ten years.

When you buy the Prairie State with this backing and the knowledge that it has been the accepted standard on well-known large and small poultry plants, all over the world, for 38 years, and now is more popular than ever, you are sure of satisfaction and results.

Though slightly higher in price than inferior makes, in hatching results it is the cheapest incubator you can buy. If you really demand the best, you can't afford to buy any other incubator.

Write for complete catalog of Prairie State Incubators and Brooders—Free. Explains construction and tells why these machines are the accepted standards.

PRAIRIE STATE INCUBATOR CO., 36 Main Street, Homer City, Penna.

**Your old incubator deserves this thermometer**

NOT just a thermometer but the incubator thermometer which is preferred by the most successful chick producers. That's the time tested

**Tycos Incubator Thermometer**

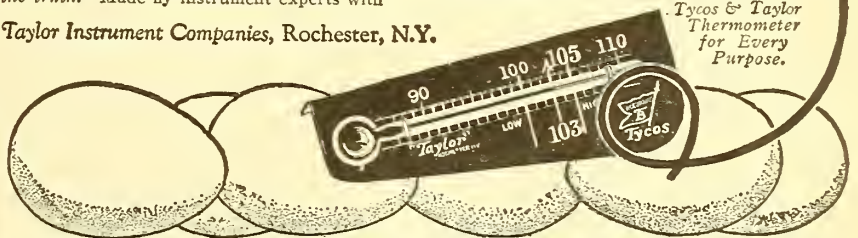
It will hold the temperature where you set it, but you must set it right to get the big hatches. If your thermometer is inaccurate and registers 103° when the heat is 101° or 105° (as thousands do) you won't get the big hatches or good chicks. But the Tycos tells the truth. Made by instrument experts with

extreme care, tested and retested. Ask your dealer or send to us direct. Price, \$1.00 and 5 cent postage for No. 5774 shown below.

You'll be interested in "Thermometer Facts"—sent FREE on request. Write for it.

There's a Tycos & Taylor Thermometer for Every Purpose.

Taylor Instrument Companies, Rochester, N.Y.



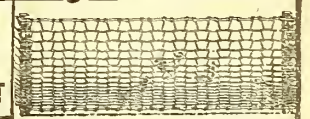
poultry and more of it. Contains the "secrets of success," both for pleasure and profit. New and valuable information on all branches of the poultry business. 176 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

**REDS OF QUALITY**

Our readers who are interested in Rhode Island Reds should not overlook the ad of C. M. Ewalt, Canton, Missouri. Mr. Ewalt's birds have been consistent winners and he is already booking eggs for the coming season. He would be glad to send his mating list free.

**Poultry Fence**

SAVED 40 PERCENT



B. J. WILSON Chgo, Mich. says: "Am more than satisfied with your Poultry Fence. Saved at least 40 per cent by buying direct from you." We can save you money. Prices way down We Pay the Freight and Ship Direct to YOU. Write now for Free Catalog.

KITSELMAN BROTHERS Dept. 229 MUMCIE, INDIANA.

**64 BREEDS** Most Profitable Chickens, ducks, geese and turkeys. Cholee, pure-bred, hardy northern raised. Fowls, eggs, incubators at low prices. America's greatest poultry farm. 27 years in business. Valuable new 105 page Poultry Guide and Catalog free. Write today. R. F. NEUBERT Co., Box 799, Mankato, Minn.

# Final Report of the Eighth National Egg Laying Contest

The three hundred hens in the Eighth National Egg Laying Contest, which closed October 31, 1919, laid fifty-five thousand twenty-three (55,023) eggs during the twelve months of the contest, making an average of 184 eggs each. This is an increase of 12.14 eggs per hen over the average of the Seventh National Contest which average was 171.86 eggs per hen.

One hundred twelve (112) hens, or 37 1-3 per cent laid 200 eggs or more during the life of the contest, which is an increase of 17 hens, or 6 1-3 per cent, over the number of hens laying 200 eggs or more in the Seventh Contest.

Pen 10, Rhode Island Whites, owned by the Pequot Poultry Farm, Southport, Connecticut, won the grand prize for the year—the record for the pen being 1217 eggs, or an average of 243.4 eggs per hen.

The high hen, a Rhode Island White,—Hen 7 in pen 10—has 298 eggs to her credit, which is the highest individual record ever made since the Egg Laying Contests have been held at the Missouri State Poultry Experiment Station. This hen was sent to the Contest to take the place of a hen which died early, in November, 1918. She began laying on November 14th and laid 302 eggs during the Contest, but according to the rules of the Contest, when a substitute takes the place of a regular hen she must also take the egg record of that hen. In this case, by so doing, Hen 7 lost four eggs from her record and must be shown in the Contest Report as a 298 egg hen. By permission, this hen will be trapped here at the Station until November 14th, 1919, at which time she completes her year from the time she laid her first egg, November 14, 1918.

The Contest hens were fed practically the same ration as during the Seventh Contest, with the exception of more wheat being fed. The average consumption of feed was 44.7 lbs. of grain and 47.2 lbs. of mash—a total of 91.9 lbs. of feed per bird. The cost of this was \$3.09 per hen, the gross receipts were \$6.80 per hen—leaving a profit of \$3.71 per hen for the year, over the cost of feed. The average price received for eggs for the year was 44 1-3c per dozen and eggs were shipped and sold on the regular market.

The feed ration used in the Contest was as follows:

#### Grain.

50 lbs. cracked corn.  
50 lbs. wheat.

#### Mash.

25 lbs. bran.  
25 lbs. shorts.  
30 lbs. corn meal.  
10 lbs. ground oats.  
12 lbs. beef scraps.  
1½ lbs. fine salt.

Part of the year the birds were fed a moistened mash only in the mornings, and the balance of the year they were fed a moistened mash twice a day. A dry mash, of the same ration, was kept in the hoppers before the birds at all times. The grain was fed principally at night, and the birds were given all they would clean up.

T. W. NOLAND,  
Mt. Grove, Mo. Director.

#### BABY CHICKS

In this issue of Poultry Keeper we begin the season advertising of the Nabob Hatcheries, Gambier, Ohio. This hatchery actually shipped 456,265 chickens in the 1919 season. They have enlarged their capacity for the coming year in anticipation for a still greater season.

They are booking orders now for March, April and May chicks and expect to be in position to make prompt delivery. They ship their chicks by special delivery parcel post and prepay the charges.

They have forty varieties of chickens and four varieties of ducks. They issue a splendid catalog which you will be sure to appreciate.

## Breaks Egg Record—Saves Feed

Are Your Hens Laying As They Should? Stop Feeding Loafers. Prof. T. E. Quisenberry Tells in a Bulletin, Which He Sends Free, Just How to Do This. He made 1,000 Hens Lay 180 to 306 Eggs in One Year. Flock of 160 Earned \$1,392.67.

How would you like to make a clear profit of \$6.00 to \$10.00 per year from each of your hens? If you knew how to care for and feed your hens to make each lay from 180 to 306 eggs per year, you would make a great deal more than that, as egg prices will continue to average higher than ever this year. You will make big money if your hens lay only 150 to 190 eggs each—that is, if you do not waste feed by improper methods of feeding.

Prof. Quisenberry made a profit of \$6.15 per hen from 75 layers in nine months. Another flock of 160 cleared \$976.67 in 10 months. This wonderful hen, "Lady Victory," laid 304 eggs in 12 months, and "Keystone Maid" laid 306 eggs. The balancing or proportioning of their feed by Prof. Quisenberry, so that the daily ration could be turned into practically the same number of yolks and whites, made possible some of the world's greatest official laying records. Besides increasing egg yields and breaking world's laying records, he actually saved feed, thereby further increasing net profits. Improper feeding methods always result in fewer eggs, wasted feed, loss and disappointment.

Officially recognized as one of the world's greatest poultry authorities and most successful poultry farmers, Mr. T. E. Quisenberry, President of the American Poultry School, whose post office address is Department 4019, Kansas City, Mo., has just published a 16-page bulletin on "How to Get More Eggs and Save Feed," which he will send you free. His bulletin also tells how to feed breeding stock during winter and spring to insure strong, fertile eggs, strong chicks and to avoid dead chicks in shell at hatching time. It tells how he starts feeding chicks to avoid loss from White Diarrhea and bowel trouble.

As to solving the high priced feeding question, thousands have pronounced this the best bulletin ever written on the subject. Of importance to every poultry raiser is the

chapter telling how to feed. It tells how egg yields can be doubled, and often more than doubled, without increasing feed bills; how to actually save and cheapen your feed; and just how and what these 304 and 306 egg hens were fed to enable them to manufacture nearly their own weight in eggs every month in the year and still stay in good health. His bulletin gives suggestions for culling out drones, slackers and loafing hens that regardless



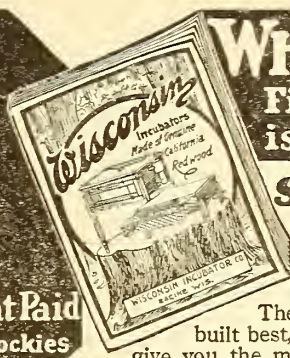
Lady Victory, hen No. 1101, broke world's record in American Laying Contest by producing 304 eggs in 12 months.

of feed and care, will never earn a profit or pay for their keep. If your hens are not laying today as they should, it's your own fault. Write and find out the reason.

There is a lot of real information in this bulletin—in fact, it's all information, every word of it. It contains no guess work, no freak stunts or fancies. It does not advertise some brand of magic medicine of tonic, nor any pet brand of feed. It is just plain, every day facts of how Prof. Quisenberry broke the world's egg laying records, cut down feed bills and made hens pay big profits.

He will mail one of these bulletins without charge to each reader of Poultry Keeper who writes him before they are all gone. Don't delay. Send no money. In fact, a post card will do.

**130**  
Egg Incubator  
Chick Brooder  
**BOTH For**  
**\$16.25**  
Freight Paid  
East of Rockies



**WHY TAKE CHANCES?**  
Find Out What an Incubator  
is Made of Before You Buy

Send for Our **FREE Catalog**  
and We Will Send Sample  
of Material Used in Our  
Incubators and Brooders



Then you will know which machines are built best, which will last longest and which will give you the most value for your money. Year after year these unbeatable Wisconsin have proved their superiority over all other machines, regardless of price. Below are a few of the record-breaking hatches taken off by owners of this famous Wisconsin **\$16.25** outfit, which includes a 130-Egg Incubator and 130-Chick Brooder.

**Wisconsin Incubators Have Double Walls**

It pays to investigate before you buy. For example: Wisconsin Incubators have double walls—the outer wall is of California Redwood and the inner wall is of insulating board with dead air space between the walls. Hot water heat—double glass doors—**COPPER TANKS**—self-regulating. Roomy nursery under egg tray. Incubator is finished in its natural color, showing the high grade California Redwood lumber used—not painted to cover up inferior material. Both machines shipped complete with thermometers, lamps, egg tester and book of directions; **all set up ready for use** when you get them. Freight paid east of the Rockies.



**Order Direct From This Advertisement**  
You can send in your order direct if you wish and save time. You take no risk. I give 30 days trial with the understanding that if you are not perfectly satisfied write me, send the goods back and I'll cheerfully return your money and pay all freight charges.  
**THOS. J. COLLIER**  
Manager.

**30 Days' Trial**  
**10-Year Guarantee**  
**Money Back if Not Satisfied**

**You Take No Risk!**

I have been advertising in this paper for years. The publishers know me and know I do just as I agree. One good hatch will pay for a Wisconsin outfit and more. Send in your order direct from this advertisement or write today for our free catalog. Address

**WISCONSIN INCUBATOR CO.**  
Box 30, Racine, Wis.

If You Want a Larger  
Outfit Order Our  
**180 Egg**  
AND  
**180 Chick**  
Incubator  
AND Brooder  
Both for Only  
**\$20.00**  
Freight Paid

Parksburg, W. Va.  
Wis. Inc. Co., Racine, Wis.  
Dear Sirs:—The results I have obtained with the Wisconsin Incubator are better than any other incubator in Wood County, W. Va. There are a great many incubators in Wood County, but none are as good as the Wisconsin. I set 130 eggs and got 129 little ones.  
**HENRY C. PERRINE.**

Oakwood, Ill.  
Wis. Inc. Co., Racine, Wis.  
Dear Sirs:—I received the two incubators I sent for. We like them fine. I have used your incubator for fifteen years, so knew what it was. I have had three of yours and two of other makes, but yours is the best. I think it cannot be beat.  
Your friend and patron,  
**MRS. ANNA FATE.**

**SOME PRIZE WINNERS**

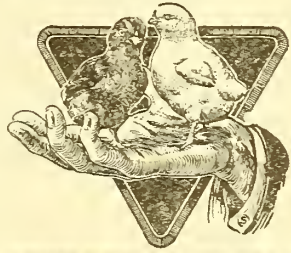
Just as we are going to press we learn that George B. Ferris, Grand Rapids, Michigan, won as follows at the Omaha Poultry Show: First on cock; first on cockerel, first and second on hen, first on pullet, first on pen, special for best display at show, cup for best display on White Leghorns and special challenge cup. We always knew Mr. Ferris had prize winners from the fact that they are able to win consistently.

Even the wild animals and the birds do not consider an unsheltered place a home; a few rows of trees on the side of prevailing winter winds will make a world of difference to the comfort of the farmstead.

**THE ORPINGTONS**

Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeder's opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drevenstedt, Breeder and Judge. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.

**LOOK! BABY CHICKS**



Direct from our hand to yours by special delivery Parcels Post **POSTAGE PAID**. January price \$17.00 a 100 up. 40 breeds of chickens, utility and exhibition grades. Four breeds of ducks. 456,265 chicks actually shipped in 1919, enlarged capacity for 1920. Order early for March, April and May chicks for the demand will be greater than ever before. New complete catalogue free, stamps appreciated.

**NABOB HATCHERIES,**  
Gambier, Ohio.

**HEN-E-TA BONE GRITS**

No. 1—Chicks No. 3—Turkeys  
No. 2—Fowl No. 4—Mash  
Only \$3.50 per 100 lb. Sack  
Oyster Shells, other bone, grit and charcoal not necessary when feeding "HEN-E-TA."  
Use of beef scraps optional.  
Will Make Hens Lay More Eggs  
**WILL MAKE CHICKS GROW**  
Valuable formulae Free for your Dealers Name.  
**HEN-E-TA BONE CO.,**  
Dept. 4, Newark, N. J.

**FREE**

**BROWN'S BARGAIN FENCE BOOK**

**JUST OUT—My New "direct from factory" Bargain Book on Fence and Gates. Prices way below competition. Values bigger than ever. Get it today.**

**I Pay ALL Freight**  
Brown Fence lasts longest because built strongest, stiffest. All wires same size, heavily galvanized. 150 styles. Also Gates, Lawn Fence and Barb Wire at bargain prices.  
Sample and book free, postpaid.  
**Brown Fence & Wire Co., Dept. 257 Cleveland, O.**

### Sprouted Oats—One of Nature's Greatest Poultry Feeds (Continued from Page 15)

er is one bushel dry oats to every hundred hens.

When fed dry the hens get starch. The hen's body—the animal body—has but one great use for starch, which is to convert it into fat or consume it for heat. The animal digestive tract is limited in the number of elements it can create. Here is where the grain sprouter comes in. It gets the vegetable kingdom busy and converts that starch into grape sugar, glucose, and the "vegetable milk" which contains a number of essential elements which plants alone can create. The hen's anatomy could not change starch into eggs, but the sprouts transformed the starch into the various elements which the hen needed and could use for egg production. These chemical elements in the growing oat plant pass into the hen's digestive tract while in their nascent state or state of transformation which makes them extremely easily assimilated, thus giving the hen a partly predigested food. In other words, she takes advantage of the food which the little plant has digested for its own use.

"Pigs is pigs," and with many people "sprouted oats is sprouted oats." But there is lots of difference. An oat sprout may be as crisp as an asparagus plant that springs up during the night, or it may be grown slowly in the open air and be as tough as

### BARRED PLYMOUTH ROCKS—DARK

I will sell you the best bird for the least money you ever bought. Will ship on approval if you will pay charges one way and if not satisfactory in every respect return them and your money will be cheerfully returned. JNO. R. PATTERSON, 104 4th St., Boone, Iowa.

wiregrass. The value of the sprout depends on its palatability and digestibility, which in turn depend upon its crispness and succulency. A sprout quickly grown is worth more than one that grows slowly. Also when grown in a moist chamber, it is more value when grown in the open air. The best plants, those of the very highest food value, are growth in a chamber in which the air is constantly saturated with warm vapor. In other words, the well made commercial grain sprouter produces sprouts of the highest food value. This does not mean that to get a good grade of oats you must buy a grain sprouter. It does mean that to get the highest grade, you must have a perfectly made sprouting machine. The writer of this article sprouted oats and of pretty good quality before he ever heard of a grain sprouter or thought of one. But I would not do it that way again.

Do oat sprouts contain more food than dry oats? Let us see. A grain of puffed wheat is two or three times as large as the original kernel but contains not an iota more food than before it was shot out of Prof. Anderson's gun. A dried apple well soaked in water is considerably increased in size but not in the amount of food it contains. But it is a different case with the oat kernel and

the plant it makes. When the sprout is two inches or less high, it has exhausted all the starch in the oat hull but it goes on growing if given plenty of water till it has attained a height of eight to twelve inches, this growth being made principally on water and air,—oxygen, hydrogen, nitrogen, carbonic anhydride, etc. Young plants like young animals are by nature given their food from easily accessible sources till they can "stand alone" or "strike out" for themselves. The water and the air are the "mother" of plants. But when the plant must throw off its babyhood and get ready for reproduction, when it must make the woody stem and produce again starch, it must then have the earth salts and good old Iowa soil then has its use. But all the additional growth made after the exhaustion of the starchy kernel is that much gain in food. There is also a gain in the quantity of food even before the starch has incorporated with the starch of the various elements of water and air in making the chemical compounds which constitute the elements of the plant. Hence whether measured by weight, bulk, or the number of molecules of matter, we have more feed or food in an oat sprout than there was in the original oat kernel.

## REGAL DORCAS WHITE WYANDOTTES

754 EGGS FROM 18 PULLETS IN 59 DAYS.

Gladstone, N. J.,  
January 23, 1919.

"It gives me great pleasure to inform you that in the months of January and February, 1918, eighteen Dorcas pullets layed 754 eggs, an average of almost 42 eggs per bird. The Regals certainly cannot be beaten as layers."

I remain,  
Yours truly,  
Edgar H. Quinby.

**Think of It!** At \$1.00 per dozen, the eggs from these eighteen pullets were worth nearly \$63.00

This is the kind of record you are interested in—a back-yard flock, ordinary care, and feeding, and is a record you can duplicate. Do you remember the winter of 1918, with zero weather for weeks at a stretch? This was the weather that tried out the staying qualities of the different breeds. From my own records, official and otherwise, Regal Dorcas females, during this exceptionally cold winter, made practically the splendid records they always do, showing that they have the stamina to withstand trying climatic changes. In the American laying contest, for the month of May, ten of my pullets layed 286 eggs, a wonderful record, proving that the Regals are all-year-round layers. For years the Regals have been bred for heavy egg production and vigor, and it is generally conceded that no strain has a better record for usefulness. Upon my show records and the splendid utility qualities of my birds, I base my claim that:

### REGAL WHITE WYANDOTTES ARE THE BEST IN THE WORLD

If you are not getting good results in fertility and egg production, if your birds are not winning as you would like, why not make a fresh start by getting a foundation pen of Regal Dorcas White Wyandottes?

**My Customers Are Winning and I Have the Records To Prove It**

### REGAL WHITE WYANDOTTE BOOK

I have just received from the printers, another edition of my book on White Wyandottes. It contains 72 pages, and is, without a doubt, the most complete book that has ever been published, dealing wholly with White Wyandottes. It is full of illustrations from life, and its pages deal with a variety of subjects, including chapters on origin, description, feeding, care of breeding stock, fertility, color characteristics, washing and fitting for exhibition, poultry diseases, etc.

Send one dime for the REGAL WHITE WYANDOTTE BOOK. The information it contains will be worth dollars to you.

FREE.—My twenty-page catalogue and mating list is free, if you will send me your name.

**JOHN S. MARTIN,**

**Box 408**

**PORT DOVER, CANADA**

### 5000 Cocks, Cockerels, Hens and Pullets For Sale

SPECIAL—Two hundred exhibition cockerels and five hundred beautiful pullets ready now to win the Blue Ribbons for you. Five hundred well-matured cockerels from my heavy-laying Dorcas line at \$8.00, \$10.00, \$15.00, \$20.00 and \$25.00. Dorcas pullets \$6.00, \$8.00 and \$10.00 each.



STANDARD BRED POULTRY

(Continued from Page 2)

quence it does not give the same appearance of massiveness. The tail in both sexes is carried high, the curve of neck, back, and tail forming a U shape. The end of the tail is carried on a level with the head of the fowl. While the Langshan is abundantly feathered, it is also more closely feathered than either the Brahma or the Cochin. The length of leg, neck, and tail of this fowl gives it a great reach, which makes its shape very characteristic among the standard breeds. The comb is single and of medium size. The hens of this breed lay brown-shelled eggs.

The feathering of the body extends down the outer side of the shanks and along the outertoed, the other toes being free from feathers. The shank and toe feathering is somewhat less abundant than in the Brahma and considerably less so than in the Cochin. The shanks and skin is white.

The standard weight of cocks is 9 1/2 pounds, hens 7 1/2 pounds, cockerels 8 pounds, pullets 6 1/2 pounds. It will be seen, therefore, that this breed is considerably lighter than either the Brahma or Cochin, being almost identical with the Plymouth Rock in the standard weight.

**Black Langshan.** — The Black Langshan should be black throughout in both sexes, showing no foreign color of any kind. The black on the surface should show a greenish sheen free from purple. The shanks and toes of this variety are black and the bottoms of the feet are pinkish white.

**White Langshan.** — The White Langshan should be pure white throughout in both sexes, with no evidence of any foreign color. The surface color should be free from any indication of brassiness and there should be no evidence of creaminess in the surface or in the undercolor. Brassiness is more likely to appear in the male than in the female. The shanks and toes are slaty or blue in color.

E. J. HORNER

Mr. E. J. Horner, Quincy, Ill., called at our office recently and advises that he has had wonderfully good trade for his Rhode Island Reds. He has a few cockerels left on all of which he will make bargain prices. They are well marked birds from prize winners. He has his pens mated up for the coming season and is already booking orders for eggs for spring delivery. His pens look better than ever before and he is expecting some wonderful results from this year's mating. His mating list will be sent free to any subscriber who is interested.

THE BIG IOWA SHOW

The 25th annual poultry show is to be held at Cedar Rapids, January 20-24. It is to be a great exhibition



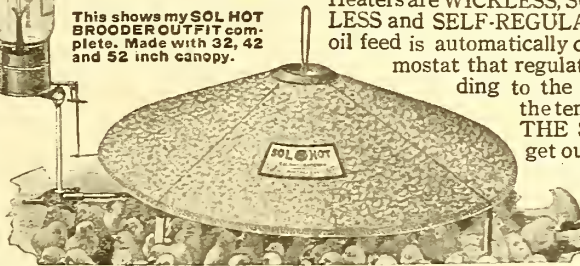
Heaters for Brooders, Incubators and Colony Brooder Stoves

The 20th Century Method of Hatching and Rearing Chicks

Throw away your old dangerous wick lamp heaters and get a SOL HOT Heater for your incubator and brooder.



This shows my SOL HOT BROODER OUTFIT complete. Made with 32, 42 and 52 inch canopy.

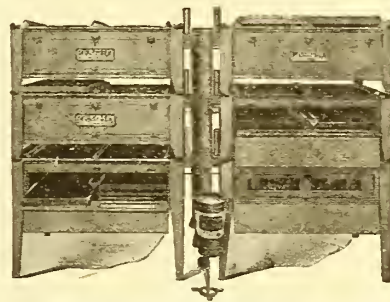


Get away from the old fashioned, troublesome, expensive and annoying un-dependable wick lamps—SOL HOT Heaters are as far ahead of wick lamps as the automobile is ahead of the old fashioned ox-cart. Sol Hot Heaters are WICKLESS, SOOTLESS, SMOKELESS and SELF-REGULATING. The visible oil feed is automatically controlled by a thermostat that regulates the flame according to the weather and keeps the temperature ALWAYS THE SAME. Nothing to get out of order—nothing requires constant attention.

Sol Hot Heaters Cheaper and Better

Sol Hot Heaters, because of their dependability—because of the saving of time, labor and losses, soon pay for themselves in the saving affected—that's why they are cheapest in the end.

Sol Hot Heaters are made to fit any style of incubator; the illustration at the right shows convenient bracket for attaching. Also furnished complete as a colony brooder as shown above. Giant Sol Hot Heaters are made especially for Colony Brooder Stoves.

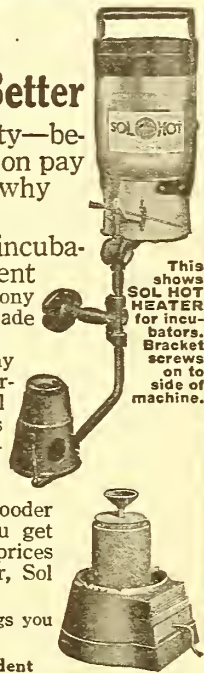


Ask about my plans for building this famous Multidek Incubator. Plans and mechanical parts furnished for building sectional Multidek of any capacity.

Write today for my big illustrated folder-catalog which tells all about Sol Hot Heaters for incubators, brooders and colony brooder stoves. Don't buy any incubator or brooder equipment until you get the facts and low prices of the better, safer, Sol Hot Heaters.

A letter or postal brings you catalog postpaid.

H. M. SHEER, President  
H. M. SHEER CO.  
Dept. 14, Quincy, Ill.



This shows SOL HOT HEATER for incubators. Bracket screws on to side of machine.

Showing Giant Sol-Hot Heater in base of colony brooder stove with upper part of stove removed.

of poultry, rabbits and pet stock. One of the best that has been held in the many years of experience by the oldest organization in Iowa. The show will be cooped in the American Auditorium with ample room for a larger show than usual. Send for a premium list which is now ready. If you breed poultry, rabbits or pet stock, you will want to exhibit at Cedar Rapids the big Iowa show. H. J. Whitfield, Secretary.



60 BEST PAYING VARIETIES  
Hardy Northern raised Chickens, Ducks, Geese, Turkeys, Pure-bred heavy laying strains, Fowls, Eggs & Incuators all at low prices. 24 years experience. Large new Poultry Book & Guide FREE.  
W. A. Weber, Box 82 Mankato, Minn.

75 SINGLE COMB R. I. Red Cockerels

March and April hatched. Show birds and choice breeders, \$5.00, \$7.50 and \$10.00 each. All stock shipped on approval.

K. I. MILLER,

Box K,

Lancaster, Mo.

**THE SMALL POULTRY SHOW**

The number of small poultry shows that are being held this fall proves that there is a post-war condition of live interest in breeding and exhibiting purebred birds. The breeder of poultry who aims at success with his birds can well afford to take advantage of these shows for, aside from the prospect of winning a blue ribbon, there is much of practical value to be learned from associating with the breeders, says O. W. Hervey of the University of Missouri College of Agriculture.

Briefly speaking, the purposes of the small poultry show are to stimulate a greater interest in the breeding of pure bred birds in the community; to enable the breeder to ascertain his best individuals and learn how he may best improve his strain, and to give him an opportunity to advertise his stock, and possibly take orders for future sales.

The responsibility for the success of the show should rest upon the superintendent. He should appoint a live-wire secretary. The secretary should send out premium lists about two weeks before the show and collect the entry fees which may conveniently be one dollar per entry. The superintendent should receive the birds as they come in and see that they are properly fed and watered and are unmolested during

# Get Eggs All Winter

You want more and more eggs to sell at these war-time prices. Speed up the laying. Dr. Hess Poultry Pan-a-ce-a will put your hens and pullets in top-notch laying condition. It contains ingredients which act on the dormant egg organs—livens them up and makes them active. Feed Pan-a-ce-a regularly to make hens healthy—to aid the digestion—to keep them singing and cackling and give them the laying disposition. Buy Pan-a-ce-a according to the size of your flock—a penny's worth for each hen to start with. The dealer will refund your money if it does not do what we claim.





30c, 75c and \$1.50 packages. 25-lb. pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

**Dr. HESS & CLARK**  
Ashland, Ohio


# DR-HESS POULTRY PAN-A-CE-A

## Potter Redybilt Poultry Houses

### Don't Build



You can buy the famous Potter Portable Houses, Coops and Roosting and Nesting Equipment cheaper than you can build. Easy to set up and take down. Complete Henneries (roosts, nests, etc.) \$3 up. Used over 10 years by thousands of successful poultry keepers. Makes it easy to start right. Get the best and save money. Send 4c stamps for 100-page book.



35 Hen Complete Potter Outfit \$6.60

**POTTER & CO., 16 Forest Ave., Downers Grove, Ill.**

the entire exhibition period. Every exhibition coop should be suitably tagged with the class and entry number designated.

Judging should always be done on the first day of the show by a competent judge, one who thoroughly understands the fancy points of the birds and who is willing to dispense information on utility points at the same time. The cost of the judging may be defrayed from the entry fees.

The small shows are often not uniform in the classes contested. For instance, some shows will offer ribbons for the best female and best male in each variety. In this way pullets often compete against hens and cockerels against cock birds, a practice that is not consistent either with good judgment or the methods employed in the larger shows. One of the best small shows of the season was that held at Clarence, Mo. The premium list might serve as a model for other community shows. First, second and third ribbons were awarded for the following in each variety entered: Best cockerel, best pullet, best cock bird, best hen and best pen, the pen consisting of a male and four females. Sweep-stake ribbons were awarded for the best cockerel in the entire show, best pullet, best hen and best cock. Sometimes local merchants will offer special prizes as, for instance, the best display of Barred Rocks in the show.

## Lice-Proof Nests

WRITE QUICK for Catalog and SPECIAL OFFER  
Nests won't cost you 1c  
Your hens will pay for them to More Eggs



Get 20 to 60% more Eggs, have healthier hens, make more money, with the Everlasting Sanitary

### KNUDSON

Galvanized Steel Lice Proof Nests. Costs less than wood. Unlimited guarantee. Send name today for Special Offer and interesting literature. 40,000 in use.

**SEAMAN-SCHUSKE METAL WORKS COMPANY**  
Box 162 Manufacturers St. Joseph, Mo.

# Rheumatism

## A Home Cure Given by One Who Had It

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case. I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but, understand, I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay. Write today.

Mark H. Jackson, No. 694 F. Gurney Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true.—Pub.

## Don't Feed Green Food!

Do away with the bother by using

# Succulenta Tablets

They are better, cheaper and more relished by all fowl. Simply dissolve one tablet in one quart of drinking water. Succulenta Tablets are not a drug nor a remedy, but a food—wholesome and harmless. They make chicks grow.

**A FULL EGG BASKET IS ASSURED**

|                                   |             |
|-----------------------------------|-------------|
| 100 large tablets by mail, \$0.50 | Your Money  |
| 250 " " " " " " " " " "           | Back If Not |
| 500 " " " " " " " " " "           | Satisfied   |
| 1000 " " " " " " " " " "          |             |

Write for particulars, giving your feed dealer's name.

**SUCCULENTA CO., Dept. 4 NEWARK, N. J.**

## American Poultry Almanac

Our 1920 catalog, FREE. How we breed the 300-egg hen. Scientific facts plainly told. Each month's routine. Feeding for winter eggs. How We Win Medals at Egg-Laying Contests.

**HOPEWELL FARMS,**  
Box L, Hopewell, N. J.

## PROFITABLE POULTRY

### 62 BREEDS

Pure-Bred Chickens, Geese, Ducks, Turkeys. Fine Northern raised, hardy and vigorous. Fowls, Eggs, Incubators at Low Prices. Pioneer Poultry Farm. Valuable New Poultry Book and Catalog FREE.

**F. A. NEUBERT, Box 374 MANKATO, MINN.**

## BEES PAY.

Easy, interesting work, with honey for home use. Send 50c today for 24 page Bee Primer and six months subscription to the American Bee Journal. Catalogs of supplies sent free.

**AMERICAN BEE JOURNAL,**  
Box 37, Hamilton, Illinois.

**MISSOURI POULTRY CULLING CAMPAIGN OPENS**

The 1919 Poultry Culling Campaign was launched July first in Clark county by W. A. Hook, county agent. This campaign will be carried on during July, August, September and October in practically every county in the state. The purpose of the campaign is to get rid of the unprofitable hens in each poultry flock. Approximately forty per cent of the hens in an average farm flock will not lay enough eggs to pay for their feed.

In the culling campaign conducted last fall in forty-four Missouri counties, 280,000 low-producing hens were reported sold and an estimated saving of \$177,800 worth of feed resulted.

The aim of the campaign this year is to bring the information on how to pick out the poor layer within the reach of every poultry keeper. In farm bureau counties the county agents and home demonstration agents will give culling demonstrations in each community. In counties not having farm bureaus the Agricultural Extension Service of the University of Missouri College of Agriculture will cooperate with the county poultry associations or other groups of poultry keepers in training local leaders to give demonstrations throughout the county. Any person desiring information on culling should communicate with his county agent or home demonstration agent or write to T. S. Townsley, Poultry Specialist, Missouri College of Agriculture, Columbia.

**SOME WHITE ROCKS**

Mr. Henry Adair, Clayton, Illinois, is advertising some White Rock cockerels in this issue of Poultry Keeper. He has a large flock made up to Fishel and Sheridan strains which he has secured direct from these noted breeders. Mr. Adair is making very attractive prices on these birds and if you are in need of some good breeding stock of White Rocks, we suggest that you write him at the above address mentioning Poultry Keeper.

**BROWN LEGHORNS**

W. W. Kulp, Box 30, Pottstown, Pa., has just sent us a yearly contract for his Rose Comb Leghorns. Mr. Kulp has used Poultry Keeper for many years and we have had much favorable comment from our subscribers in regard to him. You will find his ad under proper heading in our classified columns.

**THE CHICK BOOK**

Guide to success in rearing chicks. Experienced poultry raisers furnish information on all problems connected with the breeding, rearing, developing and fattening of chicks. Article and chart on line breeding. The day-old chick business, etc. 80 pages, 3x12, illustrated. Price, 50c. Address Poultry Keeper, Quincy, Ill.

**140-Egg Size**  
I Ship Quick from Buffalo, Minneapolis, Kansas City or Racine

**Jim Rohan Pres**

## Poultry Raisers

You Can Make

### Big Money with a Belle City

Because it's a time and labor saver—low in cost—economical—convenient—with a record for fifteen years of unfailing service as a wonderful hatching and brooding outfit.

Get into this profit-paying business now. It's money for you right from the start. Write today for Free catalog "Hatching Facts." It tells how easy it is to make big profits with my

\$

12<sup>95</sup>

=

Belle City

Incubator

The Prize-Winning Hatcher with Fibre Board Double Walled construction—Self-regulator, Thermometer and Holder, Copper Tank, Safety Lamp, Deep Nursery, Egg Tester, etc. When ordered with my \$7.55 Hot Water, Double-Walled 140-Chick Brooder—guaranteed to raise the chicks—only **\$18.50** making a complete hatching outfit—both only

**Freight Prepaid East of Rockies Towards Express**

and allowed to points beyond. Used by over 815,000 successful poultry raisers. With this Guaranteed Hatching Outfit your success is assured. Save time—Order now—Share in my \$1,000 in prizes—or write today for my big, Free catalog—"Hatching Facts," and get all the particulars. Jim Rohan, Pres.

**Belle City Incubator Co.**  
Box 145 Racine, Wis.

## Give Your Hens The "EGG A DAY" Habit

Your hens' egg making machinery demands protein to produce eggs in the winter time. And the best way to supply this necessary protein is to feed them DARLING'S MEAT SCRAPS. Be sure to insist on DARLING'S if you want results, because

**DARLING'S MEAT SCRAPS**  
are Clean, Dry and Wholesome (1)

No refuse or foreign matter goes into DARLING'S MEAT SCRAPS. They're made from clean trimmings of fresh meat—cooked under high temperature—all excess grease and water pressed out—and then dried and ground up to make a clean concentrate of fresh meat, that is hygienically right, with 50% protein guaranteed, and nothing to turn rancid or harm your fowls. These are some of the reasons why you will guard the health of your entire flock if you use DARLING'S.

**FREE** Our valuable poultry book that tells why Famous Poultrymen use DARLING'S MEAT SCRAPS and how they use them to get best results, will be sent free and postpaid to you. A post card brings it free by return mail.

**Darling & Company, DEPT. 20, U. S. YARDS Chicago**

**BABY CHICKS—BABY CHICKS**

700,000 for March, April, May and June delivery, via prepaid parcel post. Safe delivery guaranteed. Barred, White, Buff Plymouth Rocks, White, Silver Laced and Golden Wyandottes, S. C. White and Buff Orpingtons, S. C. Black Minorcas, Rose and Single Comb R. I. Reds, W. F. Black Spanish, S. C. M. Anconas, Black Langshans, Light Brahmas, Buff, White and Brown Leghorns.

We have shipped BABY CHICKS the last three years to 44 STATES without any appreciable loss. 32 Page Catalog free.

**MILLER POULTRY FARM & HATCHERIES,**  
Box K, Lancaster, Mo.

# POULTRY KEEPER

520 Hampshire Street,  
Quincy, Illinois.

Issued the First of Each Month.  
A Journal for Everyone Interested in  
Making Poultry Pay.

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Quincy, Ill., delivery, 75c; R. F. D., 50c.  
Canadian subscription 75c, a year.

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Advertising rates made known on application.

Poultry Keepers readers are cordially invited to express their opinions on any subject of poultry that will be of interest to our readers, give helpful talks to the inexperienced and ask questions in any department.

A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## JUST A MOMENT FOR YOUR SERIOUS CONSIDERATION

When you contemplate exhibiting at a poultry show this season, whether it be chickens, ducks, geese, turkeys, pigeons, rabbits, covies, poultry supplies, feeds, etc., there are several things of utmost importance you should consider.

There is just one Madison Square Garden, just as there is only one New York City in all the world. We make no idle claim therefore when we nominate Madison Square Garden as the "World's Leading Show."

Madison Square Garden is located in the largest, richest and all around greatest buying center of the world. In population, wealth, industries represented, manufacturers, shipping and a score of other important features, the metropolitan district of Greater New York surpasses the metropolitan district of any other community. It is logical to conclude therefore that on any one day more purchasing power is represented by visitors during the Madison Square Garden Poultry Show, than the entire five or six day number of visitors that attend any other poultry show in the world. This is one of the big features you should consider when picking your shows for this season.

Modesty forbids our making the statement as one of our own claims, but numerous exhibitors tell us every year that as a help to them in selling high class stock and eggs they find it means more to them to win even a fifth place at any other show in the country. Many of the wisest and most experienced fancy-breeders of the United States show at the Garden year after year, and others can make no mistake to be guided by the experience of these representative exhibitors. Madison Square Garden marked catalogues

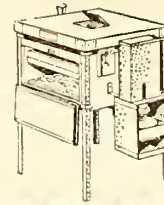
are kept on file for years, so that even having entries listed without winning a place leads to sales of stock and eggs. A marked copy of the Garden catalogue is a directory of the elite of the poultry world. If you doubt this "ask the man who shows at the Garden."

## WAY TO USE AN INCUBATOR

To get good results with an incubator, it should be placed in a room where the temperature does not fluctuate much. A cellar, if warm and well ventilated, makes a good place for an incubator. If a cellar is not available, any room free from drafts, where the floor is not subject to undue vibration, and where the machine can stand quite level, will be suitable for artificial incubation.

Eggs should not be placed in an incubator until it has been run for at least twenty-four hours at a temperature of 100 or 102 degrees. Avoid eggs of various size. The more uniform the size and age of the eggs the better the hatch is likely to be. Eggs that are only a few days old will begin to hatch on the nineteenth or twentieth day; whereas, eggs that are a few weeks old may take from twenty-three to twenty-five days to hatch. It is quite important, therefore, to know the age of the eggs that are being artificially incubated in order not to destroy the success of a hatch.

In placing the eggs on the drawer it is regarded as good practice to have the small end toward the middle. After the eggs are put in, the drawer should not be opened for about forty-eight hours. The opera-



## 103 DEGREE INCUBATOR

### The Hen's Only Rival

Makes an incubator cellar of any room in your house—room temperature can vary 40 or 50. Holds up in freezing weather. No roasted eggs in hot weather. Hatches big, strong, healthy chicks, that live. Tilting Chimney Heat Control—No cold spots—no hot spots, heat regulated before—not after it enters the boiler—a guaranteed even steady heat throughout the hatch—with one regulation. Four sizes. You'll be convinced—and more. You'll buy one—we welcome inquiry for complete details.

**103 Degree Incubator Company**  
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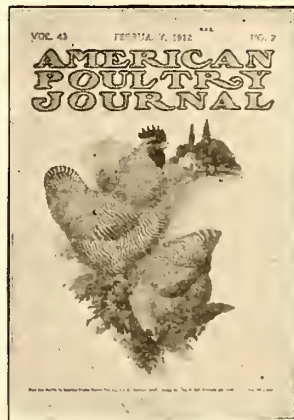
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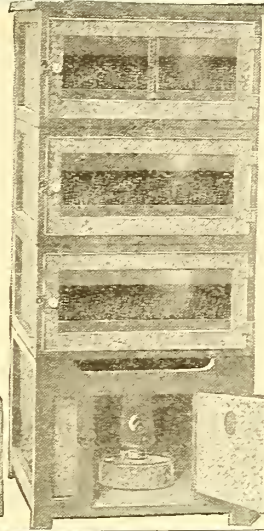
Just what's needed in fall and winter to keep hens laying and needed again in the spring to make chicks grow into lively profit-producing birds. Write at once for complete 1920 offer. Sold on trial and pays for itself before trial runs out.

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And Start Your Plants  
the Easiest  
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Way with this  
Des Moines  
Grain  
Sprouter**



tor, especially if he has not had much experience, will make no mistake to follow the instructions of the manufacturer. These instructions are not guess-work; they are the result of careful, conscientious effort to determine the best way of running an incubator successfully.

After the first forty-eight hours the eggs should be aired daily, or even twice a day. The question of the amount of airing is one of vital importance for a successful hatch. A good plan is to open the drawer morning and evening every day until the eggs begin to chip, and turn every egg gently while it is exposed to the fresh air. The time of airing may vary from a minute or two on the third and fourth days to about five or six minutes at the end of the first week. From the end of the eighteenth day the eggs will stand from ten to fifteen minutes' airing every day.

When the eggs begin to chip the egg drawer should not be opened more than once every twenty-four hours. With hot-air types of machines, in which the nursery is below the hatching tray, the chicks need not be removed until all are hatched and thoroughly dried off. In such a case the chicks may also be kept in the incubator for thirty-six to forty-eight hours after they are hatched. The brooder should be ready for the chicks some hours before they hatch. The inner or brooder chamber should be kept at a temperature of not less than 90 degrees Fahrenheit for the first three days, after which time, especially if the chicks are strong and vigorous, there may be a gradual reduction in the temperature.

Chicks hatched in the spring grow

## Single Comb White Leghorns

Won 1st cock, 1st old pen 5th hen, 2nd and 3rd cockerel, 1st pullet at Macomb show. Ferris Strain. Eggs from pen headed 1st cock at Macomb \$3.00 per 15. Range flock, \$1.25 per 15; \$7.00 per 100. Range flock headed by 2nd and 3rd cockerel at Macomb and two others equally as good.

W. H. SNOWMAN,

R. 2,

Industry, Illinois.

faster than those hatched later, due in no small degree to the size of the yolk which nourished the embryo. If the early spring weather is unduly severe or wet, the chicks should be given special care for the first three weeks. But, as stated before, after the first few days the inner part of the brooder should not be kept too warm.

A few remarks on the testing of eggs. Where eggs are being artificially incubated, they should be tested in a dark room about the seventh day. With small incubators holding from fifty to 100 eggs, the eggs may all be tested at one time. But with larger incubators it is advisable to make two testings on consecutive days in order not to chill the eggs unduly by keeping the drawer open too long. Infertile eggs should, of course, be removed; while eggs whose fertility is doubtful or the germ seems weak should be especially marked for future examination. In the case where eggs have been shipped some distance or have been kept several weeks before being put in the incubator, they should be retested about the fourteenth day. But a second testing is hardly necessary when the eggs are about the same degree of freshness and are not more than a week old when put in the incubator.

## It Pays \$10 for \$1

It will pay you to use "OCULUM," a harmless germicide which has proven a success in every state for 15 years. It makes fowls and animals grow BIG without extra feed. It increases (sometimes doubles) milk and eggs. It is made in two strengths, "OCULUM" for fowls, "OCULUM" OIL for animals. Fed in the feed, it practically immunizes from disease.

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THE "OCULUM" CO.,

Box S,

Salem, Va.

This Journal O. K.'s us.

**FEEDING HENS FOR EGG PRODUCTION**

(Continued from Page 8)

The protein content of a feed is one of the most important factors in determining its value. The ash content also should be taken into consideration, but most poultry rations contain a sufficient quantity of this material. Crude fiber is not readily digested by fowls, so that a large percentage of fiber is detrimental to a poultry feed. As shown in Table 1, meat, fish, and milk products furnish animal protein.

**Egg-Laying Rations**

All the following rations have been used with good results at the Government experimental farm at Beltsville, Md., but the reader, in making his selection, should choose the ration best adapted to local conditions and prices. Feeds not included in these rations may be added or substituted on the basis of their comparative analysis, provided the meat scrap or animal-protein feeds are not replaced by cottonseed meal or other high-vegetable-protein feeds. All changes in the feed should be made gradually, as sudden changes may decrease egg production materially.

**Ration No. 1  
MASH.**

- 16 pounds corn meal.
  - 6 1/2 pounds meat scrap.
  - 1 pound bran.
  - 1 pound middlings.
- SCRATCH MIXTURE.**
- 1 pound cracked corn.
  - 1 pound wheat.
  - 1 pound oats.

**Ration No. 2  
MASH.**

- 2 pounds corn meal or barley meal.
  - 1 pound bran.
  - 1 pound middlings.
  - 1 pound meat or fish scrap.
- SCRATCH MIXTURE.**
- 2 pounds cracked corn.
  - 1 pound oats.
  - 1 pound wheat or barley.

**Ration No. 3  
MASH.**

- 3 pounds corn meal.
  - 1 pound meat scrap.
- SCRATCH MIXTURE.**
- 2 pounds cracked corn.
  - 1 pound oats.

**FREE--One Setting Pure Bred Eggs**

To each customer. Send four cents for catalog. All leading varieties, low prices our motto. Buy the best poultry and double your profits.

**BLUE RIBBON POULTRY FARM, Altoona, Iowa.**



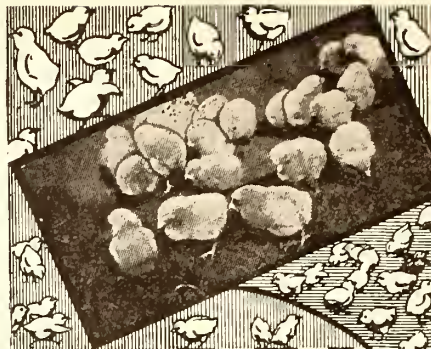
**THE "BEST YET" Aluminum Leg Bands**  
Cannot come off. Five sizes, pigeon to turkey; State breed, 12-15c; 25-25c; 50-40c; 100-75c.



**COLORED LEG BANDS**  
Red, Green, Amber, Pink, Black, White, Yellow, Light Blue, Dark Blue; Pigeon and Baby Chick sizes, 12-10c; 25-20c; 50-35c; 100-60c. Poultry sizes, 12-20c; 25-35c; 50-60c; 100-\$1.00. Circular free.

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**The Profit Way Means Bigger Hatches**  
Poultry raising profits are not made by what you pay for an incubator. It's what the incubator does, what it costs to operate, how much time it takes. The X-Ray, famous the world over for big hatches, economical operation, simplicity, is built for a lifetime of service. It's the incubator for beginners or experts, with 20 new and important features such as X-Ray Radiator Heater---X-Ray Vapor Generator---X-Ray Gas Arrestor---X-Ray Big Capacity Oil Tank---X-Ray Automatic Regulator---X-Ray Quick Cooling Tray---X-Ray Hinged Glass Top---X-Ray Improved Chick Tray, etc.---features not found on others that have earned for the X-Ray the reputation of the World's Best Hatcher.

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**Millions of Chicks To Supply the Demand**  
Poultry raising today is an industry that means success, big profits, interesting, easy occupation to men, women, boys and girls, especially to those who do their own hatching and get strong, healthy chicks. The demand far exceeds the supply. That's why prices are high.

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Lay your plans to hatch and raise your own chicks. Plan to start right with the right incubator. That means the X-Ray which has the distinction of being the most modern, easiest and cheapest operating, biggest and best hatching incubator made, with twenty big hatching features not found on any other incubator.

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- Ration No. 4.  
MASH.**
- 9 pounds corn meal.
  - 5 pounds middlings.
  - 4 pounds bran.
  - 2 pounds cottonseed or gluten meal.
  - 2 pounds meat scrap.
  - 2 per cent bone meal.

- SCRATCH MIXTURE.**
- 2 pounds cracked corn.
  - 1 pound wheat.
  - 1 pound oats.
  - 1 pound barley.

- Ration No. 5  
MASH.**
- 1 pound corn meal.
  - 1 pound bran.
  - 3/4 pound meat scrap.
  - 1 pound middlings.
  - 1 pound ground oats.
- SCRATCH MIXTURE.**
- 2 pounds cracked corn.
  - 1 pound wheat.
  - 1 pound oats.
  - 1 pound barley.

- Ration No. 6.  
MASH**
- 3 pounds corn meal.
  - 1 pound bran.
  - 1 pound middlings.
  - 1/2 pound meat scrap.

- SCRATCH MIXTURE**
- 2 pounds cracked corn.
  - 1 pound wheat.
  - 1 pound oats.
- Feed with table scraps or cooked vegetables.

Ration No 5 is especially adapted for yearling or old hens of breeds inclined to get too fat, such as the Plymouth Rock, Orpington, and

**STEVENS**  
**Evergreen Oat Sprouter**

All Metal--Lampless. Pans can be removed to empty or refill separately, set up in two minutes time. No bolts or screws. Reasonable in price. Guaranteed to please. If not at your dealers, send direct. Circular Free. Dealers wanted.

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(Not an experiment.)  
Practical Poultrymen use  
**Lambert's "Death to Lice"**  
because they know it to be the BEST. It will rid your flocks of vermin quickly and effectively without injurious results to the birds. Especially invaluable for sitting hens. 100 oz., \$1.00; 48 oz., 50c; 15 oz., 25c. Large trial can with booklet by D. J. Lambert, 10c. The Klein-Lambert Co., Mfrs., Traders Bldg., Chicago

**ROOST**  
No lice, no mites, all hollow roosts with oil or dip. Write **ALLION PERCH CO.,** Willis, Mich.

Wyandotte. As corn meal, fed with the meat scrap, is very fattening, those two feeds are cut down in the ration.

With ration No. 6 feed all table scraps available, or vegetables at the rate of 5 pounds daily to 30 hens.

Five per cent of bone meal may be used in any of these mashes and the quantity of meat scrap reduced accordingly, or 2 per cent of bone meal may be added without changing the mashes.

(Continued Next Month)

# Do You Know

# This Man ??



The above illustration will introduce Mr. H. M. Sheer, of Quincy, Ill., known to a great many of our readers as the inventor and manufacturer of many successful Incubator and Brooder supplies. Mr. Sheer was the pioneer in the "Build your Own Incubator" idea, and he perfected plans for building the famous Peerless and I X L Incubator and Brooder, furnishing the plans free to all who purchased the necessary fixtures and supplies which he manufactured.



This shows SOL HOT HEATER for incubators. Bracket screws on to side of machine.

He is also the inventor and manufacturer of the well known Acme Compound Wafer Regulators and Acme Lamps, said to be the most accurate and satisfactory equipment of its kind ever put on the market.

Recently he brought out another important improvement in heating devices for incubators and colony brooders which he calls the Sol Hot and which do away with the old kerosene lamps entirely. These latest inventions bid fair to revolutionize the method of heating incubators and brooders, because they have not only overcome the objectionable heating features, but also eliminate the ever present dangers of the oil lamps.

Mr. Sheer started this business 30 years ago. If you could visit his plant at Quincy, Ill., and meet him you would understand better the secret of his success. You would meet a man of pleasing personality—a man who could talk to you in a most interesting way about poultry raising. Its his hobby and he admits it—it has been his life study and it is because of conscientious endeavor to give to poultry raisers, equipment that would help to solve their poultry problems that is in a great measure responsible for his success.

A man's reputation at home is a pretty safe guide to follow as to his reliability, integrity and responsibility. An interview with various

business men and leading citizens of Quincy reveals the high regard and esteem in which H. M. Sheer is held by those who know him best. Many of them have known him since boyhood. They know his business policy—they know how he built his business up from a humble beginning to its present size by honest, fair and square dealing with his patrons and in giving them the most efficient, safe and satisfactory equipment on the market.

While it is not the purpose of this article to influence or prejudice our readers for or against any make of heater (and there are many good dependable ones on the market) we must admit that Mr. Sheer has in his Sol Hot Heater one that has many points of merit.

In the first place Sol Hot Heaters are wickless. They burn kerosene and produce a steady, intensely hot blue flame, without any escaping gas, smoke or odor. Another unique and very important feature of Sol Hot

Heaters is the self-regulating thermostat—a device that automatically regulates the flow of oil to correspond to weather conditions so that no matter how sudden the change of temperature, the heater keeps the incubator or brooder at the same temperature without any attention or adjustment by the owner.

In addition to manufacturing a complete line of heaters for all incubators and brooders of every description, Mr. Sheer has recently built and tested what he calls the Multidek Baby Mammoth Incubator—an incubator that is built in sections, each section having a capacity of 250 eggs. Additional sections can be added up to 3,000 egg capacity and operated with the same heating and regulating outfit.

Mr. Sheer is not building and selling the Multidek Incubator this year because the tremendous demand for heaters and brooders taxes to the limit the capacity of his large plant. He will, however, furnish complete working plans to anyone interested so that they can build them themselves and he will furnish the Sol Hot Heaters and all mechanical parts.

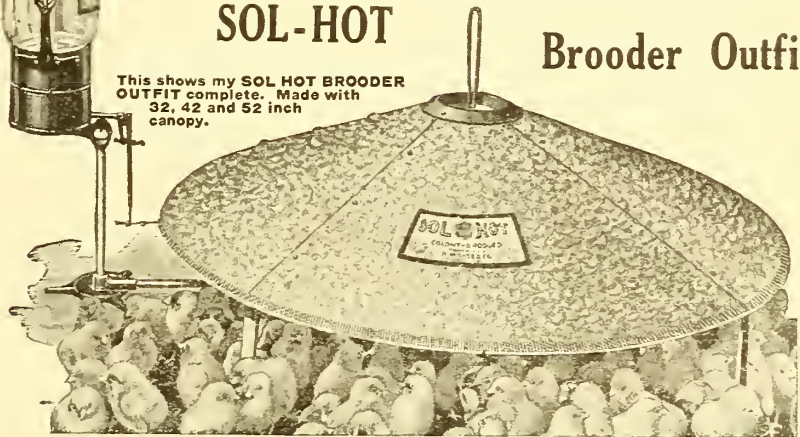
This, in brief, is the story of the success of a man who had an idea and the courage and foresight to back his idea with his knowledge, ability and labor, happy in the thought that while he was building up a business for himself he was also performing a valuable service to his fellow man. To such a man success rightfully belongs.



This shows my SOL HOT BROODER OUTFIT complete. Made with 32, 42 and 52 inch canopy.

## SOL-HOT

## Brooder Outfit



## "GOLDEN NUGGET" STRAIN, S. C. Buff Orpingtons

The great winter layers. Line bred, dependable breeders. Range raised with plenty of stamina, size and bone. Our winnings at two of Illinois best shows to date tells the quality.

AT ILLINOIS STATE FAIR SPRINGFIELD WE WIN

- Cock—Second.
- Hen—Third.
- Pullet—First and second.
- Old Pen—First.
- Young Pen—Second.

No cockerel shown, all birds under the ribbons with best display.

AT QUINCY (The Quality Show) WE WIN

- Cock—First and Second.
- Hen—Fourth.
- Pullet—First and second.
- Old Pen—First.
- Young Pen—Third.

A number of massive utility cockerels for sale at \$5 each. 25 select breeders the kind you want for your special pen matings from \$10.00 to \$25.00 according to quality. Always can fit you out with show specimens both in cockerels and pullets. Mated pens our specialty. No utility females for sale. Order from this ad. or write us your wants. Catalog and mating list for 1920 will soon be ready, it's yours for the asking.

J. LOGAN BAIRD,

La Moille, Illinois.

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**SINGLE COMB ANCONA PULLETS**. April hatched, \$2.50. June hatched, \$1.75. Year old hens, \$2.25. Satisfaction guaranteed. Joseph Hughes, Irving, Illinois.

**MY WINTER LAYING ANCONAS** cannot be beat. Stock and eggs in season. I guarantee satisfaction. Write, Geo. Hecker, Earlville, Iowa. 2-12

**SHEPPARD STRAIN R. C. Ancona cockerels**, March and April hatched. Some fine birds, cheap, if taken at once. Mrs. E. J. Crawford, Owatonna, Minn.

**MURRAY'S SNOWFLAKE ANCONAS**—Place your order for choice hatching eggs now. A. O. Murray, Mazon, Ill. 1-3

**SINGLE COMB ANCONAS**—Cockerels and pullets—prize winners and fine breeders. Prices right. Satisfaction guaranteed. Lon Miller, Martinsville, Ill.

**FINE ANCONA COCKERELS** from Chicago Champion Male, \$5-\$20 each. Both combs. Eggs. Northwestern Stock Farms, Cardington, Ohio. 1-4

**SINGLE COMB ANCONAS**, 331 egg strain. Chicks \$30 per 100, prepaid. Safe arrival guaranteed. Eggs \$15 per 100, prepaid—replace all clear eggs free. Strasburg Poultry Yards, Strasburg, Illinois.

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**QUALITY DARK and White Cornish** reasonable. Stamp for prices. B. W. Gringer, Eleroy, Illinois. 11-3

**DARK CORNISH OF QUALITY**. From Madison Square and Chicago winners. C. A. Buss, Shannon, Ill. 12-3

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**GOLDEN CAMPINES**—Cockerels Native home, La Campine Plain. For eggs and beauty, none better. Book your order for eggs now. E. E. Mott, Glenwood, Mich. 12-3

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**OGRENS' BLACK SPANISH**—America's best strain, Exposition winners. Surplus stock sold. Matching eggs, select matings. Ogren Poultry Ranch, New London, Minn. 1-3

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**DAY OLD CHICKS**—Barred, White and Buff Rocks, Reds, White Wyandottes, Buff Orpingtons, S. C. Black Minorcas, S. C. Anconas, White and Brown Leghorns, from pure-bred, large range, carefully selected utility stock. Prices reasonable. Send for circular. Modern Hatchery, Mt. Blanchard, Ohio. 1-4

**DAY OLD CHICKS**—Anconas, White and Brown Leghorns. Good stock. Guaranteed. Price list free. Borst & Book Hatchery, Zeeland, Mich.

## MODERN HATCHING METHODS

(Continued from Page 6)

tor is also the surest and it's altogether unseasonable. Most incubators are kerosene lamp, heated but these same incubators are readily heated with gas, or electricity. Large incubators are heated with coal and with gas and with kerosene. Special housing or incubator rooms are not necessary to most modern incubators, hence the chief expense is the cost of the incubator. The incubator holding as many eggs as ten hens will cover is not the care and labor that ten hens are. With incubator you control your hatching as you are able to start setting 100, 200 or 300 eggs January 1, if you want to. A lady customer writes that she has almost 300 chicks, all hatched since January 1 in a 70-egg incubator, and on January 1 she had neither incubator or hens. She bought all her eggs and her incubator. She figures chickens worth \$135.00. Her incubator eggs and oil cost her less than \$35. This can be done by any number of people but between you and me, don't get the idea that you can invest \$10,000 and make the same ratio of profit, because it don't pan out that way. There are more small farms than big ones, more small stores than big ones, and more small poultry raisers than big ones. It is not a question of whether the small one is better than a big one but strictly which is the most practical and which fits your situation best.—Everybodys Poultry Magazine.

## OLDEST BREEDER OF REDS

Mr. P. K. Sprague, Maywood, Ill., is one of the oldest if not the oldest breeder of Rhode Island Reds in the West. He has been breeding them for thirty-eight years. He devotes his entire time to the poultry business and his stock is the best that money, experience and careful breeding can produce. He has such confidence in his stock that he guarantees them and we feel sure that our readers will be interested in his ad. in this issue.

Mr. G. J. Gerber, President of the Chestnut Grove Fruit and Poultry Farm, Dalton, Ohio, is advertising some fine S. C. W. Leghorns in this issue. He is also booking orders for eggs and we advise you to place your order with him early if you want some of his prize winning stock. He has furnished sixty-eight winners in one season in a single state, which is pretty good proof of the high quality of his birds.

H. A. Smith, Washburn, Wisconsin, writes that he has a splendid lot of S. C. White Leghorn cockerels and cocks which he will sell at three dollars each if taken soon. These birds are of a heavy laying strain and we feel sure you will be well pleased in any dealings you may have with Mr. Smith.

## BREEDER'S CARDS

### SINGLE COMB WHITE LEGHORNS

**LARGE HUSKY COCKERELS** from superior layers. Bred from my Chicago and St. Louis winners, \$2.50, \$3.50 and \$5.50 each. Absolute guarantee. Shipped C. O. D., if desired. Box 190. G. J. Gerber, Dalton, Ohio. 12-4

**50 MARCH HATCHED S. C. W. Leghorn cockerels** from trap nested stock, \$3.00 each. Money back guarantee. T. F. Langabeer, 508 W. Oak St., Fairbury, Ill. 12-2

**SINGLE COMB WHITE LEGHORNS**—Breeders. Eggs. Baby Chicks. Order early. Satisfaction guaranteed. High Mitchell, Weldon, Ia. 11-12

**FOR BARGAINS** in Leghorns and reliable information on all varieties consult The Leghorn World, Dept. C, Waverly, Ia. Only 25c for year's subscription.

**PULLETS 25c EACH**. Nall's Favorite Single Comb White Leghorns. Prize winners in Kinsella egg laying contest. Baby chicks (all pullets), 25c each. Eggs, \$2.00 per 15; \$10.00 per 100. Mrs. E. E. Nall, Lewistown, Mo.

### BUFF LEGHORNS

**STAMINA—PROLIFICACY**—2½ oz. eggs. Trap-nested, pedigreed. "Business Beauty" Catalog. Send Stamp. Joseph Benedict, Chevy Chase, Maryland.

**SINGLE COMB BUFF Leghorn cockerels**. Also eggs for hatching. Karr's Buff Leghorn Farm, Lacygne, Kansas. 11-4

**EGGBRED BUFF LEGHORNS**, (Single Comb). Winners at best shows. Records to 224 eggs. Breeders, eggs, chicks, priced right. Leo Mungler, DeKalb, Ill.

**WINNERS LARGEST SHOWS**. 230-244 Egg strans. Sittings \$4.25 up. Catalogue. Hume's Buff Leghorns, Anadarko, Okla. 1-3

**SINGLE COMB BUFF LEGHORNS**—Healthy, free range stock. Solid Buff. Cockerels \$2.00 each. Eggs, \$1.50 per 15; \$7.00 per 100. Arthur Worthington, R. 3, Two Rivers, Wis.

### BROWN LEGHORNS

**SINGLE COMB BROWN LEGHORNS**—First cockerel Illinois Fair, 1918. Cocks, cockerels, \$3.00. Pullets, \$3.50. Trio, \$10.00. Pen, \$17. M. Edwards, Rockbridge, Ill. 11-3

**"YOUR ROSE COMB PULLETS** are wonderful layers." "I raised wonderful Single Comb hen, laid 210 eggs 36 months." Stock, Eggs. Catalog. W. W. Kulp, Box 30, Poststown, Pa. 1-12

**LOOK! LOOK!** Brown Leghorn Cockerels \$1.50 each. February hatch, from an heavy egg laying strain. Henry Simmel, R. No. 1, Pilot Point, Tex.

### LEGHORNS

**BLACK LEGHORNS**, utility females \$1 up; Cockerels \$2 up. White Muscovy drakes \$4.00; ducks \$3.00. Ralph Wilson, Bloomville, Ohio. 1-3

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**MILLER'S CRYSTAL WHITE ORPINGTONS**—We offer cocks, cockerels, hens and pullets from our prize winning and heavy laying strain. Write us your wants today. We ship C. O. D. R. H. Miller, Morton, Ill. 12-2

**SOME EXTRA FINE S. C. White Orpington cockerels**, \$3, \$5, \$10 and \$15 each. Write me your wants on S. C. White Orpingtons. Neal Myers, Queen City, Mo. 11-4

**PELSTER'S FAMOURY "Show Me" strain** of S. C. White Orpingtons are winners as well as layers. Stock and eggs for sale. Catalogue free. Box D. Pelster's Poultry Farm, New Haven, Missouri. 1-3

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**BURGER'S BUFF ORPINGTONS** have won at the leading shows in the Middle West. Show birds and choice breeders in old and young stock. Satisfaction guaranteed. A. F. Burger, Keokuk, Ia. 10-4

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**BREEDER'S CARDS**

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GENUINE AMERICAN DOMINIQUES—Greatest winter layers. Fifteen eggs, \$3.00. N. M. Gardiner, Box 123, Hope Valley, Rhode Island.

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**LANGSHANS**

BIG-BONED BLACK LANGSHAN COCKERELS and hens. Cockerels \$3 and up. Hens \$3.50. Heavy laying strain. Rollie P. Welker, Wheeler, Illinois. 1-3

**LAKENVELDERS**

AM CLOSING OUT my choice Lakenvelder breeding cocks at \$3.00-\$4.00-\$5.00. Guy Anderson, Viroqua, Wis.

**RHODE ISLAND REDS**

S. C. REDS; Lester Tompkins strain; cocks, cockerels, hens and pullets; bred from prize winners; I can supply breeders that will win for you as they have for me and others. H. J. Booth, Park Ridge, Ill.

ROSE COMB RHODE ISLAND RED Cockerels, deep glossy red. Choice breeding, \$3.00 to \$5.00 each. P. N. Collins, River Falls, Wis. 1-2

FOR SALE—A few extra good Rose Comb Rhode Island Reds. Prize winning stock. Mrs. Herman Madsen, Buda, Ill. 12-3

UP-TO-DATE WAYS of raising Rhode Island Reds—in book free with 2 years' subscription—50c. Rhode Island Red Journal. Dept. C, Waverly, Iowa.

HART'S PURE BLOOD S. C. REDS—Utility pullets \$2.50. Now booking orders for eggs, \$3 and \$5 setting. C. E. Hart, White Mills, Ky. 1-3

SIXTY ROSE COMB RED COCKERELS and pullets, deep rich red plumage, good under color, early April hatched, fine in size and shape. Satisfaction guaranteed or money back, offered now at \$4.50 each or 6 for \$24.00. Oak Park Poultry Farm, Dept. P, Des Moines, Iowa. 12-3

ROSE COMB RED COCKERELS—Rich brilliant color. Reasonable prices. Catalog 2c. Nauman Poultry Farms, Faribault, Minn. 11-3

ROSE COMB RED COCKERELS, from prize winners and record layers. Dard red, vigorous farm raised, big type, fine shape. (Bean Strain) \$4.00 up. Shipped on approval. Daugherty's Poultry Farm, Metcalf, Ill.

LARGE DARK RED ROSE COMB REDS—Good scoring and utility, best laying strain. Satisfaction guaranteed. Higbland Farm, Hedrick, Ia. 10-12

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1949 COCKERELS, 49 varieties. Free Book. Aye Bros., Blair, Neb., Box 25. 1-4

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Frank Schroepel, Mt. Carroll, Ill.

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SPECKLED SUSSEX—Eggs, stock, baby chicks. Catalogue free. Rosedale Farm, Sandwich, Ill. 1-4

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WYANDOTTES—Pure White, Keelers Strain. Prize winners—good layers. Eggs, Postpaid, 15, \$2.00; 30, \$3.50. By express, 100, \$7.50. Stock reasonable. Nick Fleck, Plymouth, Ind.

**BREEDER'S CARDS**

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**BARRED ROCK COCKERELS**, dark mating, \$3.00, \$5.00 each. Win. Hoos, 2019-20, Des Moines, Iowa. 12-3

**BARRED ROCKS**—Cockerels, pullets from fine exhibition prize winning stock. Light and dark, \$5.00 up. Sold on approval. J. M. Kelsey & Son, Markle, Ind. 12-3

**BRED-TO-LAY BARRED ROCKS**, Parks' strain exclusively (from best pens direct). Heavy winter layers. Big boned, beautifully marked, vigorous cockerels, bred from best egg producing blood lines, cockerels that will breed the lay into your flock, \$5.00, \$8.00, \$10.00 each. W. G. Meradith, Danvers, Ill. 12-3

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**DAY OLD CHICKS FOR SALE**—9 varieties. Thousands per week. Strong hatched, vigorous, "better hatched," pure bred and utility stock. Circular free. Old Homesty Hatchery, Dept. K, New Washington, Ohio. 1-4

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**WYANDOTTES**

**FIFTY SILVER LACED WYANDOTTE** cockerels and pullets, beautifully laced; 55 White Wyandotte cockerels and pullets, snow white, all early April hatched, all fine in size and shape. Satisfaction guaranteed or money back. Offered now at \$1.50 each, or 6 for \$24.00. Oak Park Poultry Farm, Dept. P, Des Moines, Iowa. 12-3

**BREEDER'S CARDS**

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**WHITE WYANDOTTE CHICKS** from flock averaging 237 eggs each. Write for prices. F. W. Schroeder, Strasburg, Ill. 11-1

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**SILVER SPANGLED HAMBURG** cockerels for sale. Guaranteed to please. Chriss King, Boscobel, Wis. 12-2

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**EGGS \$1.00 SETTING**. Parcel post paid. Thoroughbreds. Barred Rocks, Buff Rocks, White Rocks, Reds, Buff Minorcas, White Wyandottes; White Leghorns, Brown Leghorns, Buff Leghorns, Black Langshans, Buff Orpingtons. Phillip Condon, Box 109, Westchester, Ohio. 1-6

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**BREEDER'S CARDS**

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**EGGS FOR HATCHING** from heavy layers and prize winning Single Comb Black Minorcas at Illinois State Show, Illinois State Fair, Minorca Meeting, Quincy. Grover Deege, 815 Jefferson, Quincy, Ill. 11-1

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**MAMMOTH PEKIN DUCKS**, Toulouse, White China, Emden and African geese. Carefully bred. Reasonable prices. Catalog, 2c. Nauman Poultry Farms, Faribault, Minn. 11-3

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**BOURBON REDS**—Toms, \$9.00 and up; hens, \$6.50 up. S. H. McBrier, Millersburg, Ohio. 1-4

**M. B. TURKEYS**—Toms 1918 and 1919, \$15.00; hens, \$10.00. Order from this ad. Mrs. H. I. Rogers, New Virginia, Ia. 1-4

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**INCOME TAX TROUBLES** are over if you use Lagemann's Income Tax Question Blank, designed especially for farmers and poultrymen. Saves time and worry, and assures a correct statement for government agent. Price 25 cents, six for one dollar. A. F. Lagemann, Illinois State Bank Building, Quincy, Ill. 11-4

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**ATTRACTIVE POULTRY PRINTING PAYS**. Lowest prices, prompt service. Elegant samples and price lists free. Quality Print Shop, Faribault, Minn. 1-4

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**MISCELLANEOUS**

**HOW DO JOCOBUS WASTE-NOT** Feed Hoppers save feed? Circular tells. M. R. Jacobus, Box 5-K, Ridgefield, N. J. 8-12

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**GOLDEN EGG**—Start your hens laying by feeding Golden Egg Tonic. Will keep them healthy and laying. Satisfaction guaranteed. One dollar a box. Mrs. Eugenie Cristman, Scottsville, Kan. 1-3

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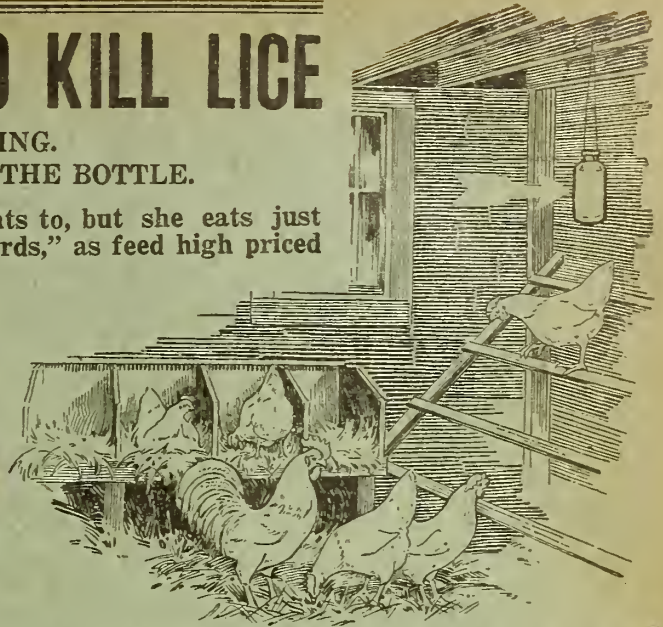
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

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**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

## GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$2.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$2.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russel, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you sometime ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

"Received a bottle of your LICECIL some time ago and think it is all right. I am anxious to buy more. Have you an agent in Spokane from whom I can get it?" W. H. Wooster, Post Falls, Idaho.

## HOW TO USE LICECIL

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

Bottle, \$1.00; 3 Bottles for \$2.50, 12 Bottles, \$9.00. Prepaid.

**AMERICAN SUPPLY COMPANY Dept. P. K. Quincy, Illinois**

# SAVE MONEY

*I am in a position to save you considerable money*

## ON YOUR SUBSCRIPTIONS

I have a special low price with nearly all publications and am willing to divide my profit with you. Here are twelve clubbing offers. If you do not see what you want, write me. Make up your own club and ask me to make you a special money saving price.

### Club No. 1

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.00</b> |
| Illinois Farmer ..... | .50    |                 |
| Home Instructor ..... | .50    |                 |

### Club No. 7

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.00</b> |
| Mother's Magazine ..... | 1.00   |                 |

### Club No. 2

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.00</b> |
| McCall's .....       | 1.00   |                 |

### Club No. 8

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.25</b> |
| Home Instructor ..... | .50    |                 |
| McCall's .....        | 1.00   |                 |

### Club No. 3

|                                |        |                 |
|--------------------------------|--------|-----------------|
| Poultry Keeper .....           | \$ .50 | } <b>\$1.50</b> |
| McCall's .....                 | 1.00   |                 |
| Green's Am. Fruit Grower ..... | \$1.00 |                 |

### Club No. 9

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.25</b> |
| Farm & Home .....    | .25    |                 |
| McCall's .....       | 1.00   |                 |

### Club No. 4

|                          |        |                 |
|--------------------------|--------|-----------------|
| Poultry Keeper .....     | \$ .50 | } <b>\$1.00</b> |
| Successful Farming ..... | .35    |                 |
| Farm & Home .....        | .25    |                 |
| Farm & Fireside .....    | .50    |                 |

### Club No. 10

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.25</b> |
| McCall's .....       | 1.00   |                 |
| Farm & Home .....    | .25    |                 |

### Club No. 5

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.25</b> |
| Poultry Item .....    | .75    |                 |
| Poultry Success ..... | .50    |                 |

### Club No. 11

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.50</b> |
| Mother's Magazine ..... | 1.00   |                 |
| McCall's .....          | 1.00   |                 |

### Club No. 6

|                               |        |                 |
|-------------------------------|--------|-----------------|
| Poultry Keeper .....          | \$ .50 | } <b>\$1.25</b> |
| Am. Poultry Advocate .....    | .75    |                 |
| Western Poultry Journal ..... | .50    |                 |

### Club No. 12

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.25</b> |
| Farm & Home .....       | .25    |                 |
| Mother's Magazine ..... | 1.00   |                 |

If this paragraph is marked it does not mean that your subscription to **POULTRY KEEPER** has expired. I simply desire to draw your attention and that of your friends to these money saving offers. In case your subscription has expired, these offers will mean a real saving for you.

4. OTIS ARNOLD, Publisher,  
Quincy, Illinois.

Enclosed find \$ \_\_\_\_\_ for which send me Club No. \_\_\_\_\_

Name \_\_\_\_\_

Post Office \_\_\_\_\_

State \_\_\_\_\_ R. F. D. \_\_\_\_\_

POULTRY KEEPER

Issued on the first of  
Every Month.

Price 50 Cents  
a Year.

# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY. DEVOTED PARTICULARLY  
TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

FEBRUARY, 1920

No. 11

## BREEDER'S CARDS

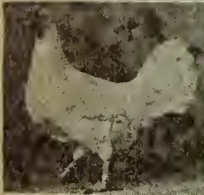
We want to call the attention of our readers to the advertising in our Breeders Columns. You will find choice stock offered at a bargain and especially some splendid offerings of eggs. We believe these advertisers are all reliable and strive to carry no other kind.

POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.

# FERRIS WHITE LEGHORNS



Hen No. 01074  
Record 280 Eggs



Hen No. 01058  
Record 266 Eggs



Hen No. 01076  
Record 250 Eggs



Hen No. 3293  
Record 263 Eggs



Hen No. 3109  
Record 271 Eggs



Hen No. 01077  
Record 237 Eggs

## WINNINGS AT CINCINNATI

First, Second, Third, Fourth Cock  
First, Second, Third, Fourth Hen  
First, Second, Third, Fourth, Fifth Cockerel  
First, Second, Third, Fourth Pullet  
First, Second Old Pen  
First, Second Young Pen

## WINNINGS AT OMAHA

First Cock Best display White Leghorns  
First Hen  
First Pullet  
First Cockerel Best display in show  
First Pen

## 30 EXHIBITION MATINGS NOW READY

These pens are headed by our winners at the largest shows, and many of them are from stock with high egg records. See catalog for prices and description.

**Exhibition Breeding Stock**—We can spare a number of choice males and females of our best exhibition stock. Write us for prices on a pen that will win and breed winners for you.

## BREEDING STOCK FROM HEAVY LAYING STRAINS

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers... We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

## We Ship C. O. D. and On Approval -

We ship all mature stock on approval, allowing you to return within three days any birds that are not entire satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them, send us enough money to guarantee express charges one way and we will ship C O D

## Laying Pullets and Hens

Thousands of pullets and hens from our heavy laying strains are now ready for shipment

Your choice of pullets or hens at the following prices:

|                  | 200-230 Strain | 230-264 Strain |
|------------------|----------------|----------------|
| 4 Females.....   | \$ 20.00       | \$ 24.00       |
| 8 Females.....   | 40.00          | 48.00          |
| 12 Females.....  | 60.00          | 70.00          |
| 25 Females.....  | 115.00         | 135.00         |
| 50 Females.....  | 220.00         | 260.00         |
| 100 Females..... | 425.00         | .....          |

Hundreds of choice cockerels March hatched, from our very best matings. Also a number of yearling cockbirds that we have used in our breeding pens at the same prices—from 200-230 strain \$8.00, \$10.00 and \$12.00. From 230-264 strain \$12.00, \$16.00 and \$20.00.

## Eggs For Hatching

|                | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|----------------|----------------|----------------|----------------|
| 15 Eggs.....   | \$ 3.50        | \$ 5.00        | \$ 10.00       |
| 50 Eggs.....   | 9.00           | 13.00          | 26.00          |
| 100 Eggs.....  | 17.00          | 25.00          | 50.00          |
| 500 Eggs.....  | 80.00          | 115.00         | .....          |
| 1000 Eggs..... | 150.00         | 225.00         | .....          |

Eggs sent prepaid anywhere at above prices. Fertility and safe arrival guaranteed anywhere in the U. S. or Canada.

The years of careful breeding behind our strain has resulted in the eggs we ship being strongly fertile. The breeding stock is vigorous, properly raised, well matured and handled so that the eggs we secure are practically all fertile and sure to hatch strong chicks that will live and be profitable. Your success depends on getting this kind of stock.

No matter how near they approach standard requirements, we never breed from fowls that are weak, undersized, immature and not strictly first-class in every way. A hen that is not a good layer isn't fit to breed from, even if she wins

## Day Old Chicks

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 12 Chicks.....   | \$ 5.00        | \$ 7.50        | \$ 15.00       |
| 25 Chicks.....   | 9.00           | 14.00          | 28.00          |
| 50 Chicks.....   | 17.00          | 25.00          | 52.00          |
| 100 Chicks.....  | 32.50          | 50.00          | 100.00         |
| 500 Chicks.....  | 150.00         | 225.00         | .....          |
| 1000 Chicks..... | 285.00         | 425.00         | .....          |

Chicks sent postpaid at above prices. Safe arrival guaranteed.

When chicks are properly packed they can be on the road for three days and yet be in exactly as good condition as though they were taken right from your own incubators. A chick should not be fed for 24 hours after hatching and can be left without food for 72 hours without injury. Consequently, if you live within a three days' journey from Grand Rapids, South Bend or West Palm Beach, you can order chicks with the assurance that they will all be alive and strong when you get them.

Our incubator capacity is 68,000 eggs or about 15,000 chicks a week

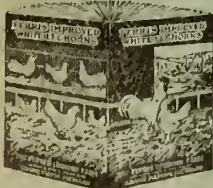
## Eight Weeks Old Pullets

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 4 Pullets.....   | \$ 10.00       | \$ 14.00       | \$ 24.00       |
| 8 Pullets.....   | 20.00          | 28.00          | 48.00          |
| 12 Pullets.....  | 30.00          | 40.00          | 70.00          |
| 25 Pullets.....  | 60.00          | 75.00          | 135.00         |
| 50 Pullets.....  | 115.00         | 145.00         | 260.00         |
| 100 Pullets..... | 225.00         | 285.00         | .....          |

Shipped express collect at above prices. Safe arrival guaranteed anywhere in the United States or Canada. Cockerels same price as pullets.

One of the most satisfactory ways to start with Ferris White Leghorns is to buy a pen of eight weeks old chicks. At this age the pullets weigh nearly three-quarters of a pound and the cockerels nearly one pound. The pullets can easily be distinguished from the cockerels, and the trouble and loss that sometimes occurs in hatching and raising chicks is avoided, for at this age the birds are ready to go on the roosts, no longer require such close attention and are practically out of danger if given proper feed, a good coop and reasonably good care.

## THIS FREE CATALOG TELLS THE WHOLE STORY



Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla. Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices and guarantee on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. We want you to know why Ferris Leghorns are best.

**GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICHIGAN**

# The Hen That Lays Is the Hen That Pays

The Hogan Method of Scoring Hens According to Certain Bone and Body Measurements proving a Close Test to Show the Number of Eggs a Hen Will Lay in a Year. It Also Shows the Reproductive Powers of the Male. Thousands of Poultrymen Using This System Successfully.

## Selecting Poultry For Egg Production.

By Russell F. Palmer.

Haphazard methods of mating and breeding don't pay, and indiscriminate methods cannot prove successful in building up a flock of laying hens. There never was a time in the history of this country when poultry and eggs were in greater demand; the price at which poultry and eggs sell has increased much more in proportion than has the price of feeds necessary to produce these products.

The opportunity is ours to insure greater profits, if we carefully and systematically solve the problem which is facing us: "How can we insure a reasonably high average egg production?"

In July issue I had an article in which I pointed out that the "Hogan Method" of selection and breeding made possible culling out the non-layers—the drones and slackers—and keeping only those we know will produce eggs in profitable quantities. The writer has received many letters from readers of this paper regarding this method; all requesting more information.

There are exceptions to all rules. You will find some exceptions in selecting, testing, and breeding poultry according to the "Hogan Method" described in the book known as the "Call of the Hen;" but many breeders have tested it for some six or eight years; many of these have doubled their egg yield in that time.

The "Hogan Method" does not stop with the mere selection of a good or poor layer of eggs.

It continues and shows the kind of males and females which will breed good layers. It shows the characteristics of males that are sure breeders or failures.

It is important to have males of the right formation to mate with the great layers for breeding purposes. The advantages of this method for one owning even a small flock of birds are so apparent that space need not be given to discuss it. Please read below the advertisement of "The Call of the Hen."

Kansas City, Mo.

### THE CALL OF THE HEN

The book by Walter Hogan on the science of selecting and breeding poultry for egg production, is especially timely now, when poultrymen are using every opportunity to increase the food supply in poultry and eggs. They want to eliminate the drones which will increase the meat supply and keep every pullet or hen that will lay enough eggs to pay for her keep and a profit as well. This can be done by following the instructions given in the book. Score your pullets and hens by this method and you will know which to keep as profitable layers. Prof. E. F. Knapp, of Syracuse, N. Y., in 1916, scored about seventy females, and we give the scores he recorded by using the Hogan test, on twelve individuals, White Leghorns; and one year's laying, viz.:

| Hen      | Scored | Layed    |
|----------|--------|----------|
| No. 37   | 235    | 235 eggs |
| No. 39   | 250    | 255 eggs |
| No. 42   | 250    | 254 eggs |
| No. 43-R | 235    | 226 eggs |

|          |     |          |
|----------|-----|----------|
| No. 43-G | 220 | 222 eggs |
| No. 45   | 265 | 262 eggs |
| No. 46   | 250 | 242 eggs |
| No. 1    | 280 | 282 eggs |
| No. 3    | 255 | 258 eggs |
| No. 4    | 220 | 226 eggs |
| No. 70   | 205 | 210 eggs |
| No. 71   | 205 | 201 eggs |

This proves that the Hogan System is a very valuable discovery and should be used by all progressive poultrymen.

"The hen that lays is the hen that pays." There has never been a time that has demanded action more than just now. Drones are being culled out in all lines of business activity, and rightly so, and the same is true with the poultry business. The hen which delivers the goods is the hen which is your salvation, especially now when feed is so high. There is a profit in egg farming at the present price of eggs. If this workable science in the selection of layers is adopted. Females can be scored at any time, even several months after they begin to lay, so you can tell how many eggs she will lay in one year. Males can be scored by this method to ascertain which are desirable as breeders to raise egg-laying type of birds.

The Hogan method has been tried out for several years, at experimental stations, large and small poultry plants all over the country, with satisfactory results, increasing the profit in egg production very materially, and has the indorsement of well-known poultry experts.

We would appreciate receiving your order for this book, which you will find advertised for sale below.



## YOU NEED THIS BOOK!

### IT WILL CUT DOWN YOUR FEED BILL

Why feed the hen that never lays or that never lays enough eggs to pay her keep? There is a way to prevent this.

### Learn Which of Your Hens Lay Best

—THIS BOOK WILL TEACH YOU HOW—



**B**UT ONCE IN A CENTURY is a discovery made which revolutionizes an industry, adding to the sum of human knowledge a "missing link" in the chair of civilization—creating an exact science, where before chaos reigned supreme,—where things went sort of hit and miss fashion. What Edison has done with electricity, what Burbank has accomplished in the field of horticulture, Walter Hogan has done for the poultry industry. So that you can understand and apply to your own poultry work the result of all this, the full details in plain and terse language is given in his new one hundred and fifty page cloth bound book

## "THE CALL OF THE HEN"

Under the touch of his magic hand Nature's secrets stand revealed—secrets, the value of which cannot be estimated in dollars and cents—secrets which have enabled hundreds of thousands of poultrymen to double their profits in a single year.

### DON'T KILL THE LAYER—SWAT THE DRONE

If you only keep a dozen hens you need this book. It will cut down the feed bill and increase your average egg yield. Don't judge "The Call of the Hen" by other poultry books. It's a cloth bound illustrated description of a new discovery, revolutionary in nature, the result of a lifetime of investigating and experimenting and has been thoroughly tested by hundreds of the most successful poultry plants and pronounced wonderful and sure.

### CULL YOUR FLOCK NOW—SELL THE LOAFERS—KEEP THE WORKERS

By the Hogan method you can not only select your good layers, but also good BREEDERS, both male and female; birds that will reproduce their kind and enable you to rapidly increase the average egg production of your flock.

**You Take No Chance** when you send us \$2.00 for the new revised cloth bound, profusely illustrated book, "The Call of the Hen." We do not ask you to take our word for it, nor the word of such men as Prof. T. E. Quisenberry; L. C. Byce, member of the executive board of the A.P.A.; Michael K. Bover and others.

You be your own judge. Get the book. Follow Satisfaction or Money Back directions. Apply your own tests. If you are not satisfied—more than satisfied—send back the book. We will refund your money at once. Don't put this off. Order today. Right now! Price \$2.00 Postage prepaid.

Address Poultry Keeper, - Quincy, Illinois

**"EGG DAY" IN OREGON**

The farm bureau of Jackson County, Oregon, is operating in three districts of the county an egg marketing plan that is meeting with success and winning the cooperation of the business interests of the county. A certain day each week is known as "egg day," when farmers deliver their eggs to a central place, where they are candled and cased, the actual cost of the candling and crates being charged against the farmer according to the number of eggs that he brings to market. The eggs are then sold to the highest bidder, and have brought an advance of from six to eight cents a dozen over the prices received before.

**THE ASIATICS**

Contains valuable information for breeders of any variety. Suitable for amateur and fancier. Articles by best breeders and judges. Color plates of S. C. White Leghorns and Brown Leghorns feathers by F. L. Sewell. Edited by J. H. Drevenstedt, 140 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

We've had all kinds of special weeks from "blouse week," to "soap week." How about a "fixit week" to get the odd jobs about the farm buildings caught up?

**---The First Real Good Book on Rabbits---**

Fourth Edition



Revised--- Up-to-Date

**Rabbit Culture and Standard**

BY ROTH AND CORNMAN, REVISED BY JUDGE DEARDORFF

Best and safest guide for the experienced or amateur breeder. Tells what you must know and do, according to approved methods. Contains 128 pages, 35 illustrations, describes all varieties of Rabbits and Hares; Feeding, Breeding, Housing and Yards; Diseases and Remedies, Selection of Breeders, Judging, Standard Points of all Breeds, Preparation for the Table, etc. Among Books on Rabbits, it has no Superior.

One of the many who recommend this book is M. L. Thayer, a rabbit expert of the highest standing. In the California Rural World he advises that the man starting to raise rabbits get this book. **ANOTHER EXPERT'S OPINION:** L. W. Lott, publisher of "American Breeders Review," says: "Everytime I send out your rabbit book I feel I am doing some one a good turn, giving every reader information he needs to make a success of rabbit breeding." The Ex-President of the National Pet Stock Association of America says: "Dear Sir:—The copy of "Rabbit Culture and Standard" has been received and read entirely through. I wish to compliment the Editors on producing the first real good work on Rabbits in the United States, which should be a great help to those seeking reliable knowledge. Yours very truly,

WILLIAM I. LYON

**Millions of Rabbits Needed for Food** People are thoroughly awake to the wonderful value of Rabbits and Hares as meat food to replace beef and pork. Easily bred and quickly raised, very prolific, requiring little space, easily prepared for the table—no other animals today so thoroughly meet our needs.

Mailed Postpaid for 50 cents, paper cover; Leather, \$1.00.

POULTRY KEEPER PUB. CO., Quincy, Ill.

**Registration Certificate and Egg Record**

**The American Egg Laying Contest**  
**Leavenworth Kansas**  
**Award Of Honor**

Variety Single Comb Polish Sealand Red  
Breeder C. P. Scott  
Address Peoria Illinois

CONDUCTED AT THE EXPERIMENTAL STATION OF THE AMERICAN SCHOOL OF POULTRY HUSBANDRY

| Sex | Band No. | Sire | Dam | EGG RECORD<br>12 MONTHS | Registered Name | Score<br>GAINED | Date | Judge       |
|-----|----------|------|-----|-------------------------|-----------------|-----------------|------|-------------|
| ♀   | 281      |      |     | 238                     |                 | 91              |      | C. P. Scott |
| ♀   | 282      |      |     | 174                     |                 | 90              |      |             |
| ♀   | 283      |      |     | 175                     |                 | 89 1/2          |      |             |
| ♀   | 284      |      |     | 172                     |                 | 91 1/2          |      |             |
| ♀   | 285      |      |     | 165                     |                 | 92 1/2          |      |             |

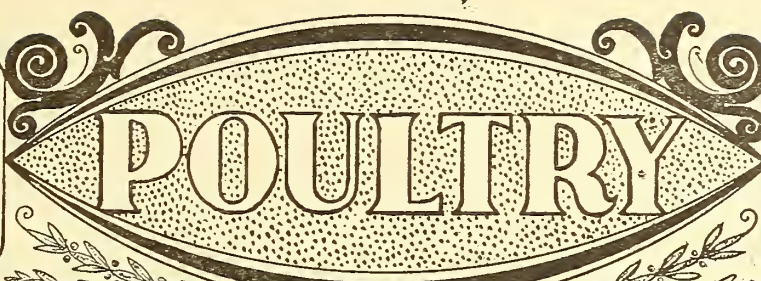
**American Poultry Registration Association**  
*C. P. Scott, President*

**Scott's Reds are Far Famed**

They are constant winners, having competed with the best Reds that have been produced from the Atlantic to the Pacific, from Manitoba on the North to the Gulf of Mexico on the South. Their ability to win is not all of their accomplishments. They produce eggs when they are high. Few there be who have not come within the range of the magic spell when the big brown eggs begin to shell. Five females of Scott's Reds in the American Egg Laying contest layed 102 eggs during the month of November. They were hatched March 20th, being a few days over 6 months old when they entered the contest. Their record was 68 per cent in November, there being 51 pens in competition, 255 birds of various varieties selected for this contest, yet this pen of S. C. Reds outlayed their nearest competitors by 11 eggs. The pullets in this contest are Exhibition quality with a score of 90 points and better. Scott's Reds for the past two years have won the highest honors in the Single Comb class and rank third in the American Egg Class, having won a certificate from the American Egg Laying Contest for a 200 egg laying pen. Mr. Scott's correct address is: C. P. Scott, Route 7, Peoria, Ill.



# THE



A JOURNAL FOR  
EVERYONE  
INTERESTED

# KEEPER

IN MAKING  
POULTRY  
PAY

VOL. XXXVI.

FEBRUARY, 1920.

No. 11

## Feeding Hens for Egg Production

Harry M. Lamon and Alfred R. Lee

Animal Husbandry Division

*Continued from January Issue*

### Methods of Feeding

The scratch mixture should be fed twice daily, preferably in litter from 3 to 5 inches deep on the floor of the henhouse. Feed about one-third of the mixture in the morning and two-thirds in the afternoon. In the morning give only what the fowls will eat up within half an hour and at night enough fully to satisfy them. Feed a mash either as a dry or moist feed in addition to the scratch grains. The dry mash is the more common method; it should be kept in a hopper before the fowls constantly. A moist (not sloppy) mash gives very good results when used by a careful feeder. It should be fed only once a day, preferably in the morning or at noon, and only as much should be fed as the fowls will clean up in from 15 to 30 minutes. A moist mash is very useful to use up table scraps and cooked vegetables and is greatly improved if mixed with milk. The quantity of meat scrap used in the mash can be reduced in proportion to the garbage and milk used. A light feed of moist mash sometimes may be fed to advantage to supplement the dry mash to pullets in the fall, if they do not eat the dry mash freely.

If hens show a tendency to become too fat, make them work longer for their feed by feeding the scratch grains in a deep litter; feed less scratch grain and reduce the quantity of meat scrap in the mash. It is sometimes necessary to close or hang up the dry-mash hopper until noon to make the hens work harder for their feed. Feed the same rations or combinations of feeds throughout the year and do not try to force the molt prematurely by special methods of feeding or by abnormal rations.

### Quantity of Grain to Feed

The feeder must use his own judgment in deciding how much grain to give the hens, as the amount of feed which they will eat varies with different pens and at different seasons of the year. They will eat more feed in the spring while laying heavily than in the summer and fall when laying fewer eggs. A fair general estimate is to feed about 1 quart of scratch grains and an equal weight of mash (about 1½ quarts) daily to 13 hens of the general-purpose breeds, such as the Plymouth Rocks, Rhode Island Reds, or Wyandottes, or to 16 hens of the smaller or egg breeds. This would be about 7½ pounds each of scratch grains and of mash daily to 100 Leghorns and about 9½ pounds of each to 100 general-purpose fowls. If hens have free range or large yards containing green feed a general-purpose hen will eat about 75 pounds of feed in a

year and a Leghorn will eat about 55 pounds, in addition to the green stuff consumed.

### Meat Feeds Make Eggs

Meat scrap or some other animal feed high in protein is the one essential constituent of the mash which can not well be omitted. In our experiments a pen of pullets, on free range, which did not get meat scrap or any other animal-protein feed, laid only 90 eggs each in a year, compared with yields of from 125 to 150 eggs from pens fed rations containing meat scrap. The eggs from the pen where no meat scrap was fed cost 2.2 cents more a dozen for feed than when the meat scrap was included in the ration. Fish meal or fish scrap can be used to replace the meat scrap and compares favorably with a good grade of meat scrap containing the same per cent of protein. Skim milk or buttermilk, either sweet or sour, is



Fig. 2—Making hens scratch in the litter for their grain. The exercise helps to keep them in good condition. In addition to the scratch grains dry mash is kept in the hopper on the wall.

excellent for replacing part or all of the meat scrap. The milk may be used in mixing the mash if a moist mash is fed, or it can be kept before the fowls as a drink. If clabbered and fed thick or like cheese, hens will eat enough of it to replace all the meat scrap needed. A little bone meal makes an excellent addition to the mash or it can be used to replace part of the meat scrap. Green-cut bone, if fresh and sweet, will also take the place of meat scrap if fed at the rate of one-third to one-half ounce daily per hen. If too much is fed, it will give the fowls diarrhea or looseness of bowels.

On general farms during the growing months, the fowls pick up many bugs and worms which furnish an excellent source of animal-protein feed, and therefore they do not need so much meat scrap as hens which do not have a good range, but the bugs do not furnish meat feed enough to give a good egg yield. The use of table scraps and cooked vegetables also helps to reduce the necessary meat feed from one-third to one-half, depending on the quantity of meat products in the scraps. The scraps are fed to best advantage if ground up, mixed with the mash, and fed moist.

High-vegetable-protein feeds do not entirely replace meat or animal protein feeds to advantage, but in sections where they are produced may be used to replace one-fourth to one-half the meat scrap. Of the high-vegetable-protein feeds cottonseed meal has given us the best results, followed by peanut meal, soybean meal, and velvet-bean meal, named in the order of their values. Not more than one-tenth of the mash should be composed of cottonseed meal, as the use of a larger porportion of cottonseed meal cuts down the egg yield materially and may affect the quality of the eggs, producing spots and boltches on the

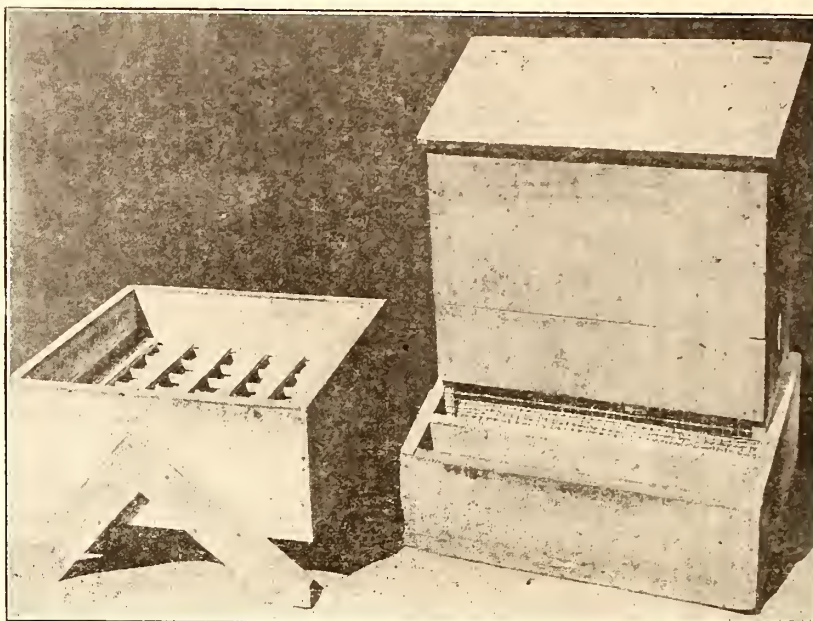


Fig. 3.—Two styles of homemade dry-mash hoppers. The box on the left is very simple and does not waste any feed.

yolks which make them look bad. Other high-vegetable-protein feeds which can be used with success for poultry are gluten and linseed meal.

#### Green Feeds, Grit and Oyster Shells

Green feeds should be supplied to hens confined in small yards and also to all hens during the winter, when no green feed is available in the yards. Free range or large yards kept in grass will furnish ideal conditions for green feed, and where smaller yards have to be used they should be divided into 2 parts and used alternately, planting the vacant section 2 or 3 times yearly with a quick-growing green crop, such as

rape, oats, wheat, rye or barley. This method furnishes green feed and also helps to keep the yards sweet and clean, which is a very important consideration.

Good kinds of green feeds are sprouted oats, alfalfa meal, chopped alfalfa and clover hay, cabbages, and mangel beets. In ordinary cellars cabbages do not keep so well as mangel beets, so they should be used up first. Cabbages may be hung up in the poultry house; the beets are usually split and stuck on a nail on the side of the pen about a foot above the floor. Vegetables which have been frozen can be thawed out and fed to fowls, but do not keep well after thawing. Clover and alfalfa may be fed as hay cut into one-quarter or one-half inch lengths, or they may be bought in the form of meal.

Oats for sprouting are soaked overnight in warm water and then spread out from one-half to one inch thick on trays having perforated bottoms and put into an oat sprouter. Water the oats thoroughly and turn the trays around once daily to promote even sprouting. Artificial heat should be supplied in cool weather by the use of a kerosene lamp or by some other means. Use a good grade of oats and allow a square inch of sprouted-oat surface per hen daily, feeding these sprouted oats on the floor of the poultry house or in the yard. Feed at any time after the sprouts are well started, which usually takes from 5 to 7 days. Keep the sprouter clean and spray it occasionally with disinfectant to prevent the growth of mold spores.

Keep oyster shells and grit before the hens all the time. These substances are an inexpensive but quite necessary part of the ration. Hens will eat about 2 pounds of oyster shell and about 1 pound of grit each in a year.

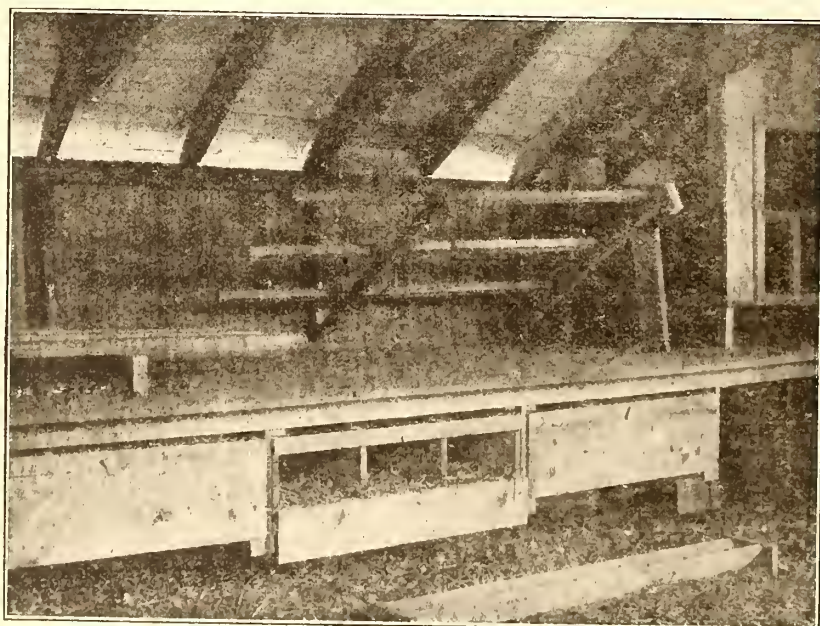


Fig. 4.—Interior of pen. Note feed trough for wet mash; also litter on floor where scratch grains are fed.

**Grain Consumed in Producing a Dozen Eggs.**

The feed cost of producing a dozen eggs depends upon the quantity and price of the grain consumed. If hens have free range on general farms they pick up considerable waste grains and other feed and are fed largely on grains produced on the farm, thus materially lowering the feed cost of the eggs. The prices of grains vary greatly in different sections and in different years, so that only the grain consumed in producing a dozen eggs, not the cost, is included in this bulletin. The grain consumed per dozen eggs will depend very materially upon how successfully the hens are fed and managed, but the following table gives the average results of our experiments, including several different pens, in which the general-purpose fowls produced an average egg yield of 130.5 eggs as pullets and 88.1 as yearlings, while the Leghorns produced an average of 138.7 eggs as pullets and 124.9 eggs as yearlings,

the yearlings 5.5 pounds. The general-purpose pullets ate 1.9 pounds more feed in producing a dozen eggs than the Leghorn pullets, and the difference increases very rapidly with the age of the stock, the general-purpose yearlings consuming 4.1 pounds more feed per dozen eggs than the Leghorn yearlings; therefore the Leghorns produced eggs more cheaply than the general-purpose breeds. The value of the general-purpose breeds for market or for hatching and breeding makes them usually the most desirable breeds for the general farmer and the backyard-poultry raiser, while the Leghorns are especially adapted for commercial egg farms.

**COLD WEATHER CARE OF HENS**

In order to lay well during extremely cold weather, the hens require close attention. When the weather is very cold it is advisable to keep them indoors the greater part of the time. Nothing is gained by

weather is as follows: About seven o'clock when the houses are opened hot water is supplied. This hot drink seems to put spirit into the hens and they are ready for breakfast. The first food of the day is grain fed in deep litter. The grain is composed of equal parts of whole wheat and cracked corn. Cracked corn is used, not because it makes a better food than whole corn, but because the number of grain particles being increased, the hens will have to work longer in obtaining every grain the litter holds. I aim to keep the hens busy scratching in the litter well towards noon. At noon, or shortly thereafter, a warm mash is fed. This mash is composed of two parts wheat bran, one part each of cornmeal, middlings, cut clover, beefscrap and ground oats, with the hulls sifted out. The hens are given all they will eat of this. About three o'clock I supply a light feed of cabbage, mangel beets, or anything I have on hand, in the line of green food. Green food is fed lightly because the cut clover in the mash answers all the purposes of green food and is rich in protein as well. About four o'clock or four-thirty, the hens are given all the whole corn they will eat and sent to bed with full crops. At intervals during the day warm water is supplied.

A constant watch is kept for frosted combs. If any are noticed, the birds are taken in hand, and the comb and wattles bathed in snow or ice-water until the frost is all out, when the frozen parts are anointed with vaseline.

A curtain is dropped in front of the perches at night. If the night gives promise of being particularly severe, I bed several old barrels of litter, and put my male birds in these. The tops of the barrels are covered with burlap. When so housed, the male birds go through below-zero weather without frosted combs.—T. Z. R.

**WINNERS AT AMERICAN EGG LAYING CONTEST**

Editor Poultry Keeper.

Through a stenographic error, we omitted furnishing the name of the winner in White Wyandotte class in our contest which closed October 31, 1919.

The leading pen of five White Wyandottes laying 1038 eggs and was owned by Mr. John Martin, of Port Dover, Ontario, Canada. Mr. Martin had two other pens also with records of 947 and 866 eggs each, which is highly commendable, more especially, in view of the fact that all of Mr Martin's birds were delayed in reaching us and did not start in the contest until well toward the first month, thus, in reality, the above actually represents eleven months' laying time.

Mr. Martin's pens with a record of 1038 took 9th place against all breeds and varieties and was the only variety outside of White Leghorns among the first ten leading pens for the year.

American Poultry School.

**Table 3.—Monthly Record of Total Feed Consumed Per Dozen Eggs and Egg Yield Per Hen.**

| Month            | General-purpose pullets    |                     | General-purpose yearlings  |                     | Leghorn pullets            |                     | Leghorn yearlings          |                     |
|------------------|----------------------------|---------------------|----------------------------|---------------------|----------------------------|---------------------|----------------------------|---------------------|
|                  | Feed per dozen eggs Pounds | Eggs per hen Number | Feed per dozen eggs Pounds | Eggs per hen Number | Feed per dozen eggs Pounds | Eggs per hen Number | Feed per dozen eggs Pounds | Eggs per hen Number |
| November         | 10.9                       | 8.1                 | 34.6                       | 2.4                 | 5.3                        | 9.1                 | 20.3                       | 3.0                 |
| December         | 7.4                        | 11.2                | 32.9                       | 2.6                 | 6.6                        | 10.0                | 10.0                       | 7.0                 |
| January          | 10.9                       | 9.9                 | 32.7                       | 2.5                 | 5.4                        | 12.1                | 5.8                        | 10.3                |
| February         | 5.5                        | 10.8                | 12.6                       | 6.1                 | 4.7                        | 16.0                | 5.1                        | 14.2                |
| March            | 5.8                        | 16.4                | 8.5                        | 9.3                 | 3.3                        | 18.3                | 3.6                        | 17.7                |
| April            | 4.6                        | 16.5                | 5.7                        | 13.1                | 3.0                        | 19.0                | 3.3                        | 19.4                |
| May              | 4.4                        | 13.9                | 5.3                        | 10.5                | 3.2                        | 14.8                | 3.4                        | 16.3                |
| June             | 4.7                        | 12.0                | 6.1                        | 10.4                | 4.9                        | 10.4                | 3.9                        | 14.8                |
| July             | 6.3                        | 9.9                 | 7.5                        | 8.6                 | 4.8                        | 10.6                | 5.3                        | 11.5                |
| August           | 6.9                        | 9.3                 | 7.6                        | 11.0                | 8.6                        | 8.0                 | 7.1                        | 7.4                 |
| September        | 9.2                        | 7.5                 | 10.0                       | 6.7                 | 10.9                       | 5.2                 | 30.8                       | 2.9                 |
| October          | 14.1                       | 5.0                 | 21.0                       | 4.9                 | 18.4                       | 5.2                 | 18.6                       | .4                  |
| November         |                            |                     |                            |                     |                            |                     |                            |                     |
| Average or total | 6.7                        | 130.5               | 9.6                        | 88.1                | 4.8                        | 138.7               | 5.5                        | 124.9               |

The general-purpose pullets ate in a year an average of 6.7 pounds of feed per 1 dozen eggs produced and the yearlings ate 9.6 pounds. The Leghorn pullets ate 4.8 pounds and

permitting a hen to range when the ground is covered with snow or slush, or when cold winds are blowing.

My regular routine during severe

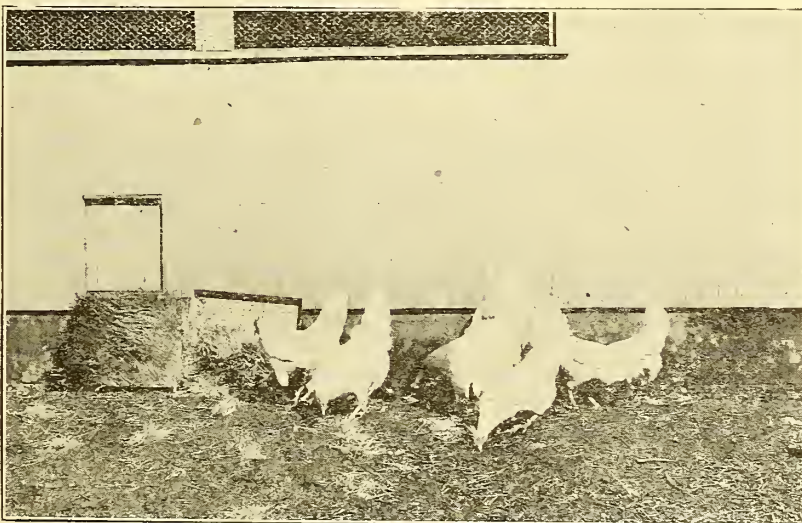


Fig. 5.—Eating sprouted oats as a green feed. Oats are sprouted in shallow trays.

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**Points on Hatching and Feeding Chicks**

To the Editor:—Whether eggs are hatched under hens, or in the incubator, best hatches are secured by setting fresh eggs of a uniform size. When selecting eggs for hatching in early spring, gather them twice daily, storing where they will not be chilled. Pick out eggs which are of normal size, discarding any which are freak shaped.

Make certain that the incubator is in good order before putting eggs in the trays. It is advisable to thoroughly clean the machine, and light the lamp several hours before putting in the eggs. Use high-grade kerosene, and see that the lamp is equipped with a fresh wick. Locate the incubator where it will stand perfectly level, and where it will be unmolested. A dry, well ventilated cellar is a good location for the incubator.

Warm the chamber gradually after putting in the eggs until a temperature of 102 degrees is reached. A higher temperature than 102 is not advisable for the first week, as there is some danger of overheating the eggs. After the second day, commence turning the eggs; it is a good plan to turn them every 24 hours. Cooling should commence about the third day, and should continue until the sixteenth or seventeenth day. Do not chill the eggs when cooling them, and handle gently at all times.

With the beginning of the second week, the temperature may be raised to 103 degrees; this temperature can be maintained until hatching time, when 104 degrees of heat will give satisfactory results. If the young chicks pant after issuing from the shell, regulate the ventilation until they breathe normally. The chicks can be left safely in the incubator until they are 36 hours old.

After the chicks are hatched comes the question of caring for them in a way which will insure their health and promote rapid growth. The modern brooder comes in handy at this time. The brooder keeps the young birds warm and comfortable during the chilly nights, and during rainy days, and offers them a safe refuge from varmints. It is comparatively easy to keep a brooder free from vermin. To insure good results with a brooder, avoid overcrowding. Losses have been reported in frequent instances because brooders were overcrowded, or were not properly ventilated. If the manufacturer's directions are followed, there is small danger of loss from smothering.

When a brooder is not used, and hens "mother" the chicks, it is best to provide several small, tightly enclosed pens where the chicks and hens can be confined during bad weather, and the early mornings following heavy dews. Pigeon netting is excellent for the purpose. Small, weather-proof coops are handy for

hens and young chicks. They can be made from dry goods boxes, odds and ends of lumber, and tar paper roofing.

Commence feeding chicks after they are 48 hours old. Hard boiled eggs (chopped into fine pieces) are suitable for the first feed. Stale bread crumbs are also satisfactory. Do not overfeed at this time. If the chicks are kept in a brooder, supply them with a small water fountain and a shallow tray of sand; water, sand and feed should be put in the feed room. Where the chicks are kept in separate coops with hens, it is more convenient to provide a pen where all the flocks can mingle during the warm part of the day; then one drinking fountain and one tray of sand will serve the different broods.

Ground kafir, corn chop, oat meal, bran and shorts are desirable feeds for young chicks. Feed a balanced ration, introducing beef scrap or blood meal in small quantities. Fifty parts corn chop, 20 parts shorts, 15 parts bran, 10 parts oat meal and 5 parts blood meal makes a ration which promotes rapid growth.

Destroy all vermin at the start, then the chicks will not have their vitality lowered, and will be more thrifty.

After the chicks are large enough to run about during the greater part of the day, plan to utilize the farm range to best advantage. On the average farm, economy in raising chicks is dependent upon the range available. Meadows, pastures, alfalfa fields, corn fields, etc., furnish good range while taking their exercise.

Heavy rains and hail storms have a tendency to deplete flocks of young chicks if the birds do not get under shelter. When the weather is inclined to be stormy, it is best to keep chicks in a pen where they can exercise and yet be close to their coops.

F. R. Black.

Cornstarch rubbed on a grease spot will absorb the grease. Brush off and repeat if necessary.

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at the Quincy show, all breeds competing. He has cocks, cockerels and pullets for sale at reasonable prices considering their wonderful quality. He has a laying as well as a winning strain. His mating list is now ready for mailing, and is free for the asking.

**POULTRY SHOWS RESULTS OF GOOD BREEDING**

More than 72,000 eggs were produced on the poultry farm of the University of Missouri College of Agriculture in the last year. Reckoning the entire flock, the average per hen is about 150 eggs. This doesn't sound so prolific when you recall stories of 200-egg hens and better, yet 150 eggs a year is nearly twice the production in the average farm flock and ninety eggs more than the average for the United States according to the last census. If it were not for the fact that a certain proportion of the flock is kept for experimental work and that some of the uncommon varieties are kept for student judging work, the flock average would probably run close to 160 eggs.

The strain of Single Comb White Leghorns on the University farm is one of the best in the United States. The production of these birds is excellent at one experiment station only. This is at Oregon where Prof. James Dryden has developed an exceptionally high producing strain. During this past year over ten per cent of the University Leghorns have produced two hundred eggs or more. One individual registered 226 eggs. Another has laid 225 to date and has until December 15 to complete her pullet year. One pen of eighty White Leghorns has averaged more than 170 eggs apiece.

Perhaps the most remarkable production ever recorded on the University farm is that of this present season's Leghorn pullets. From August 1 until November 15 a flock of eighty March and April hatched pullets has averaged 48 eggs apiece. One individual, has produced 79 eggs in this period. One pullet began laying on July 4 at the age of 4 months and seven days, which is a

record for early maturity.

The high producing strain of Leghorns on the University farm is the result of nine years' constant selection and breeding by Prof. H. L. Kempster, chairman of the poultry department, Professor Kempster believes that his birds have reached a point in high egg production where a number of different family lines can be established and that production next year will be higher than ever before.

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**W**HY gasoline engines, why milking machines, why binders, automobiles, tractors or hundred and one other improvements? It is to accomplish more with less effort. That is exactly the reason why incubators and brooders were invented and placed on the market. In the following we will give a number of specific reasons, why incubators and brooders are so advantageous to use.

In the first place you can set an incubator whenever you can secure hatchable eggs. By the proper feeding system you can secure these almost the year 'round.

You can hatch your chicks, raise them and bring them on to the market when you are assured of the highest market price. You can thus regulate your own marketing problem.

A medium size incubator will take care of as many eggs for hatching purposes as otherwise would require 15 setting hens. And who does not realize the great amount of work connected with 15 setting hens, whereas an incubator requires but 15 to 20 minutes daily of your time.

An incubator will not break the eggs.

An incubator will not leave the eggs just at the most critical time.

An incubator will not infect the chicks with lice or mites and thus giving the little fellows a poor start in their chicken career.

One of the greatest advantages of an incubator is in case you want to raise quite a number of chicks, the incubator will produce a lot of chicks all of the same size and age and these are much easier to raise, feed and taken care of than so many chicks of different sizes.

When you have an incubator to do your hatching you can break up the broody hens and let them produce and make money for you, instead of letting them sit and eat.

A good brooder, kept clean, is the best preventive to keep the chicks free from lice and mites. This is quite difficult where the chicks are entrusted to the care of the hen.

A brooder will not trample on the chicks or lead them so far off that when a sudden rain comes up they will be without proper protection. The chicks soon learn to seek the protection of the brooder whenever they get chilled or whenever they need the warmth of the brooder.

As soon as the chicks are placed in a brooder you have them absolutely under your own control, thus

**WHY EVERYTHING THAT IS MODERN AND FOR THE SUCCESS OF ALL BUSINESS ENTERPRISES.**

J. S. GILCREST

President Des Moines Incubator Co.  
Des Moines, Ia.

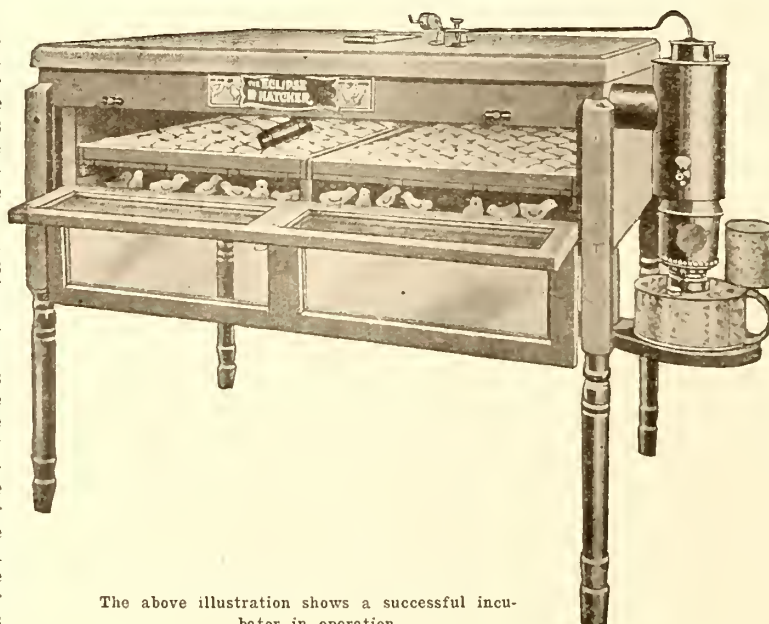


J. S. GILCREST

President of the Des Moines Incubator Co.,  
Des Moines, Ia.

being able to give them the necessary care and attention they need and must have in order to make the best and quickest growth.

As a last word I want to state the fact that every successful money making poultry plant today has every kind of new invention to hatch their chicks, to raise them and to maintain their health and activity in order to be able to do better work in half the time.



The above illustration shows a successful incubator in operation

## PUREBREDS PAY IN POULTRY

That the value of purebred males counts as much in poultry raising as in stock raising is shown by the records of three flocks of Leghorns, the data for which have been supplied the United States Department of Agriculture by the North Carolina Experiment Station. Flock 1, the egg production of which is included in these records, consisted of common hens; flock 2 was produced by breeding these hens to common males; flock 3 was produced by breeding flock 1 to a rooster from a high-production hen. The following year the original flock laid 89 eggs a hen; flock 2 laid an average of 88 eggs a hen; and flock 3 laid an average of 136 eggs a hen. This increase of 54 per cent in one year tells very specifically the benefits of using a purebred male. But the percentages alone do not tell the whole story, for a big proportion of the increase came at a season—May and June—when the production of flocks 1 and 2 was relatively low and the prices were good.

## DUCKS AND GEESE

A complete guide to profitable Duck and Goose rearing. Article by foremost breeders. Complete, instructions on breeding, rearing, feeding, housing, marketing and exhibiting these profitable fowls. 104 pages, 9x12, illustrated. Price, 75c. Address Poultry Keeper, Quincy, Ill.

## APRIL HATCHED PULLETS MAKE GOOD PRODUCERS

Experiments conducted at the Ohio Experiment Station to determine the influence of time of hatching upon the egg production of pullets indicates that about April 20 is a satisfactory time to hatch the lighter breeds of fowls raised particularly for egg production.

Pullets hatched Feb. 22 were found to lay well from August 10 to November 1, but during late fall and early winter went through a molt similar to year-old hens. The results secured with pullets did not justify the expense and labor involved in brooding the chicks during cold weather.

A profitable egg production was secured with pullets hatched June 13 but it was found more difficult to rear a satisfactory percentage of the chicks at this time than if they were hatched during the latter part of April.

**LONGER HOURS FOR HENS**

Artificial lighting, when properly done, is not forcing, but rather allowing normal production.

Lighting is really a feeding problem, the lights simply allowing the hens to eat longer.

Lights from 5 o'clock a. m. until daylight each morning have given excellent results, providing enough extra food is given during the shortest days for normal production.

Lights from 4 o'clock a. m. to daylight and up to 9 o'clock p. m. at night have given abnormal production during December and January with a moult and drop in production later which resulted in a loss, due to lighting.

A gasoline lantern or barn lantern will do the work perfectly well.

Hens need water as soon as they come off the roosts.

If electric lights and a time clock are a part of the equipment, heater water fountains must also be used in freezing weather.

Hens respond to lights quicker than pullets, but lights should not be used on breeding stock unless during the breeding season.—From Poultry Calendar, Connecticut Agricultural College, Storrs.

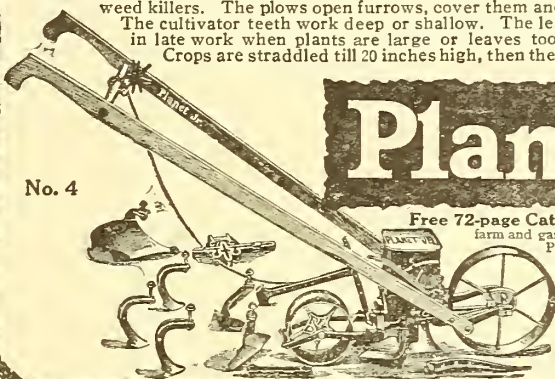
One day of this year that is here should mean more to us now than the whole year of past days.

**Bigger crops mean more money**

Proper and frequent cultivation are necessary to the production of maximum crops. Planet Jr. tools enable you to get increased yields because of their superior design, scientific construction. They do the work quicker, easier and more thoroughly. Planet Jrs. are guaranteed fully and last a lifetime.

**No. 4 Planet Jr. Combined Hill and Drill Seeder, Wheel-Hoe, Cultivator and Plow** sows all garden seeds (in hills or drills), plows, opens furrows and covers them, hoes and cultivates them all through the season. A hand machine that does the work so thoroughly, quickly and easily that it pays for itself in a single season.

**No. 12 Planet Jr. Double and Single Wheel-Hoe** has hoes that are wonderful weed killers. The plows open furrows, cover them and bill the growing crops. The cultivator teeth work deep or shallow. The leaf lifters save much time in late work when plants are large or leaves too low for ordinary work. Crops are straddled till 20 inches high, then the tool works between rows.



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Free 72-page Catalog Shows tools doing actual farm and garden work and describes over 55 Planet Jrs. including Seeders, Wheel-Hoes, Horse-Hoes, Harrows, Orchard, Beet and Pivot-Wheel Riding Cultivators. Write for it today.

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Healthy, vigorous, farm-raised stock that will win in hot competition. Both light and dark marking. Satisfaction guaranteed. Prices reasonable.

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Quincy, Illinois.

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"That's the secret of our success" say thousands of owners of "Successful" Incubators. Here is the incubator with something more than the ordinary incubator construction.

It is a cabinet-made machine—built to give you not only the biggest possible returns from every hatch, but many years of successful service. Remember, the profits in getting those early chicks in only one or two hatches, will more than pay for the extra quality construction you get in

**"SUCCESSFUL" Incubators and Brooders**

Now is no time to experiment or try to get along with a makeshift machine. Why not be sure of a money-making success this year with a "Successful" machine?

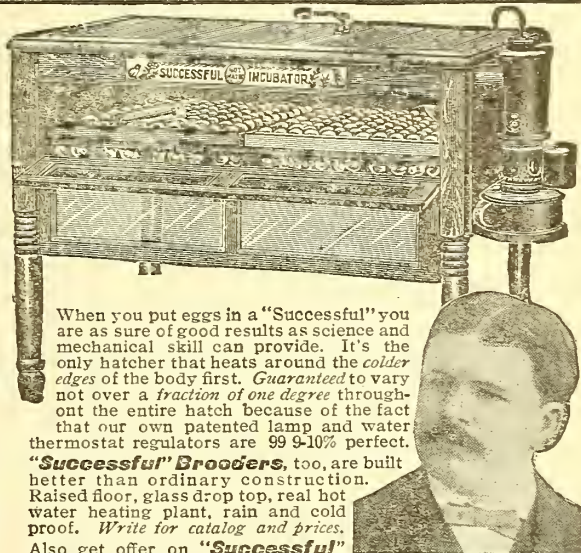
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Don't overlook the fact that "Successful" Incubators have had 23 years of experience and have always been the stand-by of the biggest money-makers in the poultry business.

**Poultry Lessons FREE** to every buyer of a "Successful" Incubator or Brooder. Famous little booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," sent for 10 cents. Big catalog is free. Send for it.

J. S. GILCREST, Pres. and Gen'l Mgr.

DES MOINES INCUBATOR CO., 47 Second St., Des Moines, Iowa



When you put eggs in a "Successful" you are as sure of good results as science and mechanical skill can provide. It's the only hatcher that heats around the colder edges of the body first. Guaranteed to vary not over a fraction of one degree throughout the entire hatch because of the fact that our own patented lamp and water thermostat regulators are 99 9-10% perfect.

"Successful" Brooders, too, are built better than ordinary construction. Raised floor, glass drop top, real hot water heating plant, rain and cold proof. Write for catalog and prices.

Also get offer on "Successful" Grain Sprouters. All steel—made in sections. Turn 1 bu. grain into 3 bu. of crisp egg making feed.

J. S. GILCREST, Pres. Life Member American Poultry Association

# A Brief Discussion of Incubation

**M**ANY years of experience have shown that the only practical way of hatching chickens on a fairly large scale and according to schedule is by the use of artificial methods. A discussion of the conditions with which to surround the incubator would be of interest to the poultry keeper.

Briefly stated, all that is required to hatch eggs artificially is a temperature of  $100\frac{1}{2}$  degrees at the center of the eggs (101 to 103 degrees by contact). At the same time the eggs should be immersed in still air (quiescent atmosphere) containing moisture of a relative humidity of 45 to 70 per cent.

This atmosphere should be changed sufficiently often to carry off the waste gases eliminated by the eggs. Any excess of ventilation beyond this is deleterious.

This is about all that is known about artificial incubation at the present time, outside of the many things which are known to have a bad effect upon the development of the eggs.

While the law of incubation seems comparatively simple, yet the proper application of these principles in an incubator is extremely difficult. It means a well built case, to withstand both moisture and changes of outside temperature; a reliable and constant source of heat; a uniform distribution of the heat, so each egg gets a uniform amount of sensitive and reliable regulation; constant ventilation, and the constant supply of humidity, to prevent the excessive evaporation of the eggs, and withal so arranged as not to introduce undesirable factors which work injury to the developing germ or embryo.

The ideal location for an incubator is a room in which the temperature does not fall below 50 degrees or rise above 70 degrees; that is well ventilated but without direct sunlight, and above all well ventilated. These conditions are more nearly approached by the use of an incubator cellar. Any old cellar will not give the best results, especially if a house or root cellar is used, owing to the deficient ventilation. Where there is a strong odor or lamp fumes or the presence of decaying vegetables, or where molds grow upon bits of board or upon the walls, an incubator will not do good work. The chicks have more vitality when the air in the incubator room is pure. An

## APPLYING NATURE'S METHODS TO THE ARTIFICIAL, MAKING THE MODERN INCUBATOR A 20TH CENTURY NECESSITY.

J. L. NIX

President Prairie State Incubator Co.,  
Homer City, Pa.



J. L. NIX

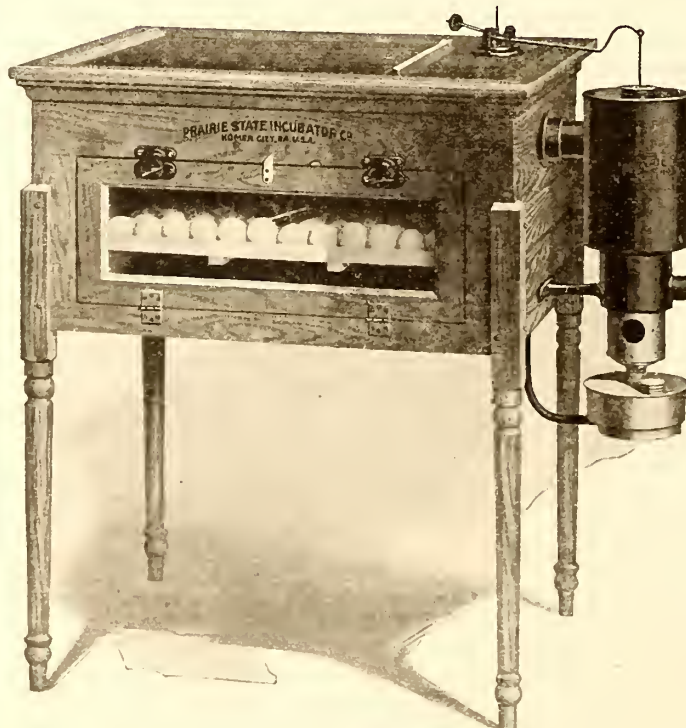
President Prairie State Incubator Co.

incubator room 30 by 60 feet in size should have at least three ventilators, two feet in diameter, extending straight up through the roof. It is much easier to keep an incubator room above ground in a sanitary condition, than one that is deeply below the ground. The windows should be covered with open porous material such as burlap. This will allow free circulation of the air, but will not allow any wind to blow in. Lamp filling, oil storage and feed rooms should be separated from the incubator room. Kerosene fumes are injurious to eggs. It is not recommended that incubators be placed in a room where chicks are being reared.

For best results, eggs should be incubated as soon as possible after being laid. They do not improve with age and should be stored, if possible, at a temperature between 40 and 60 degrees. Too low a temperature tends to weaken the germ, while temperature above seventy degrees will start the egg to incubating slightly. They will keep best if stood on end in a clean place and not exposed to currents of air. In selecting eggs for incubation, reject all small and over-sized, dirty, washed or thin-shelled eggs with any peculiar or unusual markings upon the shell, as they are very uncertain and are more apt to be abnormal than the smooth, regular medium size eggs. Select large, smooth, evenly formed eggs. The larger the egg the larger the chick—the larger the chick the faster it will grow.

When two varieties are incubated together, the best results are secured by mixing the eggs up promiscuously.

The theoretical temperature is  $100\frac{1}{2}$  degrees at the center of the eggs the entire time of incubation. To obtain the same degree of heat by the use of a contact thermometer (center of the bulb  $1\frac{3}{8}$  inches above the tray bottom), means operating at a temperature of 102 degrees in cold weather, 101 degrees in warm weather—the first week of incubation, 102 degrees the second and 103 degrees the third week. The object being to obtain the same amount of heat as in natural incubation, these temperatures are used when heat is applied to the top of the eggs from above. High temperature causes too rapid a growth, and with low temperature growth is



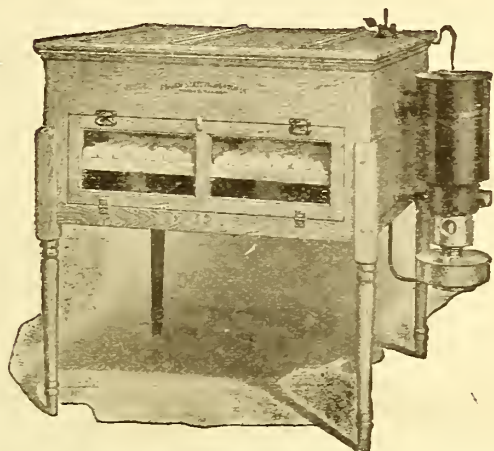
A Prairie State Sand Tray Machine

(Continued on Page 34)



If you demand the most efficient hatching and brooding equipment you will install the time-tested guaranteed

# PRAIRIE STATE INCUBATORS AND BROODERS



**A**FTER you have studied the scientific principle and thorough construction, and weighed the opinion of poultry authorities and government experts, you will realize why Prairie State is the acknowledged standard.

It is practical economy to pay the slightly higher price for the Prairie State—necessary because of the superior and more costly construction—and hatch and grow more chicks and sturdier chicks with less labor and

expense. Your first season's results will pay back the extra cost.

Prairie State hatching and brooding equipment is the result of 38 years knowledge and skill and reputation for responsibility.

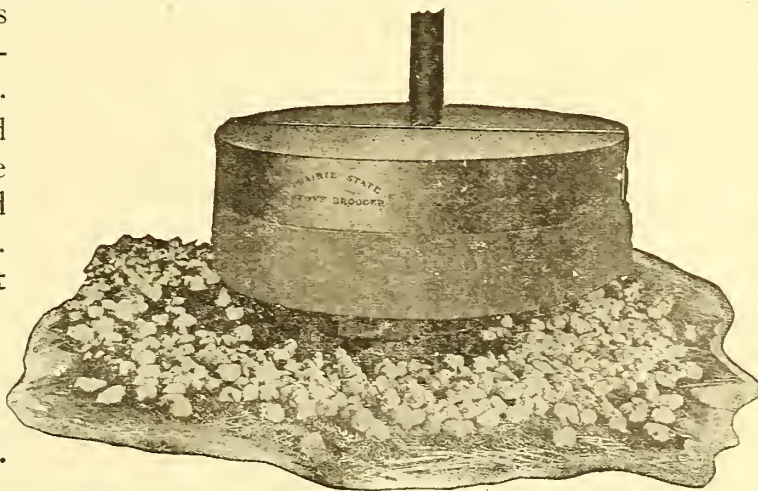
Prairie State Incubators are simple in operation, accurate in regulation and absolutely "first in hatching efficiency." Guaranteed to you for ten years.

Prairie State Brooders, lamp heated or coal-burning, are the standards in each class. The coal burning Colony Brooder shown here, is the choice where 200 or more chicks are to be grown with little trouble and least loss.

Get the catalog—send for it today. Prairie State machines are sold by progressive dealers. Ask yours—if he won't supply you, we will.

**PRAIRIE STATE  
INCUBATOR CO.**

36 Main St. Homer City, Pa.



**GRAVEL FATTENED CHICKENS HELD UP**

Some twenty-five tons of real estate in the form of sand and gravel and masquerading as 30 cents a pound chicken almost got onto the market yesterday to be sold to the ultimate consumer—or goat.

The 50,000 pounds of sand and gravel reposed in the crops of 50,000 live chickens. The birds presented so fine an appearance, with chests all puffed out and walking with the stately precision of turkey gobblers, that it was decided to investigate. One chicken, a martyr to science, was massacred and a pound and a quarter of gravel and sand, and not very good gravel or sand at that, was taken out of its crop.

That was enough for the official to hastily condemn the chickens. They were not permitted to reach the market, whither they were bound, until their crops are normal.

"There are various ways of stuffing the crops of live chickens in this way to defraud the public," the investigator said. "One old favorite is to starve the birds for a day or two and then feed them bran with a large amount of gravel and sand mixed in it. Another practice is to feed the birds red pepper in their bran and give them no water. This irritates their throats, and to relieve this they swallow large quantities of gravel and sand."

Of course reputable poultry raisers will not resort to this pronicious practice, but the above information is published to show to what ends some "profiteers" will go to fill their coffers.—American Poultry Advocate.

**MOVED TO DEXTER, MICHIGAN**

The Allion Vermin Proof Perch Co., of Willis, Mich., have moved to

Dexter, Michigan, where they have a new factory and have incorporated for \$10,000. The demand for the Allion Lice and Mite Proof Perches has been growing so rapidly that it became necessary to have a larger manufacturing plant and better shipping facilities. With our new plant now running we are in position to fill orders quite rapidly and with the present outlook our orders will run close to the million mark this year.

**Get More Eggs—Save Feed**

**A New 16-Page Bulletin Gives Free Information**

Egg prices are high and going sky-high, higher than ever before. Those who know how and what to feed to get the most eggs will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed-loss and disappointment. Prof. T. E. Quisenberry, Director-in-Chief of the great American Egg Laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." This bulletin also tells how he starts and feeds baby chicks to prevent white diarrhea and bowel trouble and how he feeds breeding stock to insure strong, fertile eggs, strong chicks, and to avoid dead chicks in shell at hatching time.

He will mail this bulletin to readers of Poultry Keeper who will write him without delay. Send no money. Over a thousand hens under Quisenberry's direction laid from 200 to 306 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him today for his free bulletin, addressing Care The American Poultry School, Department 4017, Kansas City, Mo.—Adv.

**BROWN'S BARGAIN FENCE BOOK**

Get this Big Money-Saving Book and sample of BROWN'S ACID TEST HEAVY GALVANIZED FENCE, both free, postpaid. See the quality and compare my LOW FACTORY FREIGHT PREPAID PRICES. Our prices beat all competition—our quality we let you prove before you buy.

**LOWEST PRICES—I Pay All Freight Charges**

Don't buy a rod of fence this year until you get my New Bargain Fence Book. Shows 150 styles. Also Gates, Lawn Fences, Barb Wire—all at startling low prices. A postal brings sample to test and book free, postpaid.

**THE BROWN FENCE & WIRE CO. (9)**  
Department 457 CLEVELAND, OHIO

**Poultry Fence**

**SAVED 40 PERCENT**

B. J. WILSON Cllo, Mich. says: "Am more than satisfied with your Poultry Fence. Saved at least 40 per cent by buying direct from you." We can save you money. Prices way down. We Pay the Freight and Ship Direct to YOU. Write now for Free Catalog.

**KITSELMAN BROTHERS**  
Dept. 229 MUNCIE, INDIANA.

**SOFT-HEAT**

Greatest Incubator Discovery in 50 Years. Insures Strong, Healthy Chicks from every good egg. Iron-Clad Guaranteed.

Porter Soft-Heat Tubeless Incubator combines hot air and water. Automatic control of heat, moisture and ventilation. Cent chest plan, round nest, eggs turn semi-automatically without removing tray,—saves time and money. Simple, Safe, Sure, Express Prepaid. Write for **Big New Free Book**.

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**MORE EGGS**

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**EGGS**

**Close-To-Nature Vapor-Bath**

**Grain Sprouter**

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3 BU. OF FEED FROM 1 BU. OF GRAIN

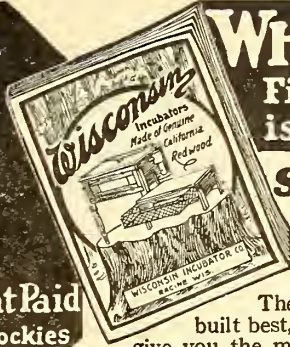
To produce the energizing, vitalizing, vapor-bath sprouts with their vegetable milk, grape sugar, etc., that bring the big egg yields,—to change high price grain into low price egg producing green feed, get a

We make three kinds for all conditions and climates.—Double Quick Cypress case for zero temperatures; Premium Metal Sectional; and Lampless; and many sizes from one-fourth bu. to 8 bu., for a few hens to 1,000. The grain sprouter business was originated by the Close-To-Nature Company. Its manager, W. H. Monroe, invented and put on the market the first sprouter a dozen years ago and is at the business yet. Hence we are the oldest and largest sprouter manufacturers in this country and know how to build an efficient, practical sprouting machine.

You will want your sprouter quick at this season, hence we will prepay your EXPRESS in full on any sprouter, big or little, east of the Rocky Mountains and a proportional amount west of the mountains. The difference between freight and express rates is small when compared to the difference in time of delivery. Hence we ship by express prepaid. This means that within a few days from the time you read this, you can have a Close-To-Nature sprouter in operation.

Get our circulars on SPROUTED OATS and EGGS.

**130**  
Egg Incubator  
Chick Brooder  
**BOTH For**  
**\$16.25**  
Freight Paid  
East of Rockies



**WHY TAKE CHANCES?**  
Find Out What an Incubator  
is Made of Before You Buy

Send for Our **FREE** Catalog  
and We Will Send Sample  
of Material Used in Our  
Incubators and Brooders



Then you will know which machines are built best, which will last longest and which will give you the most value for your money. Year after year these unbeatable Wisconsins have proved their superiority over all other machines, regardless of price. Below are a few of the record-breaking hatches taken off by owners of this famous Wisconsin \$16.25 outfit, which includes a 130-Egg Incubator and 130-Chick Brooder.

**Wisconsin Incubators Have Double Walls**

It pays to investigate before you buy. For example: Wisconsin Incubators have double walls—the outer wall is of California Redwood and the inner wall is of insulating board with dead air space between the walls. Hot water heat—double glass doors—**COPPER TANKS**—self-regulating. Roomy nursery under egg tray. Incubator is finished in its natural color, showing the high grade California Redwood lumber used—not painted to cover up inferior material. Both machines shipped complete with thermometers, lamps, egg tester and book of directions; all set up ready for use when you get them. Freight paid east of the Rockies.



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You can send in your order direct if you wish and save time. You take no risk. I give 30 days trial with the understanding that if you are not perfectly satisfied write me, send the goods back and I'll cheerfully return your money and pay all freight charges.  
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**30 Days' Trial**  
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**You Take No Risk!**

I have been advertising in this paper for years. The publishers know me and know I do just as I agree. One good hatch will pay for a Wisconsin outfit and more. Send in your order direct from this advertisement or write today for our free catalog. Address

**WISCONSIN INCUBATOR CO.**  
Box 30, Racine, Wis.

If You Want a Larger Outfit Order Our  
**180 Egg AND 180 Chick Incubator AND Brooder**  
Both for Only  
**\$20.00**  
Freight Paid

Parkersburg, W. Va.  
Wis. Inc. Co., Racine, Wis.  
Dear Sirs:—The results I have obtained with the Wisconsin Incubator are better than any other incubator in Wood County, W. Va. There are a great many incubators in Wood County, but none are as good as the Wisconsin. I set 130 eggs and got 129 little ones.  
**HENRY C. FERRINE.**

Oakwood, Ill.  
Wis. Inc. Co., Racine, Wis.  
Dear Sirs:—I received the two incubators I sent for. We like them fine. I have used your incubator for fifteen years, so know what it was. I have had three of yours and two of other makes, but yours is the best. I think it cannot be beat.  
Your friend and patron,  
**MRS. ANNA FATE.**

**HOW HE FEEDS FOR WINTER EGGS**

Eighty-nine pullets laid from 200 to 286 eggs, while two others laid 303 and 306 eggs respectively, in the American Egg Laying Contest conducted on the American Poultry School farm, under the personal direction of Prof. T. E. Quisenberry.

World's egg laying records for one year and during several months were shattered by the females in this contest. Beyond question, the man directing the feeding, giving definite instructions of "What, When and How" to feed those hens must be given his due share of credit for those great egg laying records.

Knowing well the importance of Prof. Quisenberry's feeding methods, we recently wrote him, and he has agreed to send this information free to readers of Poultry Keeper who write him at once. This information is published in the form of a 16-page bulletin called "How To Get More Eggs and Save Feed." Write Prof. T. E. Quisenberry, Dept. 4017, Kansas City, Mo., at once, before all these bulletins are gone.

The editor of the Poultry Keeper can vouch for quality in stock of S. C. B. Leghorns advertised in this issue by Henry Tushaus, 1600 Vine St., Quincy, Illinois.



**Give Your Hens The "EGG A DAY" Habit**

Your hens' egg making machinery demands protein to produce eggs in the winter time. And the best way to supply this necessary protein is to feed them **DARLING'S MEAT SCRAPS**. Be sure to insist on **DARLING'S** if you want results, because

**DARLING'S MEAT SCRAPS are Clean, Dry and Wholesome**

No refuse or foreign matter goes into **DARLING'S MEAT SCRAPS**. They're made from clean trimmings of fresh meat—cooked under high temperature—all excess grease and water pressed out—and then dried and ground up to make a clean concentrate of fresh meat, that is hygienically right, with 50% protein guaranteed, and nothing to turn rancid or harm your fowls. These are some of the reasons why you will guard the health of your entire flock if you use **DARLING'S**.



**FREE** Our valuable poultry book that tells why Famous Poultrymen use **DARLING'S MEAT SCRAPS** and how they use them to get best results, will be sent free and postpaid to you. A post card brings it free by return mail.  
**DEPT. 20**  
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**BABY CHICKS—BABY CHICKS**

700,000 for March, April, May and June delivery, via prepaid parcel post. Safe delivery guaranteed. Barred, White, Buff Plymouth Rocks, White, Silver Laced and Golden Wyandottes, S. C. White and Buff Orpingtons, S. C. Black Minorcas, Rose and Single Comb R. I. Reds, W. F. Black Spanish, S. C. M. Anconas, Black Langshans, Light Brahmas, Buff, White and Brown Leghorns.

We have shipped **BABY CHICKS** the last three years to 44 STATES without any appreciable loss. 32 Page Catalog free.

**MILLER POULTRY FARM & HATCHERIES,**  
Box K, Lancaster, Mo.

# A Quarter of a Billion Eggs a Day

BY JIM ROHAN,

President of the Belle City Incubator Co., Racine, Wisconsin.

Let's get down to brass tacks and talk facts on this incubator business. There's no use beating about the bush. We may as well look the thing right in the face and decide what's what. There's a real question to decide. If you are in the poultry business to any extent, either you should have an incubator or the incubator manufacturers should be closed down and prevented from selling more machines.

Now, that's putting it pretty straight, isn't it? But let's see if that isn't just about the size of it.

There is only one reason under the sun for making, selling or using incubators. That reason is that they save time, labor and money. If they don't fulfill that purpose—if they will not hatch better, more regularly, in greater percentage, with less trouble and at less cost than the old hen—then we had better forget them and we had better stop making them.

This year and for years to come we are all going to have to "watch our step." If we can find any way to increase production, we must take that way. Costs are secondary. Production is the important thing, not for patriotic motives, nor as a duty, but because markets are empty and must be filled if we are—all of us—going to keep going.

Consider the egg situation. Last winter eggs were high. And last winter there was an abundance of eggs in storage. This year an egg shortage already in sight, fresh eggs are likely to be worth their weight in

gold. And a year from this winter the same conditions are likely to exist. And they will continue to exist year after year until there are enough eggs being laid in the winter months to take care of the shortage.

Add to this the fact that right now the American Poultry Association is considering a national advertising campaign to persuade people to "eat an egg a day."

Think what that would mean! Seven billion dozen eggs a year would be needed for household purposes only, if this program were successful! Seven billion dozen! Almost a quarter of a billion eggs a day! Consider those figures! And then consider that in arriving at these figures we have not included the market for eggs for commercial uses.

Now, where are these eggs to come from? Hens. And where are the hens to come from? Eggs! There it is again—Eggs—Eggs—but how are the eggs from which the hens come to be hatched?

Now, we get back to our main question. Eggs are valuable! More hens are of vital importance! We have got to use the safest, surest, quickest, cheapest method we can find to increase the number of laying hens.

There are only two ways. We can use the method they used before Columbus discovered America, set our hens, take a chance on getting small hatches of scrubby chicks and lose our hens' laying power while they are setting—which is a costly, slow, unsatisfactory method at best. If we take that method, we are going to pass up the biggest opportunity that has ever been offered to poultry keepers; we are going to fall down on a job that deserves every ounce of energy we've got; the people in the cities who want an i are willing to buy eggs at fancy prices are going to go without eggs and the poultry raisers are going to lose money every day in the week.

If we take the other method—artificial incubation—we will set our incubators and feel sure of good hatches of strong, sound, healthy chicks that will grow up into husky, hearty, profit bringing hens. And we can set our incubators and keep our hens laying at the same time.

There are lots of people who pretend to think that nature's way is always best. But just remember that if you don't hoe corn the

weeds will get it—and that's nature. Wild grapes—that is, natural grapes—are good for some things, but the cultivated variety have them beat a mile.

And if we just leave our poultry business up to nature, we're going to lose out on one great big opportunity within the next few years.

The incubator is the only solution there is to the problem.

The kind of an incubator you use is up to you. You must use your own judgment in choosing the style and size machine you want. But the big point of my talk is this; there is an opportunity ahead of all of us this year. There is going to be an unprecedented demand for eggs and poultry. If we put our best into it—that is; if you raise poultry earnestly and to the best of your ability and if I build incubators and brooders honestly and to the best of my ability—we are going to win. If we go into the game at all and don't put the best we have in it, then we are slackers and we'd better get out and stay out.

Now, that's the way I feel about it. I'm going into it with all I have, heart and soul, and I'll be glad to help anyone else who will go into it the same way.

## A BABY CHICK BOOK YOU SHOULD READ

We have recently received a copy of a new book dealing with successful methods of growing chicks from shell to maturity, and after examining it we are moved to advise each reader to write for a copy. Pratt's Baby Chick Book is a handy little volume but it is packed with reliable, practical information and helpful illustrations. You will find it mighty useful whether you grow a dozen chicks or ten thousand.

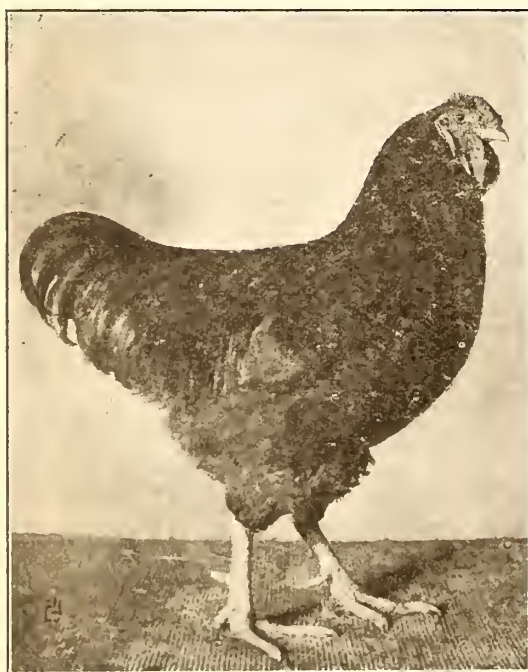
The text matter discusses, in single terms, the whole subject of managing and feeding chicks from the day they pop from the shell to the time they go to market or move to the laying houses. And it is most apparent that the author has had wide experience in this work and knows the subject thoroughly.

The cover design, in full colors, is most attractive, a real work of art.

While the matter is fresh in your mind, write the Pratt Food Co., Philadelphia, Pa., requesting a copy of their new Baby Chick Book. Just mention this magazine, and a copy will be promptly mailed you without charge.

## POULTRY HOUSE AND FIXTURES

Brand new edition—right down to date. Locating and planning houses—principle of poultry house construction—Back yard poultry houses and many other subjects suggested by the title of the book. Over 200 illustrations. Price, \$1.00 postpaid. Address Poultry Keeper, Quincy, Ill.



The picture herewith shows a Rose Comb Rhode Island Red Male from the Pens of P. K. Sprague, Maywood, Ill., who breeds Reds for egg production. Mr. Sprague is one of the oldest Red breeders in the West, having been at it for 38 years. See his ad in this issue.



# Poultry Raisers

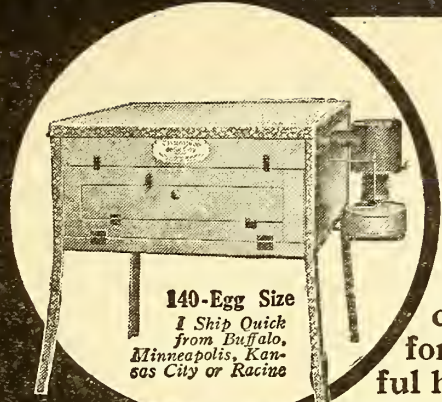
## You Can Make

### Big Money with a Belle City

Because it's a time and labor saver—low in cost—economical—convenient—with a record for fifteen years of unfailing service as a wonderful hatcher, and costs less than ten setting hens.

Get into this interesting, profit-paying business now. You can't lose. It's money for you right from the start. You can do it in your spare time—experience unnecessary. It takes only a few minutes a day, and the profits are big and sure. If you are raising chick-

ens by the "old hen way" you are losing valuable time and money and missing a big opportunity. Investigate my proposition. Write me today for Free catalog, "Hatching Facts." It tells of the many advantages and how easy it is to make big profits with my



140-Egg Size  
I Ship Quick  
from Buffalo,  
Minneapolis, Kan-  
sas City or Racine



Jim Rohan  
Pres.

"How do you always manage to get so many fine chicks?"

"Oh! It's easy when you use a Belle City"



## \$12<sup>95</sup> 140-Egg Champion Belle City Incubator

The Prize-Winning Hatcher—Self-Regulated—equipped with Thermometer and Patented Holder—Hot Water Copper Tank—Double Door—Safety Lamp—Deep Nursery—Egg Tester—with Fibre Board, Double Walled Construction that has led the field for

15 years. Simple—Safe—Sure. When ordered with my \$7.55 World Famous Hot Water, Double Walled, 140-Chick Belle City Brooder—with Safety Lamp—Guaranteed to raise the chicks—making your Hatching Outfit complete—both only \$18.50

### Freight Prepaid East of Rockies Towards Express

And allowed to points beyond. I ship from Buffalo, N. Y., Kansas City, Mo., Minneapolis, Minn., or Racine to insure quickest delivery. For 15 years my big factory here at Racine has been devoted entirely to the manufacture of this—one size—one style—

Incubator and Brooder, and I know that you cannot get a better Hatching Outfit anywhere. Hatches Chicks, Ducks, Turkeys and Geese equally well. Used by Uncle Sam, leading Agricultural Colleges, and over 815,000 successful Poultry Raisers everywhere.

### What Others Are Doing You Can Easily Do

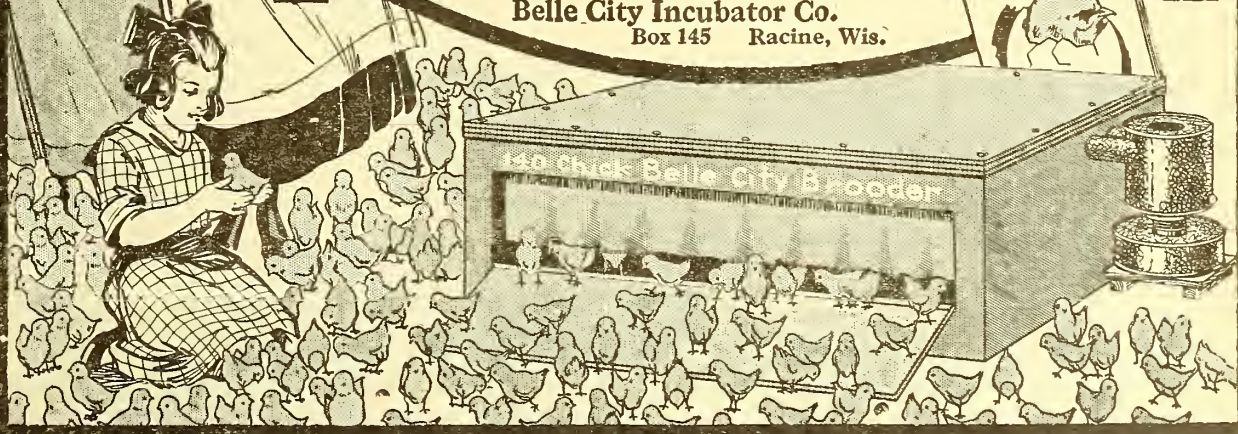
And you are perfectly safe in sending me your order—today—thousands order direct from my advertisements every year. With this Guaranteed Hatching Outfit and my complete

Guide Book for setting up and operating, your success is assured. Time means money to you now—the early broods pay best—besides the big hatches you will get you can easily

### Share in My \$1,000 in Prizes

No one else provides such easy ways for you to earn extra money. Full particulars come with my Big Free catalog, "Hatching Facts." This book gives newest ideas, easiest plans and quickest ways to make poultry pay big. But get an early start. Save valuable time—order now—Or write me for Free Catalog "Hatching Facts"—It tells the whole interesting story. Jim Rohan, Pres.

Belle City Incubator Co.  
Box 145 Racine, Wis.



# This Man In Your Town Knows The BUCKEYE



**T**HE leading hardware or seed man in your town undoubtedly handles the Buckeye Incubator. He handles the Buckeye because he knows it—knows what it has done for thirty years and what it will do. His judgement has been proven by years of experience with other incubators. He has seen them all, he knows them all and has made the Buckeye his final choice because it regularly produces a stronger, healthier more vigorous hatch than any other incubator made.

## The Final Choice of a Half Million Users

Over half a million users rely on the Buckeye Incubator for perfect batches. It produces them regularly, because it has been "Built Up to a Standard, not Down to a Price."

# BUCKEYE

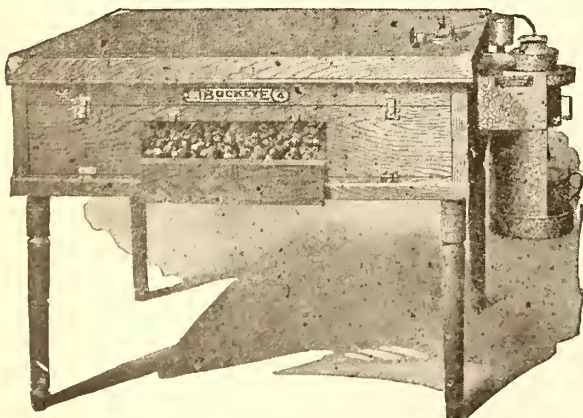
THE PERFECT INCUBATOR

The Genuine Redwood Cabinet that withstands every atmospheric change; the double lock-seamed hot-water heating system; the Buckeye fire-proof and fool-proof lamp and the dependable Buckeye thermostat, which regulates the temperature to the fraction of one degree; all make the Buckeye the soundest, safest and surest incubator investment.

## Get The Buckeye Catalogue---Read The Buckeye Guarantee---See This Better Incubator in Operation

Ask your County Agent about the Buckeye. Find out why it is endorsed by the leading Agricultural Colleges and Experiment Stations. Send for the Buckeye catalogue. See the Buckeye dealer in your town and have him explain every detail of its operation. This is one sure way to really "know" the Buckeye.

## The Buckeye Incubator Co.



15 Euclid  
Avenue  
Springfield,  
Ohio

World's Largest  
Manufacturers of  
Incubators and  
Brooders

The 26th Annual Illinois State Show held at Galesburg January 6 to 10, was the most successful state show in every way ever held in Illinois. Over 1,200 fine specimens of Standard bred poultry were on exhibition and the judges gave perfect satisfaction. Checks were sent out as soon as each class was judged, many exhibitors receiving their checks and ribbons before they left their homes for the show. The culling demonstrations were a success, the large room where they were held being crowded every time we announced a demonstration. D. E. Hale, D. T. Heimlich and F. S. Tarbill certainly pleased the audiences and all were eager to learn and had a lot of questions they wanted answered and the men went out of their way to help the new beginners.

The Barred Rocks, White Rocks, Single and Rose Comb Reds, White Wyandottes, White Orpingtons, Buff Orpingtons, Partridge Wyandottes, were out in full force. The Leghorn and Minorca classes were full of quality. The writer has been associated with shows for over 15 years, but I don't hesitate to say that for sales in practically every variety no show had this one beaten. Nor was I ever so busy introducing so many prospective customers to the exhibitors. A letter this morning from an exhibitor tells us that they received 18 inquiries from the state show official catalog that were distributed free to everybody at the show. C. P. Scott, John F. Rogers, W. E. Plowman, E. C. Pendleton, D. L. Warner, L. H. Eldridge, W. J. Jones, W. S. Bearmore, P. W. Ballard, Earl Emry, in fact I could mention fifty or sixty more who sold all they could spare and at good prices too. Lots of egg orders were taken and that is why the State Association is mighty glad the show was held at Galesburg.

Join the association is the slogan this year and also get others to join.

At the annual meeting the secretary was instructed to get in touch with every farm adviser in Illinois, and we will put out demonstrators in every county working with the farm bureaus. Breeders are requested to send in the name of their farm adviser so we can get in touch with them.

Plans for the egg laying contest are as follows:

Pens to be made up of 6 females and all to be fed alike. Contest to open November 1st and continue for one year. Contest to be in absolute charge of D. T. Heimlich, of Jacksonville, a director of the State Association, and who will make his home for the year on the farm at Benld, where contest will be held. Entries will be received any time and as we wish every variety represented we hope the breeders will not wait until the 100 pens are taken by two or three varieties, but will enter as soon as possible. Entree fee will be \$25.00, to be paid in three installments if desired, or in full, before September 1st.

The banquet during the state show was a treat. Over 100 breeders sit-

ting down to the spread and C. P. Scott and the secretary were certainly surprised when D. E. Hale presented Scott with a valuable Masonic ring and the secretary with a diamond stick pin, both being unable to express their thanks at that time, now promise to work harder than ever for Standard bred poultry.  
A. D. Smith. Sec.

#### PROFITABLE CULLING AND SELECTIVE FLOCK BREEDING

One-fourth to one-half of the hens in the average flock are non-producers, or practically so, for six months in the year. These "slacker" hens eat up the profits faster than the good layers in the flock can earn them. If you keep poultry for profit, whether you have a commercial or backyard flock, you cannot afford to feed these idle hens. Get rid of them by adopting simple, easily applied culling methods.

"Profitable Culling" describes every known method of selecting layers that is of recognized value. You can readily follow the plain and easily understood descriptions in this book, which are fully illustrated with several dozen black-and-white and three-color photographic reproductions of live, plucked and dissected good layers, non-layers, and poor producers. By proper culling you can secure largest profits and protect your feed bin and bank account by keeping the egg production of your flock up to or above a fifty per cent yield throughout the laying year or season—in fact until early September.

Size of book is 9x12 inches. It contains 120 pages with attractive Sewell art cover; is printed on super-calendered half-tone book paper and profusely illustrated. Compiled at a cost of more than \$4,000. Price postpaid, \$1.50. Address Poultry Keeper, Quincy, Illinois.

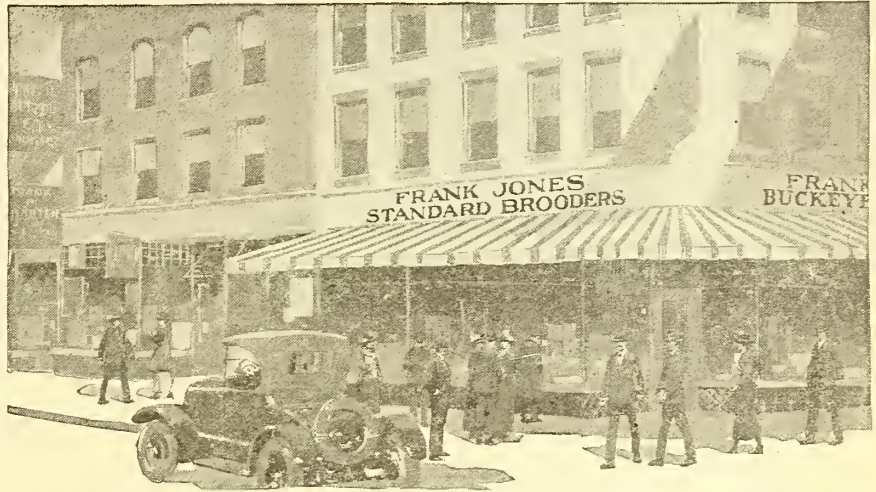
#### THE ORPINGTONS

Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeder's opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drenstedt, Breeder and Judge. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.

#### FEEDING FOR EGGS

Whether you keep ten hens or ten hundred, you can not afford to feed them high priced feed unless they lay regularly. A food that has material for 100 yolks and only 25 whites will mean that the hen can lay only 25 eggs. The over-supply of yolk material in that feed will go toward making fat rather than eggs. Our new book "FEEDING FOR EGG PRODUCTION," by H. L. Kempster, tells in plain tables how and what to feed for best results. By following this feeding system you can be sure of best results. Copy of book will be sent postpaid for 25 cents. Address, Poultry Keeper, Quincy, Ill.

# Ten Thousand Dealers Endorse The STANDARD



**O**NLY the best Poultry Supply dealers handle the Standard Colony Brooder. They endorse it and sell it because of its known quality, its absolute reliability; because it is the **proven brooder**.

Go to your dealer and ask him to tell you exactly why he endorses the Standard Colony Brooder. Then you will get the facts, and find out why you will be absolutely safe in choosing the Standard over all other makes.

## Proven Best by Test and Comparison

The Standard can be relied upon to furnish adequate, consistent heat--**all the time, under any and all weather conditions--twenty four hours a day--every day in the year.** That is why it has the unqualified endorsement of over 100,000 successful poultrymen and Agricultural Colleges and Experiment Stations the country over.

# STANDARD Colony Brooder

It is safe, simple, self-regulating, and self-feeding. It burns coal--**the best fuel for any heating purpose--**and only six to nine cents worth a day. It operates 24 hours with one filling and requires minimum attention.

There is no fume-laden air to poison the chicks, no corners where they can be crowded and killed, no wooden walls nor curtains to harbor dirt and disease; nothing but a galvanized iron hover and a cast-iron self-regulating stove that throws an adequate volume of pure warm air over the backs of the chicks--**all the time!**

## See The Standard in Operation at Your Dealer's ---Write Your Own Guarantee

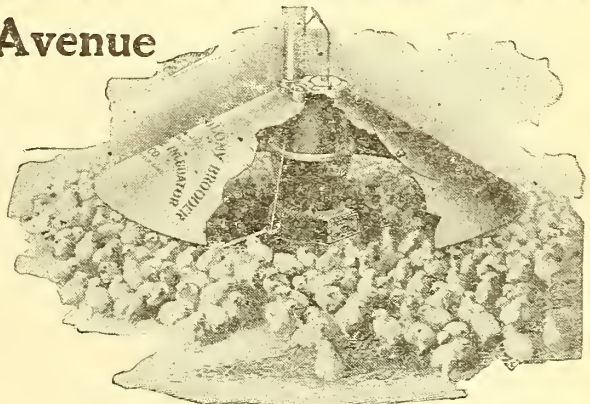
Ask your County Agent what he thinks of the Standard. Then go to your dealer's and see how simple and efficient the Standard is in operation. Have him tell you about the guarantee, of your own writing, that goes with every Standard Colony Brooder. **Absolute satisfaction or your money back.** You are to be the judge. That is the basis on which all Standards are sold. Dealer's name on request. Catalog Free.

## The Buckeye Incubator Co.

15 Euclid Avenue

Springfield,  
Ohio

World's Largest  
Manufacturers of  
Incubators and  
Brooders



# POULTRY KEEPER

520 Hampshire Street.  
Quincy, Illinois.  
Issued the First of Each Month.  
A Journal for Everyone Interested in Making Poultry Pay.

Subscription Price:  
Fifty Cents a Year; Single Copies 5c.  
Foreign Postage; Thirty-six Cents a Year Additional.  
Quincy, Ill., delivery, 75c; E. F. D., 50c.  
Canadian subscription 75c, a year.

Entered at the Quincy, Ill., Post Office as Second Class Matter.

Remittances should be made by Draft, Money Order, Express Order or Registered Letters. Small sums will be accepted in United States one or three cent postage stamps.

Change of address—When this is desired, be sure to give old and new Post Office addresses. All subscriptions invariably discontinued at expiration. Subscribers will confer a favor by reporting to us irregularities in receiving the Poultry Keeper.

Advertising rates made known on application.  
Poultry Keepers readers are cordially invited to express their opinions on any subject of poultry that will be of interest to our readers, give helpful talks to the inexperienced and ask questions in any department.  
A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## DEEGE'S BLACK DIAMOND MINORCAS

**My Winnings** } At Ill. State Fair 1, 2, 3, 4 cockerel; 1, 2, 3, 4 pullet.  
} At Quincy Nov. 1, 2, hen; 1, 2 cockerel; 1, 2 pullet.  
**In 1919** } At Ill. State Show, 1919, 1, 2 hen; 1, 3 cockerel and  
} At Ill. State Show, 1920, 1, 2 pullet.  
**and 1920** } At Chicago Nat. Show, 1920, 3, 4 hen; 4 cockerel; 2, 5 pullet.  
} Color specials at all above shows.

Do you want this kind of quality?

I have mated four fine pens all Hogan tested for the egg trade and if you want Minorcas I am sure I can please you.  
GROVER DEEGE, 819 Jefferson St., Quincy, Illinois.

### BETTER STOCK

We take it for granted that "Poultry Keeper" has very few subscribers who do not raise poultry. We also know that "Poultry Keeper" reaches many subscribers who do not keep standard breed poultry. We also know that "Poultry Keeper" reaches a still larger number of subscribers who have no system of culling their flock to weed out the loafers. It is just these kind of people we want to reach. There is by far too much loafing in the poultry yards of our subscribers, even of those who keep standard breed poultry.

We hope those who are not now interested in standard breed poultry

## 4 Glorious ROSES

Hardy, Everblooming, Guaranteed True to Name. All bloom this summer. Mailed postpaid for..... **25c**



**Radiance**—Rich pink  
**Miss Wilmot**—Sulphur cream  
**Florence Forrester**—Large white  
**Hooster Beauty**—Velvety scarlet  
**10 Pkts. Flower Seeds**

The following collection blooms from early summer to late fall: Aster, Sweet Alyssum, Marigold, Petunia, Pansy, Phlox, Poppy, Salvia, Verbena, and Zinnia. Generous pkts. Extra special value postpaid 30c. I will also mail 5 packets of Hardy Daisy seed (five colors) for 15c or I will mail the above 3 Collections, the 4 Roses, the 10 pkts. of Flower Seed and the 5 pkts. of Hardy Daisy Seed all for 40c.

**COMPLETE CATALOG FREE**

Lists over 400 roses, all the newest and best. Dahlias, Ferns and everything for house and garden. Send for your copy now.  
MISS JESSIE M. GOOD Box 238 SPRINGFIELD, OHIO

will seriously consider taking up this subject. It means more money for you. It means that you will take a much better pride in your stock and that one thing will lead to your taking better care of them.

While "Poultry Keeper" is devoted to the utility side of poultry raising, we maintain that the best utility stock is standard breed and at all times urge our subscribers to get into the standard breed class.

In regard to culling out the loafers, this question applies to all our subscribers regardless of whether they have standard breed stock or not. We know many of you think that this is a matter only for experts and that you cannot afford to have some expert come and go through your flock. Such is not the case. In Missouri there has been conducted recently an egg laying contest in which amateurs were allowed to cull the flocks, according to the Hogan test. Remember, no professionals selected these birds but amateurs—persons who had read the instructions but had no expert knowledge in the matter whatever. They divided various farm flocks into pens of five each, designating one pen as profitable hens, and the other pen as the non-producers of culls. On January 15th the report on the five pens, making a total of 25 hens designated as profitable, had laid up to date 440 eggs, while the culls from five pens having a total of 25 hens, had laid only 271 eggs. The contest began September 15th.

We consider this a very important contest for the reason that it brings out the fact that an amateur can cull a flock and will be able to weed out most of the loafers.

We trust more of our "Poultry Keeper" subscribers will give due consideration to this matter. Study "Hogan's" system of testing, whether a hen is a heavy producer or not, and then put it into practice in your own flock and observe the results.

# Bigger Hatches Healthier Chicks

That should be your reason for buying an incubator. Then why not get the best in the first place? That means an X-Ray, the incubator that's famous for big hatches, healthier chicks. Tried and tested by experts in competition with others. Used by thousands of men and women and now considered by all the easiest operating, most economical, most modern, and big hatches considered, the best incubator value that your dollar will buy.

## THE X-RAY WAY-MAKES POULTRY RAISING PAY

Colored Catalog FREE

The price you pay for an incubator means nothing. It's what it does, what you get out of it that counts. That's why we build 20 years' experience into every X-Ray we sell. 20 years of improvements, new features, such as X-Ray Radiator Heater, X-Ray Vapor Generator, X-Ray Gas Arrestor, X-Ray Big Capacity Oil Tank (only one fill during hatch), X-Ray Automatic Regulator, X-Ray Quick Cooling Tray, X-Ray Hinged Glass Top, X-Ray Improved Chick Tray, etc., each one important to easy, economical, big profitable hatches not found on other incubators and that's why you'll like it after you have tried it.

**Write for Big X-Ray Catalog**

Don't be satisfied with any old thing that might be called an incubator. Write today for catalog. Find out what a real hatcher is. See the construction of the X-Ray. Analyze the improvements, compare the X-Ray operating cost with others. See the evidence of bigger Poultry Profits and you'll decide your X-Ray investment is the best you can make. All these facts contained in catalog. Sent free. A post card will do. Write today.

**X-RAY INCUBATOR CO.**  
843 X-Ray Building  
Des Moines, Iowa

Shipped by Express Prepaid.



# Henderson's "Champion" Barred Plymouth Rocks

## WIN at TWO of the WORLD'S GREATEST SHOWS

Coliseum Show, Chicago, Ill.

Nov. 25th, 1919-Dec. 1st, 1919.

1st Exhibition Cockerel.  
 1st Exhibition Pullet.  
 1st and 2nd Exhibition Hen.  
 4th Exhibition Cock.  
 2nd and 5th Pullet Bred Cock.  
 2nd, 5th and 7th Cockerel Bred Pullet.  
 2nd and 4th Pullet, Mated Pens.  
 4th Cockerel, Mated Pen.  
 5 Best Exhibition Cockerels.  
 5 Best Exhibition Pullets.

Heart of America Show, Kansas City, Mo.

Nov. 25th, 1919-Dec. 1st, 1919.

1st and 5th Exhibition Cockerel.  
 2nd and 4th Exhibition Pullet.  
 1st Exhibition Pen.  
 Sweepstake Champion Pen of the Entire Show.  
 Best Shape Male.  
 Best Color Male.  
 Best Shape Female.  
 9 "CHAMPIONS" competed.  
 9 "CHAMPIONS" were winners.

Henderson's "CHAMPIONS" have met the best that could be produced by fifty-seven of the foremost breeders of the United States, at three of the World's Most Renowned Shows, "Iowa State Fair, August, 1919, Chicago Coliseum, November, 1919, and Heart of America Show, Kansas City, November, 1919, and have won more awards than all competitors combined, winning fifteen out of twenty-five first prizes, the most coveted of all prizes. First exhibition cockerel at each of the three shows, Sweepstake Champion cockerel at Iowa State Fair, and Sweepstake Champion pen at Heart of America Show. In the three combined shows eighty-nine "champions" have competed. Seventy-seven of them have been under the ribbons, this phenomenal record stands alone and unchallenged.

We can furnish winners for any show, or breeders that will put quality into any breeding yard. "We challenge the world to produce as many high class exhibition females as can be seen at any time on this farm." Write for mating list which fully describes the most wonderful matings in America.

J. C. Johnston **HENDERSON FARMS** W. W. Henderson  
 Superintendent Box K Bridgeton, Mo. Proprietor

# Scott's Reds Are Far Famed

They are constant winners having competed with the best Reds that have been produced from the Atlantic to the Pacific, from Manitoba on the North to the Gulf of Mexico on the South.

## Their Ability To Win

is not all of their accomplishment. They produce eggs when they are high. Few there be who have not come within the range of the magic spell when the big brown eggs begin to shell.

## Five Females of Scott's Reds In the American Egg Laying Contest Layed 102 Eggs During Month of November

They were hatched March 20th being a few days over 6 months old when they entered the contest. Their record was 68 per cent in November, there being 51 pens in competition, 255 birds of various variety selected for this contest, yet this pen of S. C. Reds outlayed their nearest competitors by 11 eggs.

*The pullets in this contest are Exhibition Quality with a score of 90 points and better*



Scott's Reds for the past two years have won the highest honors in the Single Comb class and rank third in the American Class, having won a certificate from the American Egg Laying Contest for a 200 egg laying Pen.



**C. P. SCOTT**  
 Route 7 PEORIA, ILLINOIS



J. W. MYERS, President,  
Reliable Incubator and  
Brooder Co.

I have been building Reliable Incubators and Brooders since 1882. Have sold many thousands of them and do not know of a single dissatisfied customer. Have also been raising poultry for over 40 years, and my experience has enabled me to help many of my customers to succeed. So if you have any problem that puzzles you, drop me a line and I may be able to help you solve it. You ought to have my Poultry Book which will be valuable to you, no matter what machine you are using. Write for it.

#### THE USERS "OK" COUNTS

D. W. Goodling, Oriental, Pa., writes: "Send me 16 more 300-egg size Reliable Incubators, as soon as possible. This makes a total of 21. I have bought from you. Have used six other makes but none of them hatch as well as the Reliable."

Mrs. Clara Colwell, Smith Center, Kan., who paid for her own farm with poultry hatched and raised in over 100 Reliable Incubators and Brooders, writes: "I want to help a widow here who has a mortgage on her farm, and as I have had good success with your incubators and brooders, I want you to send me 10 incubators at once. I will help get her started and know she will be able to pay her mortgage off the first year. The machines I bought of you are as good as when I first got them and I can beat old Biddy any time." Oct. 25, 1919: "I enclose you herewith my order for 74 more 340-egg standard incubators."

A. L. Drummond, Norton, Kas., writes: "If you will look up your files you will find that I have bought from you ten 300-egg size and ten 400-egg size incubators. I need ten more, as I have a standing offer for 2000 chicks per week. I like the Reliable better because I get more chicks."

J. B. Woodmansee, Highland, O., writes: "Your Blue Flame Wickless Oil Heated Hover is just what I have been looking for during my poultry life. It is almost 100 per cent better than the coal heated brooder."

*Guaranteed Quality ~ Tried And Proven  
Poultry-Raising Equipment*

# STANDARD RELIABLE Incubator Oil Heated, Wickless Colony Hover

### WHAT IT IS DOING FOR OTHERS IT WILL DO FOR YOU.

There can be no stronger guarantee of success in poultry raising than that which goes with the "Old Reliable" Incubator and Hover. It is a much stronger guarantee than any that can be written or printed on paper—it is the **Actual Experience** of some hundreds of thousands of people, men, women and children, beginners as well as experts, extending over a period of 38 years. Many of these people have made fortunes in the poultry business by the aid of this equipment, and all of them take pleasure in giving the Old Reliable full credit for its part in their success.

Two of the rules that I have always firmly insisted upon during my 38 yrs. experience in building and selling poultry-raising equipment are:

- 1st—The "Old Reliable" must be quality built—every machine which leaves my factory must fully back up, in every detail of construction, the long standing, world-wide reputation of the Reliable, for stability, economy and hatching success.
- 2nd—All my advertising must be written conservatively—no claims shall be made for my machines which can not be made good in the practical experience of the users.

Now, I do not claim that the Reliable is the only good hatching machine on the market, but I do claim that it is as nearly a perfect hatching machine as modern science has devised and as high quality material and expert workmanship can produce.

#### FEATURES WHICH APPEAL TO PRACTICAL POULTRY RAISERS

**Sturdily Built** of thoroughly seasoned wood.

**Double Walls and Top**, well insulated; top and bottom tongued and grooved; double glass doors; strong legs; roomy chick nursery; safety all-metal lamp, burner and chimney.

**Double Enclosed Heating System** which utilizes all the heat from the lamp in two ways—saves fuel every hatch; a double safeguard against chilling—makes the Reliable a dependable cold weather hatcher.

**Patented Super-Sensitive Heat Regulator**, with thermometer tested by U. S. Government standard; automatic moisture supply and ventilation, maintaining correct hatching conditions in varying weather; requires little attention.

Reliable Incubators and Hovers are in use in many State and National Experimental Stations, in the United States, Canada, England, Italy, France, Spain, New Zealand, Norway, Sweden and many other countries.

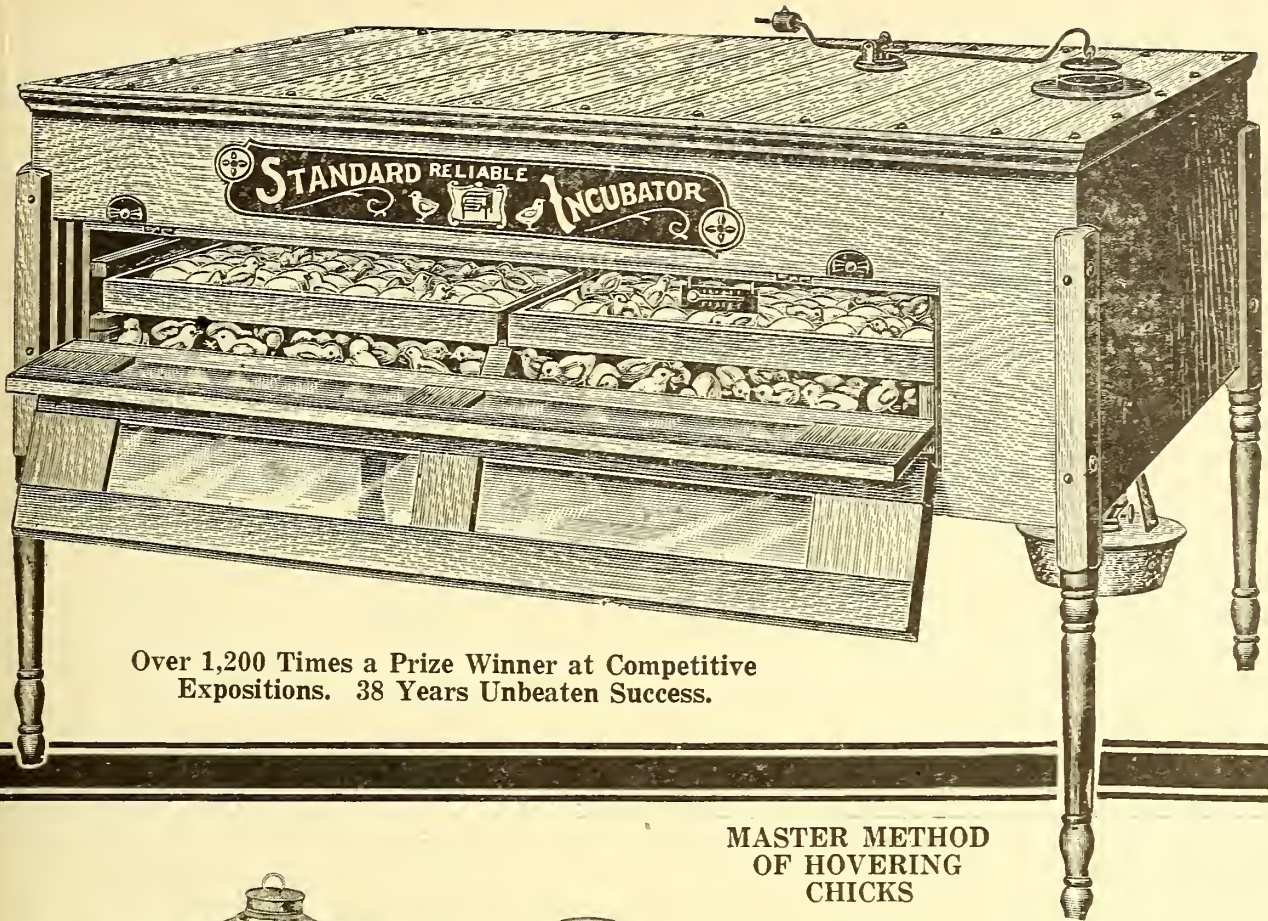
We build the Reliable in all capacities, for 100 to 2,000 eggs. Shipped ready to start except attaching legs.

Ask your dealer about this machine—also about the Reliable Blue Flame, Wickless Oil Heated Hover shown on opposite page, the most perfect chick mother ever offered poultry raisers. If your dealer can not supply you, write me and I will ship direct from factory.

J. W. MYERS, President,

Reliable Incubator & Brooder Co.

Box A-15, Quincy, Ill.



Over 1,200 Times a Prize Winner at Competitive Expositions. 38 Years Unbeaten Success.

### MASTER METHOD OF HOVERING CHICKS

Raise the chicks you hatch. The heaviest losses in the poultry business are by the death of young chicks before they are able to care for themselves, through chilling, crowding and smothering.

In all my 38 years experience in manufacturing poultry-raising equipment, I have never offered my customers an equipment in which I have greater pride and confidence than I have in the

### RELIABLE BLUE FLAME, OIL HEATED WICKLESS HOVER

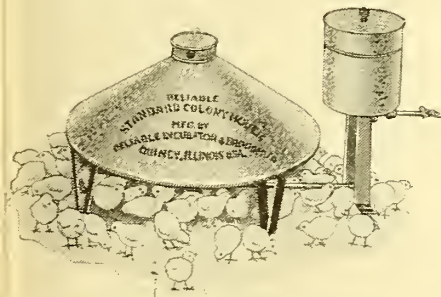
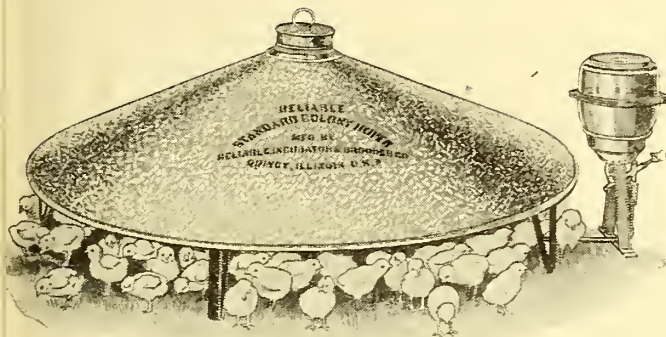
This hover offers all the essentials of comfort, health and safety for chicks, combined with convenience, economy and success. Just think what these advantages mean to you and to the young chicks entrusted to the care of the hover:

Heated with ordinary coal oil which is always easily obtainable.

A wickless burner making a slow, steady blue flame, absolutely safe.

No wicks to trim, no smoke, no soot, no odor, no fumes, no dirt or dust.

Abundance of heat automatically regulated by visible oil feed—saves fuel.



made of Galvanized Steel in Four Sizes:  
18 in., 30 in., 42 in., 52 in.

Poultry raisers are enthusiastic about this hover. I am convinced by the expressions of a few of them on the opposite page. Read them. They are convincing.

J. W. MYERS, Pres.  
Reliable Incubator & Brooder Co.  
Box A-15, Quincy, Ill.

Please send me Free Illustrated Catalog on your Incubators and Brooders.

My Name .....

P. O. ....

State .....





J. W. MYERS, President,  
Reliable Incubator and  
Brooder Co.

I have been building Reliable Incubators and Brooders since 1882. Have sold many thousands of them and do not know of a single dissatisfied customer. Have also been raising poultry for over 40 years, and my experience has enabled me to help many of my customers to succeed. So if you have any problem that puzzles you, drop me a line and I may be able to help you solve it. You ought to have my Poultry Book which will be valuable to you, no matter what machine you are using. Write for it.

Guaranteed Quality - Tried And Proven  
Poultry-Raising Equipment

# STANDARD RELIABLE Incubator Oil Heated, Wickless Colony Hover

## WHAT IT IS DOING FOR OTHERS IT WILL DO FOR YOU.

There can be no stronger guarantee of success in poultry raising than that which goes with the "Old Reliable" Incubator and Hover. It is a much stronger guarantee than any that can be written or printed on paper—it is the Actual Experience of some hundreds of thousands of people, men, women and children; beginners as well as experts, extending over a period of 38 years. Many of these people have made fortunes in the poultry business by the aid of this equipment, and all of them take pleasure in giving the Old Reliable full credit for its part in their success.

Two of the rules that I have always firmly insisted upon during my 38 yrs. experience in building and selling poultry-raising equipment are:

- 1st—The "Old Reliable" must be quality built—every machine which leaves my factory must fully back up, in every detail of construction, the long standing, world-wide reputation of the Reliable, for stability, economy and hatching success.
- 2nd—All my advertising must be written conservatively—no claims shall be made for my machines which can not be made good in the practical experience of the users.

Now, I do not claim that the Reliable is the only good hatching machine on the market, but I do claim that it is as nearly a perfect hatching machine as modern science has devised and as high quality material and expert workmanship can produce.

### FEATURES WHICH APPEAL TO PRACTICAL POULTRY RAISERS

Sturdily Built of thoroughly seasoned wood.

Double Walls and Top, well insulated; top and bottom tongued and grooved; double glass doors; strong legs; roomy chick nursery; safety all-metal lamp, burner and chimney.

Double Enclosed Heating System which utilizes all the heat from the lamp in two ways—saves fuel every hatch; a double safeguard against chilling—makes the Reliable a dependable cold weather hatcher.

Patented Super-Sensitive Heat Regulator, with thermometer tested by U. S. Government standard; automatic moisture supply and ventilation, maintaining correct hatching conditions in varying weather; requires little attention.

Reliable Incubators and Hovers are in use in many State and National Experimental Stations, in the United States, Canada, England, Italy, France, Spain, New Zealand, Norway, Sweden and many other countries.

We build the Reliable in all capacities, for 100 to 2,000 eggs. Shipped ready to start except attaching legs.

Ask your dealer about this machine—also about the Reliable Blue Flame, Wickless Oil Heated Hover shown on opposite page, the most perfect chick mother ever offered poultry raisers. If your dealer can not supply you, write me and I will ship direct from factory.

J. W. MYERS, President,

Reliable Incubator & Brooder Co.  
Box A-15, Quincy, Ill.

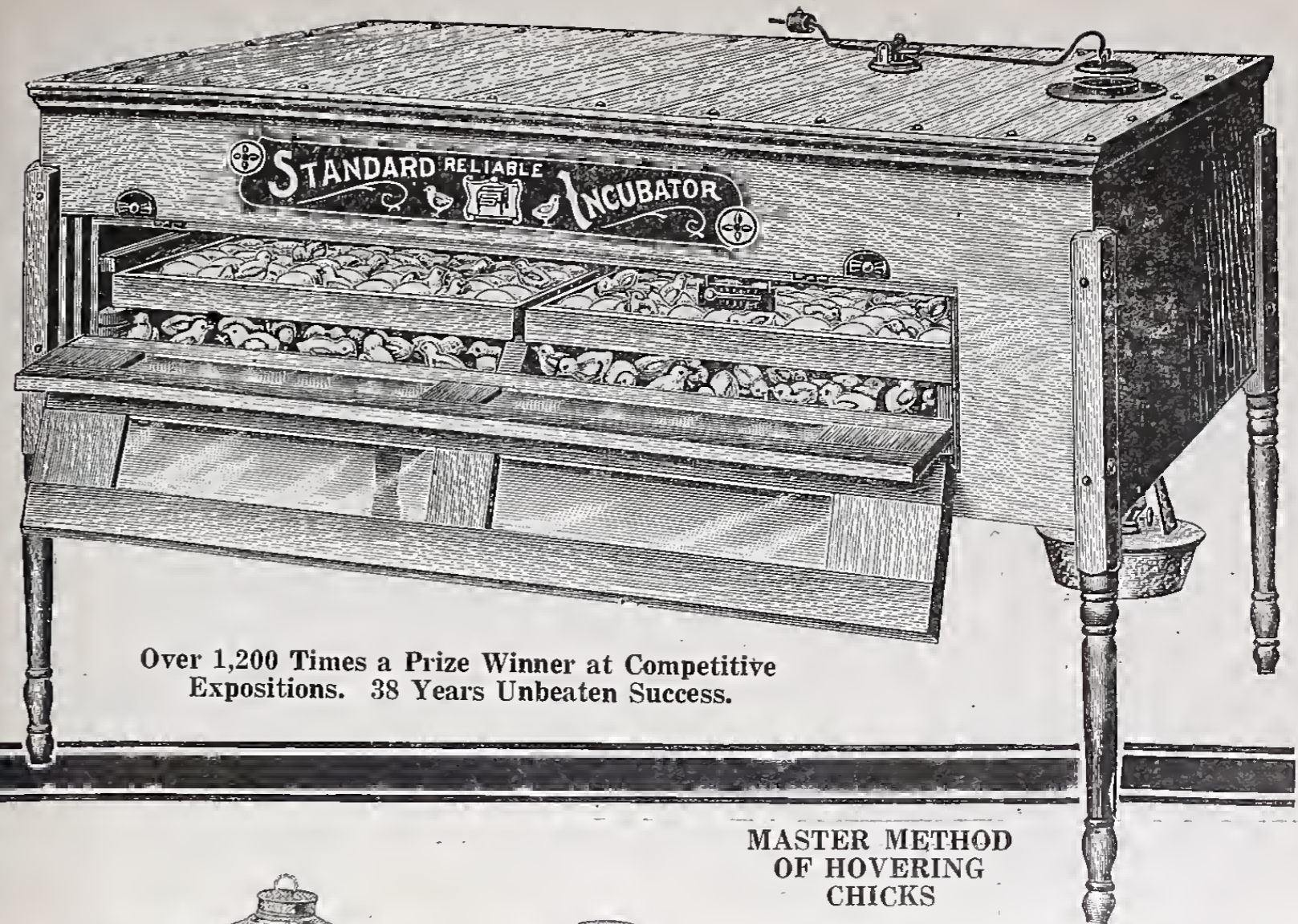
### THE USERS "OK" COUNTS

D. W. Goodling, Oriental, Pa., writes: "Send me 16 more 300-egg size Reliable Incubators, as soon as possible. This makes a total of 21. I have bought from you. Have used six other makes but none of them hatch as well as the Reliable."

Mrs. Clara Colwell, Smith Center, Kan., who paid for her own farm with poultry hatched and raised in over 100 Reliable Incubators and Brooders, writes: "I want to help a widow here who has a mortgage on her farm, and as I have had good success with your incubators and brooders, I want you to send me 10 incubators at once. I will help get her started and know she will be able to pay her mortgage off the first year. The machines I bought of you are as good as when I first got them and I can beat old Biddy any time." Oct. 25, 1919: "I enclose you herewith my order for 74 more 340-egg standard incubators."

A. L. Drummond, Norton, Kas., writes: "If you will look up your files you will find that I have bought from you ten 300-egg size and ten 400-egg size incubators. I need ten more, as I have a standing offer for 2000 chicks per week. I like the Reliable better because I get more chicks."

J. E. Woodmansee, Highland, O., writes: "Your Blue Flame Wickless Oil Heated Hover is just what I have been looking for during my poultry life. It is almost 100 per cent better than the coal heated brooder."



Over 1,200 Times a Prize Winner at Competitive Expositions. 38 Years Unbeaten Success.

### MASTER METHOD OF HOVERING CHICKS

Raise the chicks you hatch. The heaviest losses in the poultry business are by the death of young chicks before they are able to care for themselves, through chilling, crowding and smothering.

In all my 38 years experience in manufacturing poultry-raising equipment, I have never offered my customers an equipment in which I have greater pride and confidence than I have in the

### RELIABLE BLUE FLAME, OIL HEATED WICKLESS HOVER

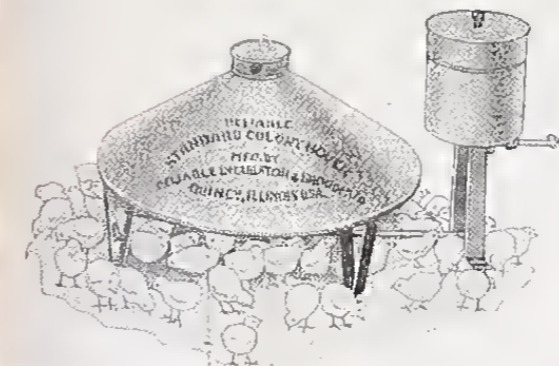
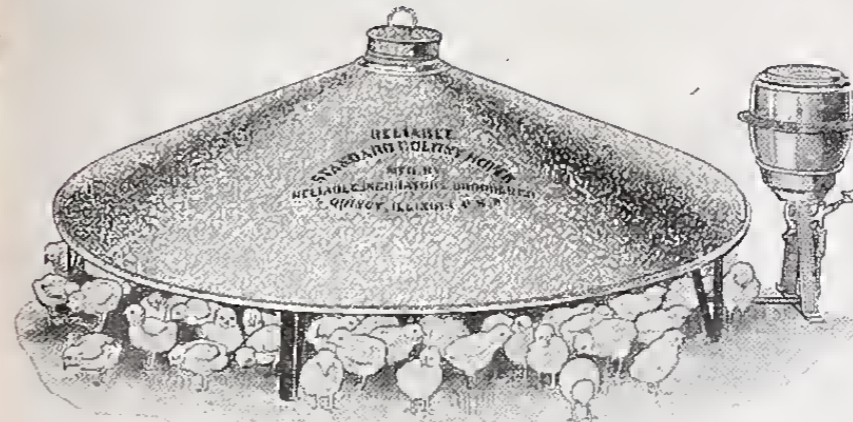
This hover offers all the essentials of comfort, health and safety for chicks, combined with convenience, economy and success. Just think what these advantages mean to you and to the young chicks entrusted to the care of the hover:

Heated with ordinary coal oil which is always easily obtainable.

A wickless burner making a slow, steady blue flame, absolutely safe.

No wicks to trim, no smoke, no soot, no odor, no fumes, no dirt or dust.

Abundance of heat automatically regulated by visible oil feed—saves fuel.



Built of Galvanized Steel in Four Sizes:  
18 in., 30 in., 42 in., 52 in.

Poultry raisers are enthusiastic about this hover. I am giving you the expressions of a few of them on the opposite page. Read them. They are convincing.

J. W. MYERS, Pres.  
Reliable Incubator & Brooder Co.  
Box A-15, Quincy, Ill.

Please send me Free Illustrated Catalog on your Incubators and Brooders.

My Name \_\_\_\_\_

P. O. \_\_\_\_\_

State \_\_\_\_\_

# DR HESS POULTRY PAN-A-CE-A



Get winter eggs. Dr. Hess Poultry Pan-a-ce-a has a direct action on the egg organs. It tones them up, makes more of the feed go toward egg-making. Feed it regularly to condition pullets and hens, to make them feel well and to give them a real laying disposition. Do this and keep your hens right on at steady laying all through the winter. Buy according to size of your flock, a penny's worth for each hen to start with. If Pan-a-ce-a does not make your hens lay now, the dealer is authorized to refund your money. Packages, 30c, 75c and \$1.50. 25-lb. pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

**Dr. HESS & CLARK**  
Ashland Ohio

of the State Show at Galesburg, where he won 1st and 5th cockerel, 2nd and 5th hen, 2nd and 5th pullet, in a very hot class. Mr. Ballard's 1st cockerel admitted by all who seen him to be the ideal type of White is the son of Mr. Ballard's great cock bird the winner of five Championships, 1st at Illinois State Show, and at Quincy and 2nd at Galesburg, which show what a fine strain of White Rocks he has. Both birds were bred and raised by him and he will place these and other fine males at the head of pens for egg trade. Address him at 175 S. Lennary, Galesburg, Ill.

### EGG LAYING CONTEST

The poultry men of Illinois are enthusiastic over the prospects for their egg laying contest which is to begin November 1st. It will be made up of 100 pens consisting or six females each. The entries close September 1st and as the contest is limited to 100 pens, breeders should make application early.

For particulars address. A. D. Smith, Secretary Illinois State Poultry-Association, Quincy, Ill.



A PRIZE WINNER

Mr. E. J. Horner, Quincy, Ill., has reason to be proud of his winnings at the various shows this last winter. His Rhode Island Reds are winning so constantly, and his egg records are so good, that they are attracting the attention of breeders throughout the country.

"Horner's Pedigree Reds" are becoming famous due to the fact that they are bred to win, and lay. Mr. Horner has just published his mating list for the season and is now looking eggs for future shipment. If you want to get some new blood from a well-recognized strain of Reds look up Mr. Horner's ad in this issue and write for his mating list.

**P. W. BALLARD'S ROCKS**

P. W. Ballard, of Galesburg, whose ad appears regularly in this paper, has just written us the results

# BABY CHICKS



## By Parcel Post Paid To Your Door

Best system of incubation used. Strongest chicks produced. Healthy—liveable—vigorous—pure bred—great values—heavy layers. Fresh air forced in egg chamber and air is completely changed every three minutes by electric fans. 200,000 chicks for 1920.

### PRICES PER 100 CHICKS DELIVERED POSTPAID

- S. C. W. Leghorns, Grade 1, \$20; Grade 2, \$17.
- Barron Leghorns. Grade 1, \$18.
- Barred Rocks, Grade 1, \$23; Grade 2, \$18.
- White Rocks. Grade 1, \$25; Grade 2, \$20.
- S. C. R. I. Reds. Grade 1, \$25; Grade 2, \$20.
- Wyandottes. Grade 1, \$25; Grade 2, \$20.

While the above prices are for 100 chicks, we sell any quantity at our catalog prices which we mail on request. Write us today.

**Farrow-Hirsh Co. Peoria, Illinois**

WHEN WRITING ADVERTISERS, PLEASE MENTION THIS PAPER



The above is a splendid picture of the first prize cockerel, Single Comb Black Minorca owned by Grover Deege, 815 Jefferson St., Quincy, Illinois. Mr. Deege's Minorcas have made some splendid winnings this season. He captured first and second cockerel, first and second hen, second, third, fourth and fifth on pullet at the Quincy 1919 show. At the Illinois State Show he won first and second on pullet and fifth on cockerel. At the Chicago National Show he won second and fifth on pullet, third and fourth on hen and fifth on cockerel. Mr. Deege's mating list is now ready for distribution and any of our readers who are interested in Single Comb Black Minorcas would do well to write for a copy of this list.

**POULTRY HOUSES AND FIXTURES**

Poultry houses correctly planned and built are essential to the success of every poultry enterprise, whether it is established on a large or a small scale. New edition of "Poultry Houses and Fixtures" is full of expert information in regard to all details of planning and building. James E. Rice, Professor of Poultry Husbandry, New York State College of Agriculture, Cornell University, Ithaca, New York, thought so well of the previous edition of "Poultry Houses and Fixtures" that he used it in class work. Now he writes as follows about the latest edition: "This is the most complete, authoritative and practical publication on the subject which has come to my attention. I shall be glad to refer our students and others to this book as a text." Size of book, 9x12 inches; 112 pages and cover. Printed on super-calendered half-tone book paper and profusely illustrated. Price, post-paid \$1.00. Address Poultry Keeper, Quincy, Ill.

**THE WYANDOTTES**

A complete text book and instructive treatise. Tells how to select breeders and how to mate for best results. Care, feeding and management fully discussed. Edited by J. H. Drevstedt, breeder and judge. Three color plates by F. L. Sewell. 160 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.

**Your Incubator Thermometer must be RIGHT here**

IT must be accurate at every point to the fraction of a degree, and sensitive to the slightest fluctuation. It must be 103° when it reads 103°; or your machine, no matter how good, cannot give you the chicks you've a right to expect. Your safest plan is to use the standard

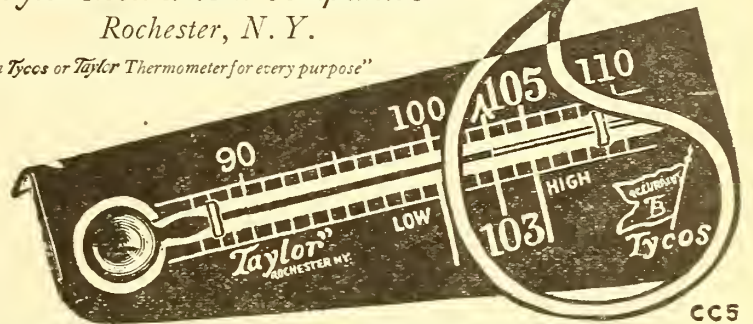
*Tycos Incubator Thermometer*

Made by thermometer specialists, with infinite care and precision to secure absolute accuracy everywhere; tested, thoroughly seasoned, then re-tested, with the result that invariably the *Tycos* tells the truth. And that means exact heat control and good hatches of good healthy chicks. Ask your nearest dealer—if he cannot supply you, remit to us direct. Price of style 5774, shown below, is \$1.00 and 5 cents for postage.

Write for FREE copy of "Incubator Facts Worth Knowing."

*Taylor Instrument Companies*  
Rochester, N. Y.

"There's a *Tycos* or *Taylor* Thermometer for every purpose"



CC5



**Make Your Hens Lay High Priced Winter Eggs**

by giving them plenty of good drinking WATER. To make your hens lay \$1 a dozen WINTER EGGS they must have water to drink and plenty of it. You simply must keep UNFROZEN water before them at all times. Your egg production may be stopped for a whole month by ONE COLD DAY with water frozen and inaccessible. Pure, fresh drinking water is equally, if not more, important than feed for production of eggs.

WE GUARANTEE OUR

**"Eureka" Sanitary Non-Freezing Fountain**

to keep the WATER UNFROZEN at all times. Requires absolutely NO ATTENTION except to be filled. No lamps to fuss with and no fire risk. It is the only up-to-date sanitary method of supplying the fowls with water under proper conditions. Made of heavy, galvanized iron and is similar in construction to the fireless cooker. The drinking cup does not project beyond the outer can, consequently there is no chance for catching litter or filth, which in the drinking water would be the cause of disease.

Warm water in winter and cool water in summer is what you want for your hens. These fountains supply water in this manner, winter and summer. No lamps to fuss with and no fire risk.

In winter, fill the fountain in the EVENING with hot water and set it in its place. During the night the packing around the water chamber becomes heated and retains the heat until the next evening, when the hot water should be renewed. Gauge the heat of the water you fill

fountain with according to the weather; in extreme cold weather, of course, fill with hotter water than in milder weather. In summer, fill in the evening with as cold water as can be procured, and be sure the fountain is always in the shade.

- 2 gal. size, 15 1-2 ins. high, 13 ins. diameter, 15 lbs. weight. Price each \$4.00  
3 for \$11.50; 6 for \$23.00.
- 3 gal. size, 18 ins. high, 14 ins. diameter, 20 lbs. weight. Price, each \$4.50  
3 for \$13.00; 6 for \$26.00
- Also made in 5-gallon size. Price, each \$5.75  
3 for \$16.50; 6 for \$33.00.

Order direct from this Ad. We issue no further description. We open no accounts and proper remittance must come with all orders in every instance.

**EUREKA SUPPLY HOUSE**  
3 Wesley Ave., MOUNT MORRIS, ILL.

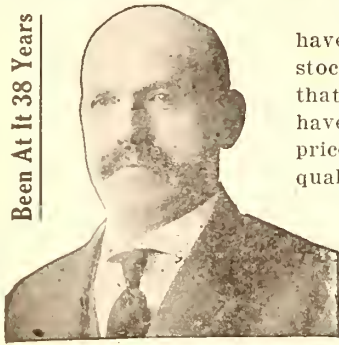
**THE LEGHORNS**

Brahmas, Cochins and Langshans. contains information on mating, breeding, selecting, exhibiting and judging. This information is of

value to every breeder of Asiatics who wishes to produce the best of birds. Color plates of Buff and Partridge Cochins by F. L. Sewell. 96 pages, 9x12, illustrated. Price, 50c. Address Poultry Keeper, Quincy, Ill.

# WHY NOT BUY YOUR STOCK AND EGGS FROM THE OLDEST BREEDER OF REDS IN THE WEST?

Been At It 38 Years



I have devoted my entire time to the poultry business since 1882—38 years. I have bred Rhode Island Reds longer than any other breeder west of New York. My stock is the best money, experience and careful breeding can produce. Everything that goes toward making fine Rhode Island Reds can be found in my flock. My birds have the type and color that is demanded by the leading judges of this country. My prices for eggs and stock are less than half what some others charge for same quality.

### SATISFACTION GUARANTEED

One of my customers says: "The only difference between your eggs and the \$15 to \$25 kind is the price."

Eggs for Hatching and Choice Cockerels (both combs) for Sale.  
Stock the Best. Prices Very Reasonable.

I Also Breed THOROUGHbred PEDIGREED AIREDALE DOGS

My Illustrated RED BOOK tells what I do and how I do it. 1920 RED BOOK and Mating List now ready, and will be sent to you FREE. Don't fail to write for them,



**P. K. SPRAGUE,** Maywood, Illinois [NEAR CHICAGO] U. S. A.

### DOES IT PAY TO TRAP-NEST

By W. C. Brown, N. H.

I have often been asked the above question and always my answer has been YES with capital letters.

I have many reasons for this answer, for the benefit of any reader who has said to himself, will it pay to trapnest, I will give some of those reasons.

First, it is the only absolute way to tell the birds that are making the profits for you by giving you the opportunity of culling out the drones and loafers. I have worked out several of the other much advertised methods in conjunction with the traps and have proved to myself, at least, that the traps are the only sure way of knowing what you are doing, the other methods being for the most part a game of chance, like all games of chance, if you're lucky you'll win but you've got to be lucky to win.

I have used traps ever since I started in the poultry work, have used them on some pens only a part of the year, and on the others the whole year through have, by so doing proved to my own satisfaction that to make a sure thing of it you

must use them all the time if you want to be sure of the best layers, as it often happens that by only a partial use of them you will have some of your best layers at times on a rest or slightly out of condition (not enough to show in actions or looks) but enough to hold up the eggs for a time, while by the continual use you will make no mistake. You will have your daily records and know just where you stand.

Trap-nesting is a great help in building up your laying strain, by breeding from only the best stock, there being no excuse for using any other than the best layers for breeding. The saving of grain and other feeds is another big factor in favor of the use of traps as the non-producers and undesirables can be, and should be, sent to market or used on the home table to reduce the expenses of the home or plant.

Your eggs at hatching time will bring you a better price if known to be from tried and true producers. I breed Barred Plymouth Rocks and find each season I cannot fill my orders for eggs and chicks. My customers come back year after year for chicks and eggs as well as pedigreed stock for special breeding. Over

## HEN-E-TA BONE GRITS

No. 1—Chicks No. 3—Turkeys  
No. 2—Fowl No. 4—Mash  
Only \$3.50 per 100 lb. Sack

Oyster Shells, other bone, grit and charcoal not necessary when feeding "HEN-E-TA."

Use of beef scraps optional.

Will Make Hens Lay More Eggs  
**WILL MAKE CHICKS GROW**  
Valuable formulae Free for your Dealers Name.

HEN-E-TA BONE CO.,  
Dept. 4, Newark, N. J.

fifty per cent of my pullets last season had records of 200 eggs or better. Through the use of the traps I am working the blood of "Busy Biddy" whose record for the past three years is 712 eggs, into my flock. This could not be done without the use of the traps, one of her daughters laid 298 eggs last season. It is by the use of the traps that I can get the matings I want and the chicks from those matings tested as to whether they are suitable to be used the next season or not.

If you use traps you will be better acquainted with your birds than in any other way, the general health and conditions will be better, as when tending the nests you will notice any outs in any bird also whether they are out of water, shell, grit, etc., much better than you would if eggs were collected but once or twice through the day. During cold weather the saving in eggs that would be frozen will be quite an item, in fact I firmly believe that a plant to be run right and on the biggest paying basis should be fully equipped with trap-nests throughout.

I believe that many a plant has gone under that had traps been used, would be running full blast today

## Smith Standard BABY CHICKS

Delivered at your door, anywhere. We pay the Parcel Post charges

THREE MILLION FOR 1920

Hatched from healthy, vigorous, pure bred, heavy laying, unusual utility stock, in the world's largest incubator, which holds over one million, or

SIXTY TONS OF EGGS AT ONE SITTING

Best System of Incubation. Strongest Chicks Produced. The air in our incubator is completely changed every three minutes and moisture is furnished by live steam. We have chicks hatching every day in the week and every hour in the day. First delivery March first to fifteenth.

WE HATCH THE FOLLOWING BREEDS

|                   |                  |                 |
|-------------------|------------------|-----------------|
| Barred Rocks      | Brown Leghorns   | Black Minorcas  |
| White Rocks       | White Leghorns   | Anconas         |
| Buff Rocks        | Buff Leghorns    | Buff Orpingtons |
| Rhode Island Reds | White Wyandottes | Assorted        |

Thirteenth Season—Write for Catalog Today—Free

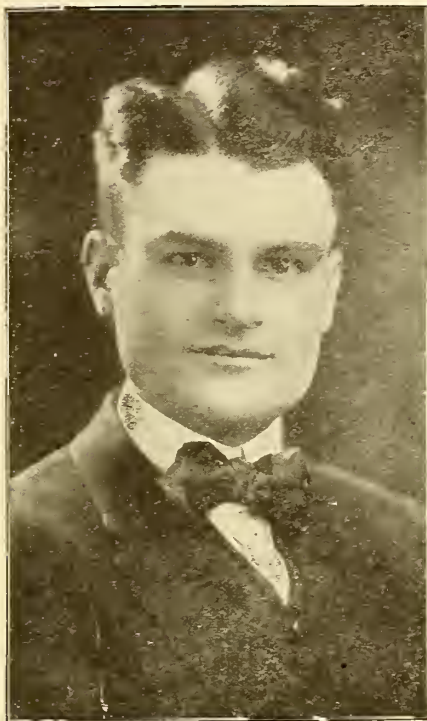
THE SMITH STANDARD COMPANY  
1994 W. 74th Street, Cleveland, Ohio





and paying the owner a profit.

Care in breeding, feeding, sanitary conditions and the use of trap-nests combined with honesty and square dealing, I believe will make any poultry plant pay and pay well.



DAVID T. FARROW

We take pleasure in giving here-with a splendid picture of David T. Farrow, manager of the Farrow-Hersh Company Hatchery at Peoria, Illinois. They will probably produce two hundred thousand chicks this year. Mr. Farrow has been an advertiser in Poultry Keeper for several years and has given splendid satisfaction to our readers. We recommend him most heartily.

**PELSTER'S FAMOUS "SHOW ME" ORPINGTONS**

A mistake was made in the spelling of the word "famous" in the ad of the Pelster's Poultry Farm in our January issue. The Pelster strain of S. C. White Orpingtons are well known and have been prize winners at many shows.

**THE CHICK BOOK**

Guide to success in rearing chicks. Experienced poultry raisers furnish information on all problems connected with the breeding, rearing, developing and fattening of chicks. Article and chart on line breeding. The day-old chick business, etc. 80 pages, 3x12, illustrated. Price, 50c. Address Poultry Keeper, Quincy, Ill.



**SOL BLUE FLAME WICKLESS OIL GAS LAMP HOT**

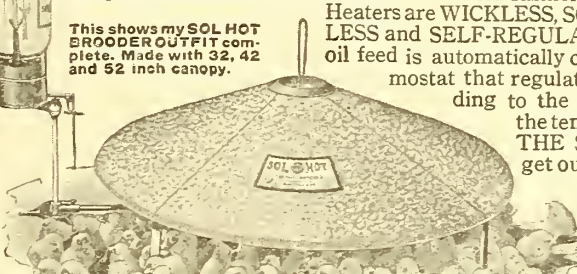
Heaters for Brooders, Incubators and Colony Brooder Stoves

**The 20th Century Method of Hatching and Rearing Chicks**

Throw away your old dangerous wick lamp heaters and get a SOL HOT Heater for your incubator and brooder. Get



This shows my SOL HOT BROODER OUTFIT complete. Made with 32, 42 and 52 inch canopy.

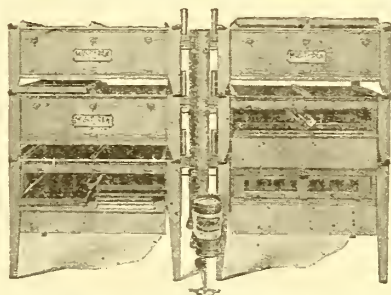


away from the old fashioned, troublesome, expensive and annoying undependable wick lamps—SOL HOT Heaters are as far ahead of wick lamps as the automobile is ahead of the old fashioned ox-cart. Sol Hot Heaters are WICKLESS, SOOTLESS, SMOKELESS and SELF-REGULATING. The visible oil feed is automatically controlled by a thermostat that regulates the flame according to the weather and keeps the temperature ALWAYS THE SAME. Nothing to get out of order—nothing requires constant attention.

**Sol Hot Heaters Cheaper and Better**

Sol Hot Heaters, because of their dependability—because of the saving of time, labor and losses, soon pay for themselves in the saving affected—that's why they are cheapest in the end.

Sol Hot Heaters are made to fit any style of incubator; the illustration at the right shows convenient bracket for attaching. Also furnished complete as a colony brooder as shown above. Giant Sol Hot Heaters are made especially for Colony Brooder Stoves.

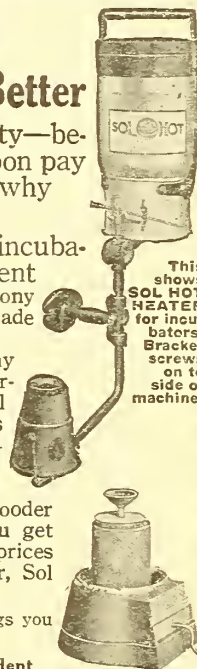


Ask about my plans for building this famous Multidek Incubator. Plans and mechanical parts furnished for building sectional Multidek of any capacity.

Write today for my big illustrated folder-catalog which tells all about Sol Hot Heaters for incubators, brooders and colony brooder stoves. Don't buy any incubator or brooder equipment until you get the facts and low prices of the better, safer, Sol Hot Heaters.

A letter or postal brings you catalog postpaid.

H. M. SHEER, President  
H. M. SHEER CO.  
Dept. 14, Quincy, Ill.

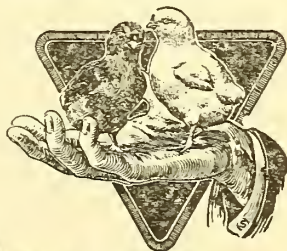


This shows SOL HOT HEATER for incubators. Bracket screws on to side of machine.



Showing Giant Sol Hot Heater in base of colony brooder stove with upper part of stove removed.

**LOOK! BABY CHICKS**



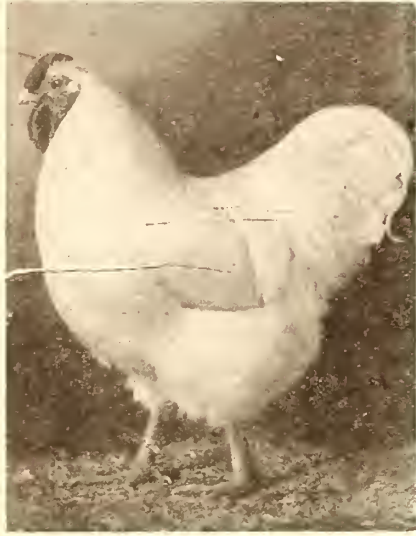
Direct from our hand to yours by special delivery Parcels Post POSTAGE PAID. February price \$17.00 a 100 up. 40 breeds of chickens, utility and exhibition grades. Four breeds of ducks. 456,265 chicks actually shipped in 1919, enlarged capacity for 1920. Order early for March, April and May chicks for the demand will be greater than ever before. New complete catalogue free, stamps appreciated.

NABOB HATCHERIES,  
Gambier, Ohio.

# REGAL DORCAS WHITE WYANDOTTES

THE LAYERS WIN AND THE WINNERS LAY.

## \$400 Per Year Profit On 100 White Wyandottes



Plymouth, N. H., March 22, 1919.

John S. Martin, Port Dover, Ont.

Dear Sir:

I enclose check for three settings from Special pens, 25 and 28, of your Dorcas matings. You may be interested to learn that I cleared \$400.00 on my flock of 100 Dorcas birds last year. This profit was simply the result of heavy laying and vigilant trap-nesting. I lift my hat to your wonderful Dorcas strain. Lady Plymouth, with a record of 240 eggs was my Star performer, but there were many others with records around 200. I am anticipating some more splendid pedigreed breeders from your 1919 settings.

Cordially yours,

H. F. SARGENT.

NOTE.—The above results were obtained by selling eggs at market prices and it proves, without a doubt, that the Regals have no superior as a practical fowl. On the other hand, if you have ever seen a pen of them you will know how strictly fancy they are. They are typical American White Wyandottes, with silvery white plumage, deep bay eyes, close fitting combs, bright yellow legs, and shape that follows closely the STANDARD OF PERFECTION.

My exhibit of fifty beautiful specimens at Madison Square Garden last winter was a revelation to lovers of this wonderful practical breed. For years the Regals have been bred for heavy egg production and vigor, and it is generally conceded that no strain has a better record for usefulness. Upon my show records and the splendid qualities of my birds, I base my claim that:

### REGAL WHITE WYANDOTTES Are the Best in the World

If you are not getting good results in fertility and egg production, if your birds are not winning as you would like, why not make a fresh start by getting a foundation pen of Regal Dorcas White Wyandottes?

My customers are winning and I have the records to prove it.

**4,000 COCKS, COCKERELS, HENS AND PULLETS FOR SALE**

SPECIAL—Two hundred exhibition cockerels and five hundred beautiful pullets ready now to win the Blue Ribbons for you. Five hundred well-matured cockerels from my heavy-laying Dorcas line, at \$8.00, \$10.00, \$15.00, \$20.00 and \$25.00 each. Dorcas pullets \$6.00, \$8.00 and \$10.00 each.

JOHN S. MARTIN, Box 113

### REGAL WHITE WYANDOTTE BOOK

I have just received from the printers, another edition of my book on White Wyandottes. It contains 72 pages, and is, without a doubt, the most complete book that has ever been published, dealing wholly with White Wyandottes. It is full of illustrations from life, and its pages deal with a variety of subjects including chapters on origin, description, feeding, care of breeding stock, fertility, color characteristics, washing and fitting for exhibition, poultry diseases, etc.

Send one dime for the REGAL WHITE WYANDOTTE BOOK. The information it contains will be worth dollars to you.

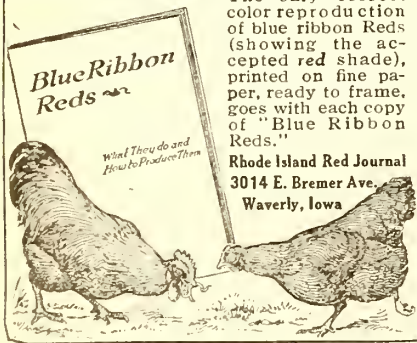
FREE—My twenty-page catalogue and mating list is free. If you will send me your name.

Port Dover, Canada.

### "Blue Ribbon Reds"

**FREE** THIS is the most complete, authoritative and readable book ever written on Rhode Island Reds; their mating, judging, breeding, exhibiting and proper care and management. It is used as a **text book** in many colleges and by county agents and leaders in the poultry world. The only correct color reproduction of blue ribbon Reds (showing the accepted red shade), printed on fine paper, ready to frame, goes with each copy of "Blue Ribbon Reds."

Rhode Island Red Journal  
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### 1908—S. C. Buff Orpingtons—1920

Our big, healthy, vigorous Buff Orpingtons are what you should have in your flock. Eleven continuous years of fine breeding this variety alone, enables us to offer cocks, hens, cockerels, pullets, hatching eggs and baby chicks from heavy laying and winning Buffs. Birds shipped on approval. Do not wait. A card will bring you prices that will suit you.

J. T. STOCKBERGER & SON,  
R. F. D. 6, Box 5A. Canton, Ill.

## QUESTIONS & ANSWERS

F. Raymond Benson.

### Should Use Only Vigorous Male

I have a cock bird which was sickly last fall so I put him in the cellar and while he looks all right yet I wondered if I had better use him for a breeder this spring.

J. S. F., Wisconsin.

In the selection of a male bird to head your pen you should look for vigor first of all. The fact that your bird was out of condition and had to be put in the cellar indicates that he was lacking in the necessary strength to withstand the winter weather. If that is the case I should doubt the wisdom of using him in the breeding pen. Always look for a strong, vigorous, healthy male that has plenty of pep. Then consider the type and color later. Many a failure can be traced to the use of birds, both male and female, which have not the required vitality to keep up the strength of the flock.

### Do Not Wash Eggs Used for Incubation

I have found quite a number of our eggs are a little dirty and a friend of mine said they should be clean before putting in the incubator and I would like to know if it would do any harm to wash them. This is my first year with chickens.

A. S. G., Missouri.

By all means do not wash eggs

which are to be used for incubation. If the litter in your poultry house and the nesting is replaced with clean material as often as necessary you will find but little cause for dirty eggs. Shavings make a very good nesting and they absorb much moisture in addition. Keep your coops clean above all things. Eggs to be used on the table may be washed but it is not advisable to wash those used for hatching so the best plan is to prevent the trouble.

### Eggs or Chicks.

I am going into chickens this year and as it is my first attempt in this line I wish you would advise me whether it would be better to buy eggs or chicks. I have a dandy place to care for my birds and have studied most of the poultry papers and some of the best books I could buy. But I can't decide on the eggs or chicks problem. Please help me out.

O. E. S., Iowa.

For the many years that the writer has been in the poultry business he has had this question put up to him several times each year. It is very difficult to say which would be the best as the qualifications of O. E. S. are unknown. Usually we feel that the best plan is to buy a pen of

birds in the late summer. By caring for them during the fall and winter you will secure much of the needed experience and when it comes spring you will be in a much better way to care for chicks. The caring for chicks is not all learned from books or poultry papers but it is certain that they do help a great deal. In fact we must study them. But under the conditions it would seem best for you to purchase chicks. You will eliminate the problems of hatching for the present and will be able to concentrate your efforts of the raising of the little fellows. And keep in mind you must exercise care if you are to raise them. Give no feed for the first 48 hours and keep them warm and when out from under the hover they should either be busy or see that they get back under. No loafing should be allowed for the first few days.

**Long Runs Are Best**

I am building a poultry run this spring and can make it either long and narrow or nearly square, both containing the same number of square feet. Which would be best?

J. J., Michigan.

I should prefer the long and narrow run. If you watch the chickens when they come out of the house some morning you will notice that they like to stretch their wings and have a good run and this long run will give them the opportunity. Then again you could put a temporary fence across the yard late in the season and sow to rye or some other quick growing green crop to advantage.

**Sex in Wyandottes and Reds**

I am finding it difficult to tell the sex of my Wyandottes and Reds as quickly as I can the Leghorns and can you give me some rule or help in the matter? In past years it has proven a real problem as the males don't seem to develop as fast. Any help you can give will be appreciated.

B. R. R., Illinois.

It is quite true that the Leghorns develop faster than the Wyandottes and Reds but you should be able to distinguish the sex of your birds early. The comb and wattles of the males develop much faster and the general shape is different. By careful observation I feel sure you will be able to tell the difference. Perhaps the Leghorns may be further along but you can see the difference soon enough to separate the sexes so that they may develop properly.

**Attention Bantam Breeders**

For some time I have been thinking of taking up Bantams but find so few advertised that I wondered if maybe they didn't pay very well. How about it and what breed do you advise?

J. H. L., Tenn.

For one who has limited space I heartily indorse the plan to raise a few Bantams. They pay well for one who will put the time, care and attention into them. I do not know why more do not advertise them unless it is during the war many had to give them up and have not gone back into the game as yet. But above the financial side of the question is the satisfaction to be gained from the raising of Bantams. For years I raised them and it proved a very interesting and profitable study indeed. It is impossible for me to ad-

(Continued on Page 30).

# Ironclad

TRADE MARK



**150-EGG Ironclad Incubator**  
Don't class this big galvanized iron covered, dependable hatcher with cheaply constructed machines. Ironclads are not covered with cheap, thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications: Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering. Large egg tray, extra deep chick nursery, hot water top heat, COPPER tanks and boiler, self-regulator, Tycoe Thermometer, glass in door, and many other special advantages fully explained in free catalog. Write for it TODAY or order direct from this advertisement.

**The Iron Covered Incubator**  
**BIGGEST HATCHING**  
**Value Ever Offered**

Investigate the Ironclad Incubator before you buy. Get my new catalog and learn why the Ironclad is the safest and best incubator. It tells how they are made and why they are better. My special offer of Iron covered incubator and roomy brooder for only \$17.25 freight paid east of Rockies

**30 DAYS' TRIAL**  
**Money Back If Not Satisfied**  
is the greatest incubator offer of the season. You can use the machine for 30 days and if not satisfactory, we will refund your money and pay return freight charges. Machine come to you complete, ready to use, and accompanied by a **10 YEAR IRONCLAD GUARANTEE**

**Both for \$17.25**  
**Freight Paid East of Rockies**



**MADE OF CALIFORNIA REDWOOD**  
**150 Chick Brooder**

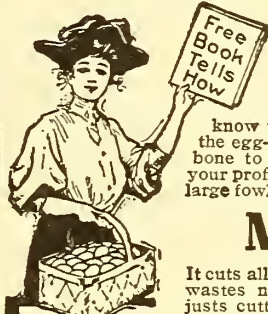
**IRONCLAD INCUBATOR COMPANY, Box 41 RACINE, WIS.**

**CAUTION:** Any Bone Cutter claiming to be MANN'S without F. W. MANN CO. cast on its surface, is an imitation. The genuine MANN'S is made only in Milford.

## Make Hens Lay

**READ THE BOOK THAT TELLS HOW**

Tells you how to **make hens lay**. Gives you in a nutshell the whole matter of right feeding. Read it if you want to know the **real value** of fresh, raw bone, which contains four times the egg-making ingredients that grain has. You **must** feed raw, green bone to promote **growth, development and laying**. It doubles your profits in number of eggs, fertility, strong chicks, large fowls. It is easily and quickly prepared with



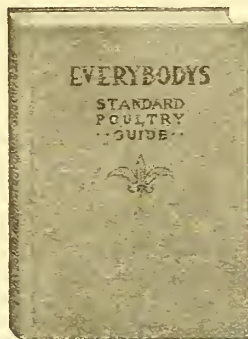
## MANN'S Latest Model Bone Cutter

It cuts all green bone with all adhering meat and gristle; wastes nothing and never **clogs**. Automatically adjusts cutting to your strength. Any one can turn it. We'll send you one on **10 Days' Free Trial**. **No money**

**down.** If not satisfactory return at our expense. Send for book today. **F. W. MANN CO. Box 57, Milford, Mass.**



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**EVERYBODYS POULTRY MAGAZINE PUBLISHING CO.,  
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**WHEN WRITING ADVERTISERS, PLEASE MENTION THIS PAPER**

WINTER GREEN FOOD

The feeding of green food is essential if the hens are to lay well and keep in a good state of health during the cold months. Green food serves as an appetizer and regulator. It does not possess great food value, but through the eating of green food the hens eat also a greater quantity of the solid foods.

In winter feeding for eggs I have always had better success in feeding the leguminous hays, such as clover, alfalfa or cowpeas. The reason for this, I think, is that these not only answer the purpose of green food, but are also rich in protein, the food element most needed in the formation of eggs. In feeding these I run the hay through a cutter and feed it in the mash mixture.

The question was asked me a short time ago, "Can one overfeed on green food?" My reply was, "Yes." If the hens are allowed to suit themselves in the matter one can keep green food before them all the time, and they will eat only sufficient for their needs. But on many farms, the hens are fed too much green food in proportion to grain, with the result that the nutriment in the ration carries no margin for the formation of eggs. Last season, a neighbor of mine sowed a field to rye for his hens. This supplied an abundance of green food—all that the hens required. But in addition to the rye, this man wished to make use of some turnips and small potatoes that he had. These he cooked daily and mixed with ground grain and beefscrap. One-half the bulk of the mash was composed of the cooked turnips and potatoes. The mash was fed during the afternoon. The result was, that while the hens ate all they could, they were insufficiently nourished, on account of the bulky nature of the mash mixture. They ate all the rye needed, and had to eat the turnips and potatoes in order to get the ground grains mixed with them. Where the range supplies all the green food needed it certainly would be an unwise thing to compel the hens to eat other green food as well.—T. Z. R.

BLACK MINORCAS

Mr. J. E. Janssen, Golden, Illinois, offers eggs from stock that won prizes at Springfield, Illinois State and Quincy shows, at two dollars per fifteen eggs. Mr. Janssen is certainly making a bargain offer on his Single Comb Black Minorcas and will doubtless enjoy a good trade from our readers.

SUCCESSFUL POULTRY KEEPING

A text book for the beginner and for all persons interested in better poultry and more of it. Contains the "secrets of success," both for pleasure and profit. New and valuable information on all branches of the poultry business. 176 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

BEST FOR BABY CHICKS

"American" Pans



3 PANS 50 cts. Postpaid

6 PANS \$1.00 Postpaid

The small holes in the top pan prevent the chicks from getting into the feed or water—prevent them from crowding too close around the feeder and prevent dirt and droppings from polluting the contents. There is absolutely nothing in the construction of these pans to become loose or broken—they overcome every objection to the ordinary Mason Jar pan and are the most desirable of all feeding and watering devices. Order them today. Sold and guaranteed by AMERICAN POULTRY JOURNAL, 32 PETERSON BUILDING, CHICAGO, ILLINOIS World's Oldest, Largest and Best Poultry Paper. 6 months 25 cts.—3 years (36 issues) \$1.00.

Poultry Books at a Cut Price

A complete list of poultry books that everybody interested in poultry should have. This list is made up to supply the wants of all poultrymen, and covers about every phase of the industry; in fact, it makes almost a complete poultry library, and by taking them all at a cut price, you will be well equipped to make a success of this business. The books tell you how to line-breed, feed for egg production, reduce your feed bill, mate to produce exhibition birds, prevent and cure diseases, mix a balanced ration, build poultry houses, poultry appliances, etc. Following illustrations show books.

Save 33 1/3% by ordering six or more now.



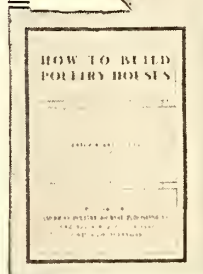
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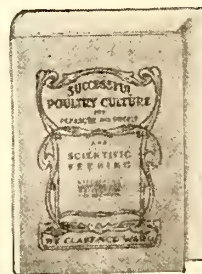
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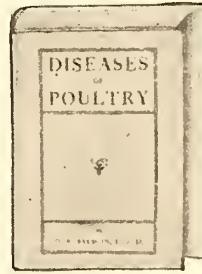
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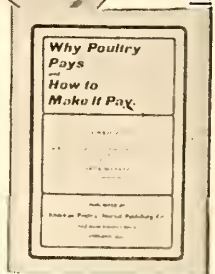
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128 pages. 38 illustrations. Tells how to mate three-fourths your feed bill. Price 50c.

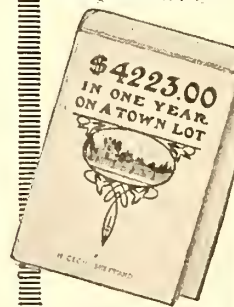


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84 pages. Cloth binding. Written from actual experience by Mr. Sheppard. Price \$1.00.



61 pages. Colored illustrations of 18 birds. Tells how to mate for best results. Price \$1.00.



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Every Poultryman should have a copy in which to keep his costs. Price 25c.

Cut Price for the Eleven, \$5.00; about 45c each.

This is a bargain to you of one-third the regular price. If you have one or more of the above books, you can get the balance at one-third off the regular price by ordering six or more at one time. No order for less than six accepted at reduced price. Take advantage of this liberal offer today. If not satisfied with your bargain, return the books and we will return your money.

POULTRY KEEPER

:-:

QUINCY, ILLINOIS.

**PUTTING OUT EGGS**

The rather novel practice of a Rhode Island Red keeper who has restricted facilities for raising chickens is to "put out" settings of eggs with farmers in his township. Sometimes he distributes as many as one hundred settings a season in this way. He furnishes a setting with the understanding that he will take for pay his pick of the hatch, one pullet or cockerel in the late fall. As this man has pure-bred stock, with a good reputation for laying, many people are glad to obtain settings on these terms. It costs them, they calculate, no more than a dollar to raise a chicken, and the setting is certainly worth that sum. The method of payment is "painless," if such a word may be used. The farmer gets started with purebreds in an easy way.

Poultry with the Rhode Island Red man is a sideline. He likes hens and has his fun with them while he makes money. He gets rather high returns because he makes a specialty of breeding stock, especially cockerels, sold at \$2 to \$5 apiece. There is a growing demand for purebred cockerels reasonably priced.

Note how the arrangement with farmers works out to his benefit. He raises at home what chickens he can conveniently handle, and in addition, in the late fall, has several hundred sturdy, farm-raised pullets and cockerels of his strain from which to pick the very best. Often he finds cockerels he can sell for \$5. If there is not a good cockerel, there is very likely a nice pullet.

This plan is adapted to use in many communities now that interest in purebred stock is so great. The poultrykeeper who tries it out must have something more than claims behind it. The breeder mentioned regularly introduces blood from the best Rhode Island Red flocks. He exhibits at shows and wins prizes. And on top of these facts he is a genuine breeder, familiar with all the principles involved.—B. P.

**FOR SALE—MY FARM OF**

275 acres 5 miles from West Quincy, Ill., one mile from Taylor, Mo., 225 acres in cultivation. Choice creek filled land. 50 acres of growing wheat on farm. Two sets of improvements. Would sell part of farm with one set of improvements. Possession given March 1, 1920. Price \$140 per acre. Will Smiley, Quincy, Ill.

**SOME WHITE ROCKS**

Mr. Henry Adair, Clayton, Illinois, is advertising some White Rock cockerels in this issue of Poultry Keeper. He has a large flock made up to Fishel and Sheridan strains which he has secured direct from these noted breeders. Mr. Adair is making very attractive prices on these birds and if you are in need of some good breeding stock of White Rocks, we suggest that you write him at the above address mentioning Poultry Keeper.

# More Eggs All Winter Long



**W**INTER prices are the profit prices and you want them. Get *more* eggs from your flock—get *all the eggs* they can lay—by having the birds in perfect laying condition. Keep the pullets on the job, strengthen your breeders so you'll get fertile eggs and big hatches of sturdy chicks. Just add to the ration

## Pratts Poultry Regulator

This tonic is a help to thorough digestion, enabling every ounce of food to do its full work. With perfect digestion and vigorous health, hens and pullets are bound to lay to the limit.

Poultrymen and farmers all over the world use and endorse Pratts Poultry Regulator.

## Pratts Roup Remedy

prevents and cures colds, catarrh, bronchitis and roup. Use it at the slightest sign of trouble—and prevent dangerous consequences. Pratts Preparations are sold with this absolute guarantee:

**"Your Money Back If YOU Are Not Satisfied"**

Sold by 60,000 dealers. There's one near you.

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New Poultry Book—Free

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Makers of Pratts Animal Regulator, Hog Tonic, Cow Remedy, Dip and Disinfectant, Veterinary Remedies.





**Ballard's Supreme White Rocks**

Winners wherever shown. My Grand Champion White Rock Male at the Quincy Show has 6 Blue Ribbons and 4 Grand Championships to his credit. He is the sire of all my winners. We have sons and daughters of this male for sale at prices to suit. Will mate 4 fine pens for egg trade. Write for prices.

**P. W. BALLARD,**

Galesburg, Illinois.

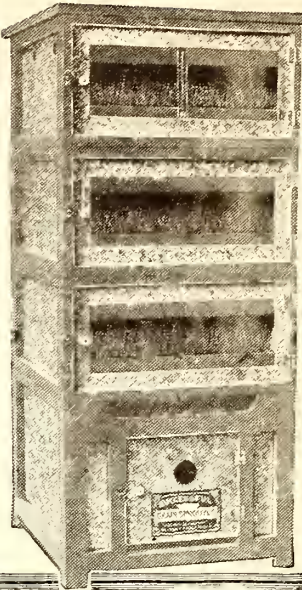
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Are a Wonderful Egg Producer**

**Feed Sprouted Oats** Easily—quickly—cleanly—economically produced in "Successful" Sectional Metal Grain Sprouter. Get greater fertility in winter laid eggs—earlier chicks. Make three bushels of tempting egg-making feed from one bushel of oats, wheat or rye—increase the egg yield at least 50 per cent—and at same time save one-third feeding cost. Write for catalog and 1:20 offer we make on the:

**"SUCCESSFUL" SECTIONAL ALL-STEEL GRAIN SPROUTER**

Made with double steel walls—metal trays—nothing in it to warp, shrink, swell or mold the food. Fireproof. Lasts a lifetime. Large glass doors. Made in sections so you can add more sections as your needs grow. There's a size for your needs whether you keep 50 or 600 hens. Thousands of poultry raisers say they would not be without this wonderful food maker. The newest, most reliable construction ever made in a grain sprouter. Not only turns idle hens into industrious layers but supplies feed for growing chicks—protects health—prevents chick loss. Booklet—"How to Raise 45 Out of 50 Chicks" 10 cents.

Write today for catalog and full details of 1:20 offer  
**DES MOINES INCUBATOR CO., 565 Third St., Des Moines, Iowa**



**QUESTIONS AND ANSWERS.**

(Continued from Page 27)

vide you as to the best breed for that would depend wholly upon you and your conditions. But I might drop a word of warning to you in regard to the purchase of your foundation stock. By all means buy the best you can afford. It will prove the cheapest in the end and the satisfaction you will gain will well repay you. You can buy quality cheaper than you can take years to produce it and after you have it you can improve it yearly and gain just that much time. And without birds which show real quality you will have a hard fight to keep up your interest. But where is the man who would not like to say he was the owner of a quality Fantam?

**Should Buy Incubator**

Is it advisable for one to buy an incubator when he is in the poultry business on only a small scale?  
J. P. O., Ky.

An incubator is a desirable addition to any poultry plant, whether large or small. With an incubator eggs may be incubated at any season of the year, thereby getting away from the uncertain whims of the hen. Then again you have the advantage of having a bunch of chicks of the same size and as you are a poultry breeder you must realize the necessity of keeping the chicks of different ages separate. And your chicks will get a start in life without the burden of being covered with lice. Of course the hen may be dusted but just the same the incubator has a dead certainty about the lice where with the hen there is always more or less doubt. Buy an incubator and buy it at once. Look over the ads in this paper and place your order now. There are several good machines advertised in these columns and they will prove satisfactory. But follow directions that come with the machine.

**Apoplexy**

My birds go on the roost at night and seem dull and stupid. In the morning I find one or more dead. They are fat and nice. Can you help me out?  
A. A. T., South Carolina.

From what you say it would seem your birds have apoplexy. A blood vessel in the brain bursts and it prostrates the fowl. You no doubt have been feeding too much fat forming food. Reduce the grain and give each bird about 20 grains of epsom salts. Feed plenty of green food and keep the birds scratching in deep litter for their grain. Medicated charcoal in the drinking water might also prove a benefit. During the long winter months it is often the case that much heavy, fat-forming food is given and the hen stands up under it quite well. But with the coming of warmer weather you must take this into consideration and reduce the feed accordingly.

**Shipping Eggs**

Last season I had difficulty with the eggs I shipped as so many were broken. It caused me trouble which I hope you can help me avoid this year.  
G. O. K., Illinois.

I prefer the common splint basket which can be purchased from your

**TEST YOUR EGGS**



**SEE THAT "XX"?**

before you set them under hens or put them in the incubator. Whether you buy or sell eggs for hatching discard every one that does not pass the Magic Egg Tester. Don't try to hatch weak eggs—it kills the profits. Regulates moisture in the egg chamber perfectly. Demonstrated at poultry shows everywhere. This is positively the only way to tell which eggs won't hatch before you begin to incubate them at all. Read on:

This tester instantly shows the strength of any egg. Costs nothing to use and stays perfect for a life time. No judgment required—just a pair of eyes. Tests 500 per hour. Testimonials or circular if desired. \$2.50 each, with a trial of one year. Cost refunded if desired. Insured parcel post, sent same day order is received.

Magic Egg Tester Works, Dept. E, Buffalo, N. Y., also Bridgeburg, Can.

**WHITE WYANDOTTES OF PROVEN QUALITY**

**Braxton's White Wyandottes**

Won 1st hen; 4th hen; 2nd and 5th cock at the Illinois State Show, at Galesburg, and have been constant winners at the Illinois State Fair, State and Galesburg Show. Will mate two extra fine pens for the egg trade. Write me your wants. Satisfaction guaranteed. Address

**CHAS. BRAXTON, R. R. No. 2, Box 73, Galesburg, Ill.**

Booking eggs at \$7 per \$15; or 45 eggs for \$20. Young fowls, \$20.00 a trio next June.

**U. S. MARINE GAME FIGHTING FOWLS**

Red White and Blue; Supreme fighters and game as death Also (absolutely best), HUNTING DOGS, nothing cheap, but sold on a money back guarantee. Pointers, Setters, Hounds, Blood Hounds, Collies, Etc. Information free.

**ALFRED F. GRAHAM, Cameron, N. C.**

A few Pure White Ancona Eggs in Spring at \$10 per 15. Let me hook you now.



**"Top Notch" Brown Leghorns**

**Are WINNERS AND LAYERS**

Best shaped female at Illinois State Show at Galesburg, best parti-colored pen at Hannibal, Mo., Show. 14 entries this season—14 winnings. Pen eggs from Light mating, \$5 and \$3 per 15 eggs. Range flock, \$2 per 15; \$10 per 100. Dark pen, \$5 per 15.

**MRS. CASPER MAST, R. 4, Quincy, Illinois.**

Both Comb of Rhode Island Reds

**HORNER'S PEDIGREE REDS**

**BRED TO WIN AND LAY**

A few more rich red cockerels bred from my best layers and blue ribbon winners for \$5.00 a piece.

**ERNEST G. HORNER, R. 7, Box 20, Quincy, Ill.**

**BARRED PLYMOUTH ROCKS—DARK**

I will sell you the best bird for the least money you ever bought. Will ship on approval if you will pay charges one way and if not satisfactory in every respect return them and your money will be cheerfully returned. **JNO. R. PATTERSON, 104 4th St., Boone, Iowa.**

grocer. Line the bottom and sides with excelsior. Take a small quantity and shape it like a bird's nest, put eggs into it and then close up opening and make into a ball. Prepare each egg in this manner and place in basket and cover with excelsior. The excelsior should be at least an inch thick around the sides, top and bottom. More will do no harm. Cover with muslin and sew this to the basket using good stout string. Eggs packed this way should travel a good distance. Some prefer to put eggs in an egg box, made for shipping, and then pack box and all in the basket. This is very good and causes small breakage. Play on the safe side in packing eggs. It will result in a more satisfactory hatch for your customer and that means more business for you.

**Market For Eggs**

I live close to Chicago and have been able to sell most of my eggs in the city without any trouble but as I expect to double the number of hens the coming year I wonder if you can tell me how best to go about it to sell the eggs.  
G. E. P., Illinois.

You will have no trouble in disposing of the eggs provided they are fresh and clean. I know of a fellow who carried over 2,000 laying hens in the winter and he made arrangements with one of the large retail grocery stores in Chicago to take his eggs. He was thus relieved of the trouble of retailing them. As the store with whom he dealt had a very high grade trade he received a good price for his eggs. Of course you could retail them yourself but that would mean quite an expense. I am inclined to think that you would make more money to sell to some big store and let them sell them for you. It is quite true that you would not be able to get quite the price but in the long run you would be money in the pocket. The cost of delivery, advertising, bad debts, etc., is more than one would think. Next time you are in the city just look up some of these high grade stores and make your proposition to them. Remember eggs of an even size and of like color make all the difference in the world. The looks of the eggs and container have much to do with future orders.

**THE PLYMOUTH ROCK**

A complete text book devoted to America's most popular breed of standard fowls. Explains standard requirements, tells how to select the right breeders and how to mate them. Edited by Wm. C. Denny and J. H. Drevenstedt, breeder and judges of wide experience. Three color plates by Sewell. 144 pages, 9x12, illustrated. Price, \$1.00. Address Poultry Keeper, Quincy, Ill.

**ORPINGTON EGGS**

Phil J. Wurtz, 704 Ohio St., Quincy, Illinois, is offering eggs for hatching from his Buff Orpingtons at three dollars per fifteen, prepaid. Mr. Wurtz has been breeding Buff Orpingtons for many years and has developed a splendid laying strain.

# Germozone

20 Years of Steady Growth in Sale

## A Whole Medicine Chest For Poultry, Rabbits, Pet Stock

Germozone is a universal and safe remedy for colds, snuffles, roup, sore throat, loss of voice or singing, influenza, bowel trouble, distemper, sore eyes or ears, canker, gleet, loss of fur or feathers, sores, wounds, skin diseases, or other affections of skin or mucous membrane.

I AM SO positive of the merit of Germozone that I feel I am doing anyone I can influence to use it, a most beneficial kindness.

Frederick Winston Canfield, Prop. "Sunshine Farms" E. San Diego, Calif.  
HAVE USED over 60 bottles of Germozone this year. Wish to thank you for the splendid remedies and preparations.—Benson Pheasant Farm, Silverton, Ore.

GERMOZONF killed the roup in 3 days.—Frank Galva, 120 Arnold St., Lackawanna, N. Y.

NOT A CASE of white diarrhoea in 3 years. I raise over 1,000 chickens a year. Good also for rabbits, birds, pet stock.

—Ralph Wurst, Erie, Pa.  
HAVE USED Germozone 17 years for chickens.—Mrs. T. A. Morley, Gallen, Mich.

I USE GERMOZONE for chickens, stock and household. Cannot praise it too much.—Mrs. Wm. Hoepfel, Ingo, Okla.

GERMOZONE is simply grand for rabbits.—L. W. Browning, Boone, Iowa.

MY BIRD pipples don't know what distemper is.—Curley Smith, Kennett, Mo.

HAVE USED Germozone 12 years; the best for bowel trouble I ever found. Geo. F. Vickerman, Rockdale, N. Y.

Germozone is sold by dealers, in both tablet and liquid form. Tablets mailable, 25c, 75c and \$1.50 sizes—-from Omaha. Book on treatment of diseases FREE.

The LEE POULTRY LIBRARY (5 books) is worth its weight in gold to any poultry raiser who will use it for frequent reference and advice. Readers say, "Takes a lot of mystery out of the chicken business", "More help than any other source", etc. These books FREE to anyone sending 6c stamps to cover mailing.

**GEO. H. LEE CO., Dept. P-20 Omaha, Neb.**

Makers of Remedies, Insecticides etc. for Home and Farm

## Single Comb Mottled Anconas

Eggs for Hatching From Heavy Winter Layers, \$2.00 per 15.

A Few Cockerels and Pullets for Sale.

**F. RAYMOND BENSON,**

**Elgin, Illinois.**

## Chicks With "The Pep" --- HATCHED TO LIVE AND GROW ---



Sent by prepaid parcel post to your door. We hatch only high grade and bred to lay chicks, from good big, strong, vigorous, healthy stock. Many show winners among them. They produce the eggs. We hatch Barred and White Rocks, White, Brown and Buff Leghorns. White and Buff Orpingtons, Reds, and White Wyandottes. Prices from 15c per chick and up. Give us a trial order and we will please you.

**HOLGATE CHICK HATCHERY,**

**Holgate, Ohio.**

## Single Comb White Leghorns

Won 1st cock, 1st old pen 5th hen, 2nd and 3rd cockerel, 1st pullet at Macomb show. Ferris Strain. Eggs from pen headed 1st cock at Macomb \$3.00 per 15. Range flock, \$1.25 per 15; \$7.00 per 100. Range flock headed by 2nd and 3rd cockerel at Macomb and two others equally as good.

**W. H. SNOWMAN,**

**R. 2,**

**Industry, Illinois.**

S. — C. — R. — I.

# Reds of Quality

My Birds Are Winners at the Best Shows in Missouri, Illinois and Iowa.

At the last Quincy show I won 1st and 3rd cockerel, 3rd cock, 4th young pen, best color male and female, best display, and the champion pullet of the show, all breeds competing. At the Great Heart of America Show, 1918, I won 2nd pullet in a class of 51. If it is quality you want I have it. A number of very fine cockerels, pullets and hens for sale.

Eggs from as good matings as the country affords. Mating List Free

**C. M. EWALT, Specialty Breeder,**

**Canton,**

**Lock Box 604,**

**Missouri**

# 10 Acres of Florida Land **FREE**

## To One of My Old Friends and 10 Acres Free To One of My New Friends

There are at least two things that make this land very much better than the average. The climate is about as near perfect as one could expect and there are many more perfect days in the winter than there are in the Northern Summers. The soil is very much better than the average and will produce fruit, farm and garden crops every day in the year while the northern trees are idle and the fields covered with snow.

## Oranges=====Grapefruit=====Bananas

and many more kinds of tropical fruits grow to perfection on my land and some of them ripen every month of the year.

## Our Winter Gardens Keep the Table Supplied

with everything good to eat in the vegetable line. The following is a partial list of the things that can be grown during the winter months. Tomatoes, Peppers, Egg Plant, Peas, String Beans, Cucumbers, Squash, Cauliflower, Cabbage, Radishes, Beets, Turnips, Carrots, Parsnips, Lettuce, Celery, etc.

Fishing, Hunting and Motoring over good roads are some of the many attractions.

## Living on a Palm Beach County Farm In Winter

will add ten years to the average person's life and it makes life worth living. Many people broken in health have been completely cured by spending a few winters in Florida, where the Sun Shine is the great Natural Healer.

## As a Business Proposition There are Great Opportunities

Cattle. Third: Oranges and Grapefruit. Fourth: Registered Hogs and Pork. Fifth. Sugar Cane. All kinds of fowls thrive from the day they are first hatched and produce an exceptional profit when correctly handled.

There are unlimited possibilities for the Dairyman and those who raise Registered Cattle. The milk from some of my best Guernsey cows sold last year for a little over \$500 each and the registered calves add to the income.

## A Thousand Dollars Is Often Realized from An Acre of Oranges

and practically all of the work can be done in a few winter months. A ten acre orange grove properly cared for is worth \$10,000 when five years old and can be grown from a small investment.

Ten acres of sugar cane will produce a net annual income of \$5,000 at the present price of syrup. Hogs are very profitable and thrive on cane, grass, Chufas and other things easily grown on my Florida farms.

To get this land it was necessary for me to purchase over 5,000 acres. I will keep a large tract for my own use and sell a few farms of ten acres or more to good reliable people on easy terms, one-quarter cash and the balance in monthly payments.

For the letter showing the best results from my former system of raising poultry I will give a Warranty Deed for ten acres and for the best report on my new way, on or before June 1st, 1920, I will give a Warranty Deed of ten acres. Every one who sends \$5.00 for a complete set of new instructions, as referred to on the opposite page, will have a chance to get ten acres free.



# One Dollar for a 100 Chick Brooder

---

# Sixty Cents for a 50 Chick Brooder

---

## And Life Insurance for Your Baby Chickens

---

When you buy or hatch chickens, ducks or turkeys, you will save their lives, save labor and money by raising them the New Philo-Way and you can raise them out-of-doors or indoors in any climate and temperature from 100 above to 25 degrees below zero, with absolutely no risk from fire, rats or other enemies.

## MY NEW WAY Is An Improvement

over my former plan that was used successfully by more than 500,000 people. The two following letters are practically the same as thousands more I have received:

Ohio, Nov. 17, 1919.

Mr. E. W. Philo,  
Jacksonville, Fla.

Dear Sir:—I notice your advertisement of your new process of hatching and brooding chicks without artificial heat. I have been using your "Hatcher" for about 10 years. Your new system appeals to me and if it is as successful as your former fireless brooder which I have also used ten years with splendid success I want it. Kindly mail me your booklet.

Yours truly,  
Wm. A. Dreher.

Ten Years Success With My Former Plan of Brooding Chickens is a very good Record.

Missouri, Jan. 12, 1920.

Mr. Philo,  
Jacksonville, Fla.

Dear Sir:—Enclosed please find \$5.00 post office order for your instructions. I have great faith in you as I have found your small book very beneficial in years gone by. Please send me full information as I am an old poultryman.

Yours respectfully,  
J. R. Covington.

## You Can Raise 500 Chickens at a Cost of Five Dollars for Brooders

and no cost for oil or fuel and with no more work than to raise a dozen chickens with an old hen. The New Philo-Way is the results of more than forty years' study and work with poultry, eggs and incubators and will help you to better understand all branches of the business and to give you greater profits from your labor and money invested. All these years of close application along one line of work have brought to light some startling facts and revelations in hatching and brooding chickens that were considered impossible. One of these discoveries is in so handling eggs that they can be incubated and chickens hatched with the natural heat they supply, and, of course, every one knows that "Natural Heat" is best. Complete instructions for doing this work are ready to mail you free of charge, if you will send \$5.00 with your order for my new Combination Brooder, Colony, Laying House and Brooder with complete instructions for feeding and raising chickens.

**Edgar W. Philo**

**423-7 Duval  
Building**

**Jacksonville, Florida**

**The Leghorn World**

**How to Make Money Out of Leghorns**

Leghorn breeders who wish to make the largest possible profit out of their flock of Leghorns can learn how to do it from

**The LEGHORN WORLD**

a monthly publication devoted exclusively to the interests of Leghorn breeders. Every issue contains information worth many dollars. Tells you how to mate and breed Leghorns, how to judge them, how to sell them at top prices, how to feed them to obtain maximum egg yield, and a thousand other secrets to numerous to mention here

**25c** pays for full year's subscription.

**12 Big Issues**

**The Leghorn World**  
3014 E. Bremer Avenue  
Waverly, Iowa

## A Brief Discussion of Incubation

(CONTINUED FROM PAGE 10)

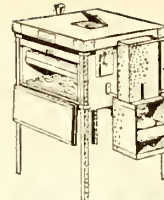
retarded; in either case, when extremes of temperature are prolonged, the chick dies in the shell. The heat must be uniformly distributed, so the eggs develop equally and all hatch at once. With bad distribution, hot and cold spots in the egg chamber, the eggs are greatly weakened, and where variation is too wide are killed outright.

After chicks pip and when hatching, temperature should be allowed to run to 105 degrees, but no higher.

As to ventilation, accurate experiments by agricultural experiment stations have shown that best results were secured where the air change amounted to five cubic feet per hour for each 50 eggs. Where the ventilation exceeded ten cubic feet per hour the hatch began to run down and where the ventilation was reduced to one-fourth of a cubic foot per hour, only a very small percentage of chicks were hatched. This whole matter of ventilation must be taken care of when the incubator is being manufactured and it rests with the poultryman to secure only a machine which in its operation insures proper ventilation.

There is no question but that turning the eggs at regular intervals is essential in obtaining good hatches. Of eggs that are not turned only about ten to fifteen per cent will hatch. Turning about every twelve hours is the common practice, and until the eggs pip, when it should be discontinued, but experiments have shown that in some cases more frequent turning has increased the hatch a few per cent.

Where ample ventilation is provided for by the manufacturer of the incubator the process of cooling should be dispensed with. In poorly ventilated machines however, regular cooling periods will have a tendency to increase the hatch.—Everybody's Poultry Magazine.



## 103 DEGREE INCUBATOR

The Hen's Only Rival

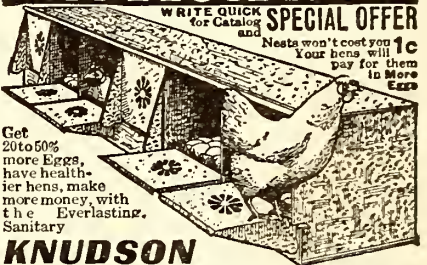
Makes an incubator cellar of any room in your house—room temperature can vary 40 or 50. Holds up in freezing weather. No roasted eggs in hot weather. Hatches big, strong, healthy chicks, that live. Tilting Chimney Heat Control—No cold spots—no hot spots, heat regulated before—not after it enters the boiler—a guaranteed even steady heat throughout the hatch—with one regulation. Four sizes. You'll be convinced—and more. You'll buy one—we welcome inquiry for complete details.

**30 DAYS FREE TRIAL**

**103 Degree Incubator Company**  
30 East St. Crown Point, Indiana

## Lice-Proof Nests

WRITE QUICK for Catalog and SPECIAL OFFER



Nests won't cost you 1c. Your hens will pay for them in More Eggs.

Get 20 to 50% more Eggs, have healthier hens, make more money, with the Everlasting, Sanitary

**KNUDSON**

Galvanized Steel Lice Proof Nests. Costs less than wood. Unlimited guarantee. Send name today for Special Offer and interesting literature. 40,000 in use.

**SEAMAN-SCHUSKE METAL WORKS COMPANY**  
Box 162 Manufacturers St. Joseph, Mo.

## Potter Redybilt Poultry Houses

**Don't Build**

You can buy the famous Potter Portable Houses, Coops and Roosting and Nesting Equipment cheaper than you can build. Easy to set up and take down. Complete Hennerly Outfits (roosts, nests, etc.) \$3 up. Used over 10 years by thousands of successful poultry keepers. Makes it easy to start right. Get the best and save money. Send 4c stamps for 100-page book.

**POTTER & CO., 16 Forest Ave., Downers Grove, Ill.**

## Mankato Incubator EXPRESS PREPAID

**The Old Reliable Hatcher** now better than ever and sold at bed-rock price. Built of best material, all latest improvements. Has redwood case, triple walls, hot water copper tank, double heating system, self regulator, large oil tank—one filling to hatch, safety lamp, nursery, tested thermometer, automatic ventilation.

Most simple, durable and successful machine. All set up ready for use. Direct from factory to user with strong binding guarantee. 26 years' experience building incubators and raising poultry. Largest factory in Northwest. Big incubator book and catalogue free.

**Mankato Incubator Co., Box 735 Mankato, Minn.**

## Rheumatism A Home Cure Given by One Who Had It

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case. I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but, understand, I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay. Write today.

Mark H. Jackson, No. 694 F. Gurney Bldg., Syracuse, N. Y.

Mr. Jackson is responsible. Above statement true.—Pub.

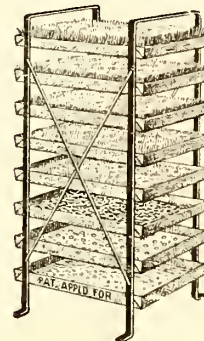
## PRIZE WINNERS

Walter Goessling, 930 Jefferson street, Quincy, Illinois, has always claimed that his Single Comb Buff Orpingtons were prize winners as well as heavy layers. His winnings at the Quincy show and also at the Illinois State Show demonstrated that his birds have quality and their laying ability is quite evident. His hens are laying nicely and he is already looking orders for eggs for setting to be shipped in season.

## REDS OF QUALITY

Our readers who are interested in Rhode Island Reds should not overlook the ad of C. M. Ewalt, Canton, Missouri. Mr. Ewalt's birds have been consistent winners and he is already booking eggs for the coming season. He would be glad to send his mating list free.

## STEVENS



## Evergreen Oat Sprouter

All Metal—Lampless. Pans can be removed to empty or refill separately, set up in two minutes time. No bolts or screws. Reasonable in price. Guaranteed to please. If not at your dealers, send direct. Circular Free. Dealers wanted.

**H. A. STEVENS & CO.,**  
77 S. LaSalle St., Aurora, Ill.



## THE "BEST YET"

**Aluminum Leg Bands** Cannot come off. Five sizes, pigeon to turkey; state breed, 12-20c; 25-30c; 50-50c; 100-90c.

## COLORLED LEG BANDS

Red, green, amber, pink, black, white, yellow, purple, light blue; dark blue; pigeon and baby chick sizes, 12-10c; 25-20c; 50-35c; 100-60c. Poultry sizes, 12-20c; 50-40c; 50-70c; 100-1.25. Circular free.

**ALUMINUM MARKER WORKS,**  
Dept. N. Beaver Falls, Pa.

## Easy Way To Get Eggs!

Use "OCULUM" the celebrated EGG PRODUCER recommended by thousands. "I fed 48 hens 'OCULUM' 24 days—eggs increased from 8 to 42 a day."

H. C. MILLER,  
Judge A. P. Assn., Akron, O.  
Trial bottle holding 240 feeds 10c.  
Booklet Free.

**THE "OCULUM" CO., Box S, Salem, Va.**

# Classified Advertising Pays

Don't just take our word that *Poultry Keeper* leads all others and is recognized as the best paying medium for poultry advertising

See what our advertisers say:

**\$3.00**  
Pays  
for a  
**20**  
Word  
Classified Ad  
**4**  
Months

Gentlemen:

"Returns from my classified ad in *POULTRY KEEPER* last spring were the best I have ever received since starting in business seven years ago. P. K. leads them all."—Grover Deege.

"Your paper did good work for us last season."—D. W. Gooding, Keystone Hatchery.

"I have already good results from ad in *POULTRY KEEPER*,"—Mrs. J. R. Cummings.

"My small ad in your paper has flooded me with orders."—Shiloh Poultry Farm.

I am getting lots of inquiries."—J. E. McLaughlin.

"I get a dandy lot of sales from your paper. Have used it regularly for several years."—Leo Munger.

"I get splendid results from *POULTRY KEEPER*. Am shipping to nearly every state in the Union."—Mrs. Joe Hartman.

"Ran ad with you last year—sold out first month. That is why I'm back with you this year."—Mrs. Ruth Daniels.

"I am getting fine results from my classified ad."—Elmer Hatton.

"Sold \$113 worth from classified ad in *POULTRY KEEPER* last season."—Batch & Moore.

"My classified ad in *POULTRY KEEPER* brought so many orders last year, I couldn't supply eggs enough."—W. G. Yearly.

"I always get big results from *POULTRY KEEPER*."—James H. Keefer.

"Have used *POULTRY KEEPER* several years with good results."—J. B. Dingsley.

"My ad in *POULTRY KEEPER* has been a money maker for me."—E. Horner.

## RATES:

Rates for Ads. Classified Under Proper Headings Are as Follows:  
1 month..... 5c per word  
2 months..... 9c per word  
4 months.....15c per word  
1 year.....36c per word

**\$7.20**

Pays  
for a  
**20**  
Word  
Classified  
Ad  
**1 Full**  
**Year**

The next four months is the time to reap your harvest from poultry advertising.

SEND ORDERS AT ONCE TO *POULTRY KEEPER* — AD. DEPT. — QUINCY, ILL.

### ANDALUSIANS

**KRAMPER'S BLUE ANDALUSIANS**—First cock, cockerel, old and young pen at St. Louis. First and third pen at Cleveland. Stock and eggs for sale. G. F. Kramper, St. Libory, Ill. 2-3

### ANCONAS

**S. C. ANCONAS**—Two, three month old pullets. We trap nest. Baker's Ancona Farm, Elyria, O. Box M. 2-6

**ROSE COMB ANCONAS**—Eggs from pen that won 2nd grand championship of Steele Co., \$5.00 for 15. Other fine pens, \$2.00 for 15, 50 for \$5.50; 100, \$10.00. Mrs. E. J. Crawford, Owatonna, Minn. 2-12

**ROSE ANCONAS**—Finest, first, second, fourths, State Show. XL. Yards, Sperry, Iowa. 2-3

**SHATTO'S SINGLE COMB ANCONAS** again win the blue ribbons, also powerful layers. Pullets lay at five months old. Fine cockerels and eggs reasonable. Guy Shatto, Dunkirk, Ind. 2-4

**FINE ANCONA COCKERELS** from Chicago Champion Male, \$5-\$20 each. Both combs. Eggs and chicks. Northwestern Stock Farms, Cardington, Ohio. 1-4

**MY S. C. ANCONAS** win 5 firsts, 5 seconds, 2 thirds, at two shows this season. Matings are the best ever. 15 eggs \$2.00 up. E. W. Meyer, Lawrenceburg, Ind. 2-3

**EGGS FROM SINGLE COMB ANCONAS.** Fine layers and prize winners. Write for mating list. Lon Miller, R. 1, Martinsville, Ill. 2-3

**SINGLE COMB ANCONA** hatching eggs, fertility guaranteed. Joseph Hughes, Irving, Ill. 2-4

**KNIGHTS ANCONAS** won first prizes at 33 shows. Cockerels. Catalog. Eggs, \$3.00 per 15 prepaid. C. A. Knight, Olena, Ohio. 2-3

**S. C. ANCONAS**—Supreme utility stock. Eggs and baby chicks. The Golden Rule is our motto. Harry R. Lloyd, 332 Wells Ave., Wellsville, O. 2-3

**ARISTOCRAT S. C. ANCONAS**—332 egg strain. Some choice cockerels very reasonable. Hatching eggs, \$2.00, \$3.00 and \$5.00 per setting. Emil J. Kremer, Dyersville, Iowa. 2-3

**LEWALLEN'S LEADING S. C. ANCONAS** win the blue ribbons at the South's best shows. Can furnish cockerels at \$3.00 and up. Booking orders for baby chicks and hatching eggs. Satisfaction guaranteed. Worth M. Lewallen, High Point, N. C. 2-4

**EGGS ALL WINTER** by raising my Anconas. Single and Rose Comb. Mating list free. Geo. Hecker, Box 9, Earlville, Iowa. 2-12

**SINGLE COMB ANCONAS**—Large, dark strain, bred for eggs. Hogan tested. 15 eggs, \$2.00; \$11.00 per hundred, post paid. Fertility guaranteed. J. O. Hodgkin, Beardstown, Ill. 2-4

**S. C. ANCONAS.** 331 egg strain. Eggs, \$2.00 per 15; \$10.00 per 100. Satisfaction guaranteed. A. A. Grady, White Pigeon, Mich. 2-3

**ANCONAS**—Baby chicks, stock, eggs. Great layers. Prices reasonable. Write Floyd Davis, McConnelville, O. 2-3

**SHEPPARD'S FAMOUS S. C. and R. C.** Mottled Ancona cock birds. Cockerels, \$5.00 each. Hens, \$2.50 each. Edward Hayden, Greenview, Ill. 2-3

**ALL YEAR LAYERS.** Eggs and baby chicks. Circular free. Silver Egg Ancona Farm, Newton, Ill. 2-3

**ANCONAS—PRIZE WINNERS,** Bred-to-lay. 11 years experience. Stock for sale. John Lent, Malta, Ohio. 12-3

**S. C. ANCONA COCKERELS**—Exhibition and breeders. Sheppard strain. Stock, eggs, chicks. Write. Satisfaction guaranteed. W. H. Beck, Sherburne, N. Y. 2-3

**MURRAY'S SNOWFLAKE ANCONAS**—Place your order for choice hatching eggs now. A. O. Murray, Mazon, Ill. 1-3

**SINGLE COMB ANCONAS,** 331 egg strain. Chicks \$30 per 100, prepaid. Safe arrival guaranteed. Eggs \$15 per 100, prepaid—replace all clear eggs free. Strasburg Poultry Yards, Strasburg, Illinois. 2-3

### DARK BRAHMAS

**DARK BRAHMAS**—Have bred the best for 45 years. W. B. McCoy, M. D., Gentryville, Mo. 2-2

### CORNISH

**QUALITY DARK and White Cornish** reasonable. Stamp for prices. B. W. Gringer, Eleroy, Illinois. 11-3

**DARK CORNISH OF QUALITY.** From Madison Square and Chicago winners. C. A. Buss, Shannon, Ill. 12-3

### CAMPINES

**GOLDEN CAMPINES**—Cockerels Native home, La Campine Plain. For eggs and beauty, none better. Book your order for eggs now. E. E. Mott, Glenwood, Mich. 12-3

### DUCKS AND GEESE

**COLORED MUSCOVEY DUCKS,** \$2.00 each. Eggs, \$1.25 for 12. White China Geese, African ganders, \$4.00. O. J. Swanson, R. 4, St. James, Minn. 2-3

**FAWN and WHITE INDIAN RUNNER DUCKS** eggs, 13, \$2.00; 100, \$10.00 postpaid. Sylvan View Poultry Farm. G. E. Horton, Curryville, Mo. 2-3

**MAMMOTH PEKIN DUCKS**—Stock from Chicago, New York and World's Fair winners. 8 to 12 pounds each. Eggs, \$3.00 per 11. Eli F. Hersey, Parkersburg, Iowa. 2-4

**FOR SALE**—Canada wild geese, single or in pairs. Mallard duck eggs, heavy laying strain, \$4.00 per 12; \$25.00 per 100. Booking orders now for spring delivery. Stock for fall delivery. Albert N. Froom, Olathe, Colo. 2-3

**FOR SALE**—Genuine wild Mallards. Chas. Jackson, Glazier, Texas. 1-3

**WHITE MUSCOVEY DUCKS,** Toulouse Geese. All leading breeds chickens, ducks, geese, guineas, pair wild geese, \$15.00. Chas. Smiley, Judson, Ind. 1-3

**MAMMOTH PEKIN DUCKS,** Toulouse, White China geese. Ed. Sweet, Jr., Darien, Wis. 1-2



**SAVE MONEY** Fight the H. C. L.  
**ON EVERY DRESS**  
Fight the H. C. L. **YOU MAKE**

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## NEW CONTEST

The 1920 Missouri Farm Flock Laying Contest has received a favorable start according to the November reports reaching T. S. Townsley of the University of Missouri College of Agriculture received from 120 farms with a total of 19,386 hens. These birds laid 49,266 eggs in November or an average of 2.5 eggs for each hen. This is the best average November production which has been recorded in any of the previous farm flock contests. In the 1917 contest the November egg production was two eggs per hen and in the 1918 contest it was 2.1 eggs per bird.

The Buff Orpingtons made the highest breed record for November with an average of 6 eggs from each of the 665 hens representing this breed. The White Leghorns ranked second in breed production with an average of 3.7 eggs per hen from 20 flocks representing this breed. The highest individual honors for the month were won by a flock of 130 White Leghorns in Chariton County, with an average of 8.3 eggs. The Buff Orpington flock owned in Johnson County was a close second with an average production of 8.1 eggs from 418 hens.

In spite of the high prices received for November eggs the feed costs for the month on the average farm exceeded the income from eggs. This is to be expected for November because the November production is always the lowest of any month in the year. Judging by the history of previous contests the average flock should show a small profit in December and each succeeding month should see an increase in profits until the maximum is reached in April.

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Walter E. Peterman, Zion City, Illinois, writes that his White Rock cockerels won first and second at the Kenosha Show January, 1920. These birds come from the 281 egg strain. You will find his ad in our classified columns.

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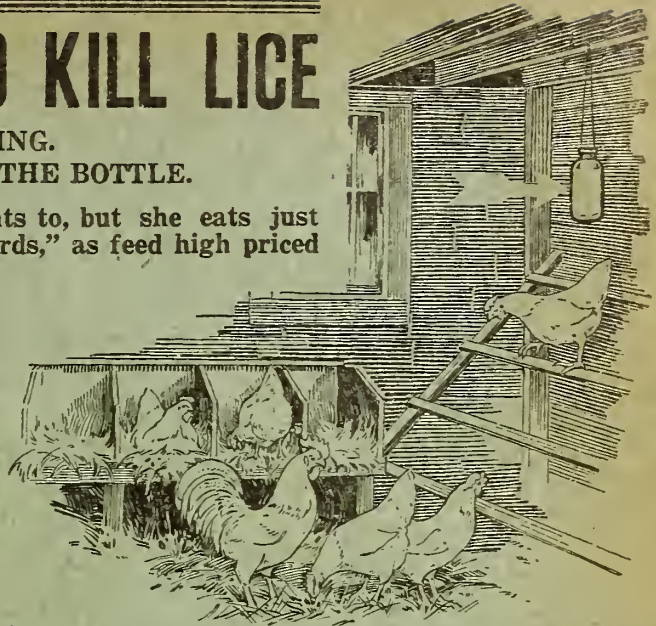
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

## Licecil

**Kills Lice**



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If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

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If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

### VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas, Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$2.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$2.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russell, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

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"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

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Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

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### Club No. 2

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### Club No. 8

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| Poultry Keeper .....           | \$ .50 | } <b>\$1.50</b> |
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| Poultry Keeper ..... | \$ .50 | } <b>\$1.25</b> |
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|--------------------------|--------|-----------------|
| Poultry Keeper .....     | \$ .50 | } <b>\$1.00</b> |
| Successful Farming ..... | .35    |                 |
| Farm & Home .....        | .25    |                 |
| Farm & Fireside .....    | .50    |                 |

### Club No. 10

|                      |        |                 |
|----------------------|--------|-----------------|
| Poultry Keeper ..... | \$ .50 | } <b>\$1.25</b> |
| Woman's World .....  | .50    |                 |
| McCall's .....       | 1.00   |                 |

### Club No. 5

|                       |        |                 |
|-----------------------|--------|-----------------|
| Poultry Keeper .....  | \$ .50 | } <b>\$1.25</b> |
| Poultry Item .....    | .75    |                 |
| Poultry Success ..... | .50    |                 |

### Club No. 11

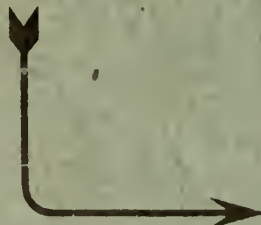
|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.50</b> |
| Mother's Magazine ..... | 1.00   |                 |
| McCall's .....          | 1.00   |                 |

### Club No. 6

|                               |        |                 |
|-------------------------------|--------|-----------------|
| Poultry Keeper .....          | \$ .50 | } <b>\$1.25</b> |
| Am. Poultry Advocate .....    | .75    |                 |
| Western Poultry Journal ..... | .50    |                 |

### Club No. 12

|                         |        |                 |
|-------------------------|--------|-----------------|
| Poultry Keeper .....    | \$ .50 | } <b>\$1.25</b> |
| Farm & Home .....       | .25    |                 |
| Mother's Magazine ..... | 1.00   |                 |



A. OTIS ARNOLD, Publisher:  
Quincy, Illinois.

Enclosed find \$ \_\_\_\_\_ for which send me Club No.

Name \_\_\_\_\_

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Issued on the first of  
Every Month.

Price 50 Cents  
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# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTICULARLY TO PRACTICAL POULTRY KEEPING.

Vol. XXXVI

MARCH, 1920.

No. 12

## Poultry and Fruit

*They go hand in hand. Nearly every poultry yard has space for more fruit. For that reason the special offer on inside back cover of this issue will appeal to poultry raisers. We feel extremely fortunate in being able to make this splendid offer.*

POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.

# TRY THE NEW WAY TO KILL LICE

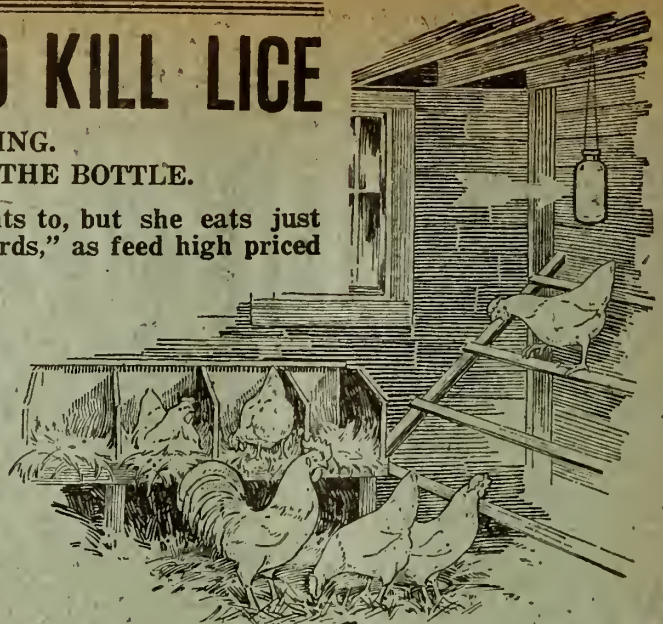
NO DUSTING,  
NO DIPPING,

NO PAINTING.  
HANG UP THE BOTTLE.

A hen worried to death with lice can't lay if she wants to, but she eats just the same. You might as well "throw money to the birds," as feed high priced food to lousy chickens. It's a dead loss—don't do it.

# Licecil

**Kills Lice**



## READ THE EVIDENCE

If you have never used LICECIL and are inclined to doubt the claims made for it, just consider the letters which appear on this page. The character of these and many other endorsements LICECIL is receiving from those who are using it and have ordered in some cases many times removes all doubt of its merit. The splendid testimonials offered herewith are of real interest to you, if you are wanting relief from insect pests. A certain well-known manufacturing concern, has this to say in reference to a personal test they made of LICECIL.

"We have tried the preparation ourselves with a hen and a cockerel which were literally alive with lice. We put them in a barrel with paper on the bottom and a cover of burlap over the top and hung the bottle with wick just inside. In the morning we examined the birds and found not a louse, but on the paper we did find plenty of real dead ones."

What do you think of that? Note particularly the let-

ter from Mr. A. E. Martz, also that of D. S. Newton.

Mr. J. E. Morehead, Waterloo, Iowa, sends the following strong testimony:

"For your LICECIL I will say that it is the best lice exterminator that I have ever used and I have used a number of different kinds. It is a chicken saver—money saver—and labor saver. It is absolutely O. K. You can use this testimonial if you care to."

## GIVE IT A FAIR TRIAL

If you prefer to fight poultry pests in the old way—it is certainly your privilege to do so. But your own best interests and the success others are having will lead you to give LICECIL a fair and honest trial at the earliest opportunity.

## VOICE OF THE PEOPLE

"We received the two bottles of LICECIL and have tested it thoroughly in the nests and find it a most excellent remedy to eradicate lice and parasites that oftentimes infest the hens." A. E. Martz, Arcadia, Ind., Prominent Poultryman and Pres. Great Coliseum Poultry Show, Chicago.

"I have been in the fancy poultry business for 12 years. Have tried all kinds of lice exterminators but have found nothing that will compare with LICECIL as a louse exterminator. If this letter will be of any benefit to you, you have my permission to use it." D. S. Newton, Osawatomie, Kan., Wholesale Produce. Sec. Treas. Miami County Poultry Assn.

"A bottle of LICECIL that I bought of you last September killed all the red mites in my poultry house and on the chickens, after I had used three other well advertised sprays without any results." Len Swafford, East Jordan, Mich.

"Enclosed find payment for one bottle of LICECIL. Last year I did not use LICECIL and had mites galore in my poultry house. This year I will use LICECIL and avoid this trouble." Mrs. Rebecca S. Smith, Central City, Iowa.

"I enclose \$2.50 for which please send me LICECIL. I found LICECIL very much better than anything I ever tried, and have tried several kinds of liquids and powders." Mrs. John Anderson, Buford, Wyo.

"Enclosed find \$2.50 for LICECIL. I have never tried it myself, but it has been very strongly recommended to me for mites and lice." Mrs. Levi Russell, El Dorado, Miss.

"Find enclosed money order for LICECIL. I was well pleased with results from the other bottle I bought. Have over 200 birds and when I use LICECIL, lice are a very scarce article with me." J. E. Platt, Maywood, Ill.

"I got a bottle of LICECIL from you sometime ago and found it the best thing of the kind I ever used. Please send me another bottle for the enclosed." Mrs. L. M. Johnson, Plumville, Pa.

"I find your LICECIL to do just as you claim. Tried the LICECIL you sent me with some young chickens and it worked like magic." Mrs. S. A. Henderson, Harris, Mo.

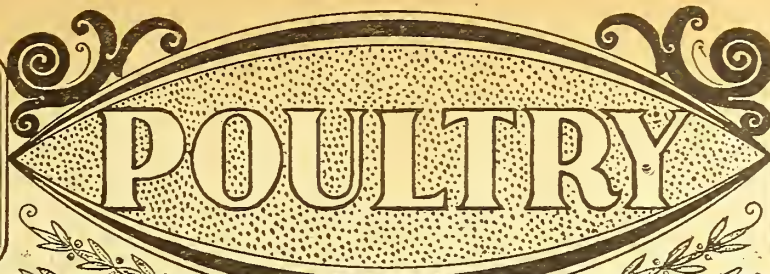
"Received a bottle of your LICECIL some time ago and think it is all right. I am anxious to buy more. Have you an agent in Spokane from whom I can get it?" W. H. Wooster, Post Falls, Idaho.

## HOW TO USE LICECIL

Simply put a few drops in nest and hang uncorked bottle in coop or henhouse. Powerful evaporating vapors which leave bottle are three times heavier than air and descend in a misty form, penetrating feathers, cracks and crevices everywhere. Lice, mites, chiggers, bed bugs, ants, roaches, etc., have no lungs—they breathe through the pores of the body, and are destroyed by LICECIL vapors. **WILL NOT INJURE CHICKS. ACTS LIKE MAGIC.**

Bottle, \$1.00; 3 Bottles for \$2.50, 12 Bottles, \$9.00. Prepaid.

**AMERICAN SUPPLY COMPANY Dept. P. K. Quincy, Illinois**



A JOURNAL FOR  
EVERYONE  
INTERESTED

KEEPER

IN MAKING  
POULTRY  
PAY

VOL. XXXVI.

MARCH, 1920.

No. 12.

## Quick Method of Obtaining Accurate Individual Egg Records Without the Trap Nest

By Byron Adler and A. D. Egbert, Utah College of Agriculture

The power or ability of a hen to lay a large number of eggs or the lack of that power or ability resulting in few or no eggs is not confined to the individuals of any one breed or flock. Feeding, housing, and general care of the fowls are not the only causes of low production in certain individuals. It is often in the makeup of the hen herself; she could not be a heavy layer under any condition. High and low producers are found in every flock.

An accurate method of obtaining the daily individual records of each bird is the only sure way to pick out the naturally poor layer. Only the very best hens should be used as breeders, whereas the poor layers should be sent to market as soon as they can be found. Thousands of

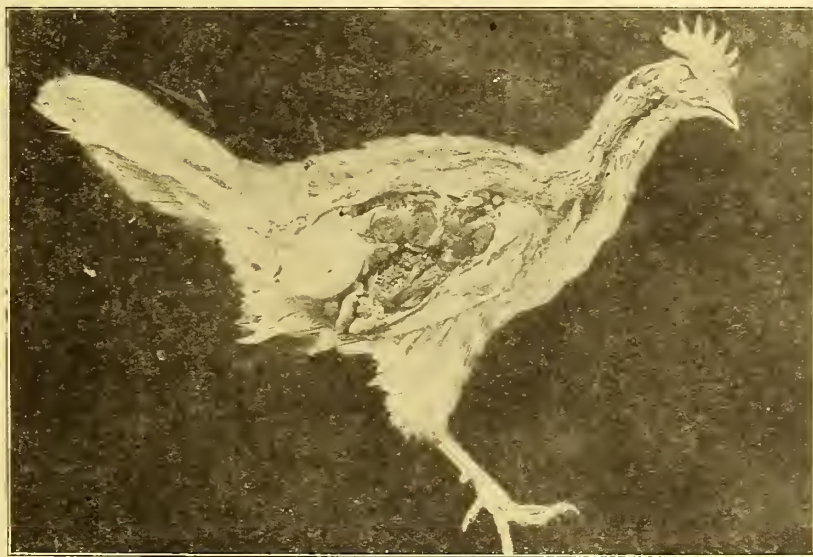


Fig. 1.—The relative location and size of the egg just before laying as compared with other parts of the hen's body.

fowls that do not lay enough eggs to pay for their feed are kept each year in Utah.

The trap nest and the keeping of daily individual records is the only sure method now in common use to weed out the boarders. The time required to keep trap nest records and the expensive equipment necessary make this method impractical in most farm or commercial flocks. Looking after the trap nest is very trying work, especially during the spring of the year when egg production is at its height. Because spring is also the busy season in nearly all other farm work, this practically eliminates the trap nest as a part of the equipment of the farm poultry house. The present average of about six dozen eggs a year for each hen could be considerably increased if there were a few flocks in each locality of which careful records were kept and an effort made to furnish the farmers in that section good breeding stock from heavy laying hens, at reasonable prices.

Thomas H. Taylor, Jr., gives the results of a test of several different

makes of trap nests for a short period in which they obtained the individual record of only about 60 per cent of the eggs laid. Some of the nests gave results as low as 15 per cent, but one gave 100 per cent. His conclusions were that trap nests were not practical as labor in caring for them outweighs their worth. Since this was an early test of the trap nest, some of these nests were no doubt faulty in construction. They have been much improved since that time, as shown at the Maine Station.

Pearl, of the Maine Experiment Station, reports the results of their trap records for the years 1908 to 1911. The error during this period averaged 1.92 per cent and varied from 4.01 per cent to 1.03 per cent,

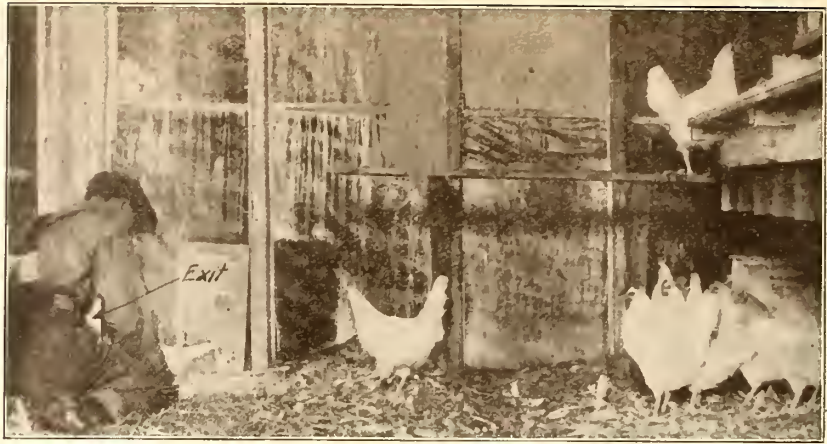


Fig. 3.—This shows the correct position of the exit for the fowls, the person doing the testing, and the hens crowded into the opposite corner ready to run out.

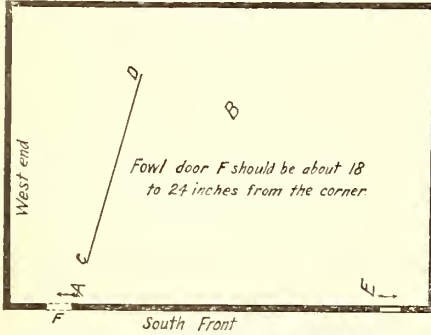


Fig. 2.—Diagram showing the position (A) of the person doing the testing; (B) the person recording and crowding the hens up to the exit; and (CD) a movable panel to aid in training the hens.

which is about as good as can be expected with trap nests.

**The Utah Station Test.**

For a number of years at the Utah Experiment Station, the daily individual egg record has been obtained by testing the fowls each morning. During the first few years trap nests were used as a check on the test until it was conclusively proved that the daily individual egg record could be kept more accurately by this test, in much less time, and at less expense than by the use of the trap nests.

Lillie states that in the development of the egg it remains in the uterus from twelve to twenty-four hours for the formation of the shell and laying. In other words, if a hen is to lay on a given day, the egg is in the uterus early that morning with the shell almost if not entirely formed, for the large majority of fowls lay before noon rather than after that time. In actual practice it has been found that if a hen is to lay at any time during a given day, the egg could be easily felt early that morning by a slight pressure with the finger on the side of the abdomen just below and nearly to the end of the pelvis bone. This pressure should be very light and should come from the face of the last two joints of the first finger rather than from the end, so as not to injure the hen or the egg. The relative size and position of the egg early in the morning on the day of laying as compared with other parts of the hen's body are shown in Figure 1.

The test is so simple that it can be applied accurately by almost any one after a few trials. The big problem, however, appears to be in catching the hens each morning in order to be able to make the test. This however soon becomes a matter of routine to the hen and after the first ten days or two weeks there is no trouble whatever if it is done in a quiet, systematic way.

By this method each hen gets credit for the eggs she lays whether she lays them in the nest, on the floor, or in a stolen nest in the yard. This fact, supplemented by checking with the number of eggs at the time of gathering, has made it possible to tell when a hen has stolen her nest, and has been the means of finding many stolen during the spring and summer. When it is found that one or more eggs are short day to day a search is made and the nest often found. Moreover, the nest nearly always contains the exact number of eggs that had been recorded as short or missing.

It is not the purpose or intention to offer this method of obtaining the daily individual record as a substitute for the trap nest under all conditions, for like the trap nest it has its limitations. It cannot be used under all conditions with the best results. But under the conditions to which it is adapted, it is more efficient in several respects than is the trap nest. In addition to being more accurate, perhaps its greatest advantage is in the fact that it takes only a few minutes' time in the early morning to get the complete daily egg record, leaving the remainder of the day free for other work.

**How the Test is Made.**

The test is made each morning shortly after daylight, usually by two men working together, one testing the hens and calling out the number of those that are to lay; meanwhile the other gives these hens the proper credit on the monthly egg sheet. He also gently crowds them up to the one who does the testing.

The two men go into each house

Pen No. C3 **EGG RECORD**  
 Male No. \_\_\_\_\_ **U.A.C. POULTRY DEPARTMENT**  
 Experiment \_\_\_\_\_ For Month of April 1916

| Hen                        | 1  | 2 | 3  | 4  | 5  | 6 | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29  | 30  | 31  | Test Total |
|----------------------------|----|---|----|----|----|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|------------|
| 332                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 20  | 17         |
| 336                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 22  | 21         |
| 337                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 19  | 20         |
| 339                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 20  | 18         |
| 562                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 19  | 17         |
| 566                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 18  | 17         |
| 573                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 15  | 14         |
| 575                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 16  | 16         |
| 576                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 21  | 17         |
| 577                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 20  | 19         |
| 578                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 19  | 17         |
| 580                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 17  | 18         |
| 705                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 21  | 21         |
| 707                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 18  | 17         |
| 712                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 22  | 22         |
| 816                        | 0  | 0 | 0  | 0  | 0  | 0 | 0  | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 21  | 19         |
| No. of Eggs Tested         | 13 | 9 | 10 | 11 | 13 | 8 | 14 | 9 | 9 | 13 | 2  | 8  | 11 | 15 | 9  | 8  | 11 | 12 | 6  | 13 | 9  | 8  | 10 | 12 | 8  | 10 | 10 | 10 | 9   | 308 | 288 |            |
| No. of Eggs Gathered       | 13 | 9 | 10 | 12 | 13 | 8 | 14 | 9 | 9 | 12 | 2  | 8  | 11 | 15 | 9  | 8  | 11 | 12 | 6  | 13 | 9  | 8  | 10 | 12 | 8  | 10 | 10 | 9  | 307 |     |     |            |
| No. laid out of Trap Nests |    |   |    |    |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     | 19  |            |

Fig. 5.—(See legend under Fig. 6).

Pen No. C 9 EGG RECORD  
 Male No. \_\_\_\_\_ U.A.C. POULTRY DEPARTMENT  
 Experiment \_\_\_\_\_ For Month of May 1916

| Hen                        | Days |    |    |    |   |    |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     | Test Total | Trap Nest Total |
|----------------------------|------|----|----|----|---|----|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|------------|-----------------|
|                            | 1    | 2  | 3  | 4  | 5 | 6  | 7 | 8  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30  | 31  |            |                 |
| 332                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 21         | 21              |
| 336                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 19  | 19         |                 |
| 337                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 15  | 15         |                 |
| 339                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 16  | 15         |                 |
| 562                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 17  | 14         |                 |
| 566                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 15  | 14         |                 |
| 573                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 15  | 12         |                 |
| 575                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 8   | 8          |                 |
| 576                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 16  | 15         |                 |
| 577                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 17  | 11         |                 |
| 578                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 20  | 19         |                 |
| 580                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 15  | 15         |                 |
| 705                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 18  | 17         |                 |
| 707                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 13  | 11         |                 |
| 712                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 22  | 21         |                 |
| 816                        | 0    | 0  | 0  | 0  | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 12  | 11         |                 |
| No. of Eggs Tested         | 11   | 10 | 10 | 12 | 3 | 15 | 6 | 10 | 9 | 9  | 8  | 11 | 8  | 7  | 9  | 8  | 8  | 8  | 5  | 11 | 5  | 7  | 6  | 8  | 7  | 7  | 9  | 10 | 10 | 259 | 236 |            |                 |
| No. of Eggs Gathered       | 11   | 10 | 10 | 11 | 3 | 14 | 6 | 10 | 9 | 9  | 8  | 10 | 8  | 7  | 9  | 8  | 8  | 8  | 5  | 11 | 5  | 7  | 6  | 8  | 7  | 7  | 6  | 9  | 6  | 10  | 251 |            |                 |
| No. laid out of Trap Nests | /    | /  | /  | /  | 2 | /  | / | /  | / | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | /  | 2   | 15  |            |                 |

Fig. 6.—Figures 5 and 6 show the comparative results of the Utah Station test and the trap nest in obtaining the daily individual egg record of a pen of S. C. W. Leghorns for April and May. The eggs laid in the trap nests are recorded with a straight mark "I." The test record is indicated by "O."

2) in order to drive all the fowls into the west end. The other kneels down (position "A", Fig. 2) facing the west close to the well just to the east of the small exit as shown in Fig. 3, which is in the south side of the building near the southwest corner. A left-handed person would test in the opposite end of the building (position "E," Fig. 2). The

with the thumb on the left side, and the fingers on the right side of the fowl's body, the second joint of the first finger touching the end of the pubis, or pin bone, as shown in Fig. 4. A gentle pressure in and upward behind this bone with the first finger enables the egg to be readily felt if one is there. While the test is being made and the number on the legband found, the hen is not raised from the floor, but is held in or near the opening to prevent the other hens from getting out. The fowls soon become so accustomed to this method that it is not unusual for them to run up and stop just in front of the opening, two or three at a time, awaiting their turn.

After the fowls have become accustomed to the test, that is, trained so well that they will come up to the exit as soon as it is opened by the one doing the testing, one man can test and record small flocks of from ten to fifteen hens in the small colony houses almost as rapidly as two, but in larger flocks it is better

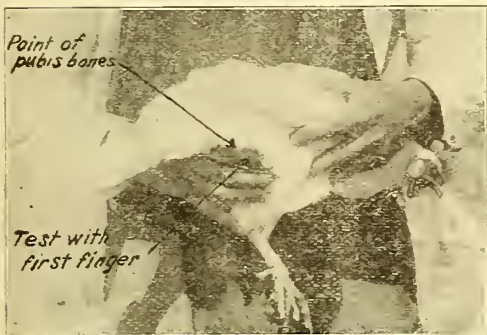
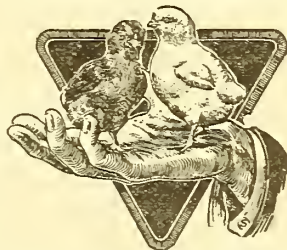


Fig. 4.—The test is made by a gentle pressure with the first finger of the right hand.

together. One takes the monthly egg sheet and goes to the east end of the building (position "B," Fig. 3) fowls are all straight across from this exit and as soon as they see it open, first one and then another runs out. The general position of the fowls and of the one doing the testing is shown in the illustration in Fig. 3. As the hens get near the opening, the person doing the testing quickly puts his left hand in front of the fowl, at the same time bringing his right hand up from behind so that both hands catch her at about the same time. As soon as a firm hold is obtained on the hen with the left hand, the right is dropped down to the abdomen from behind



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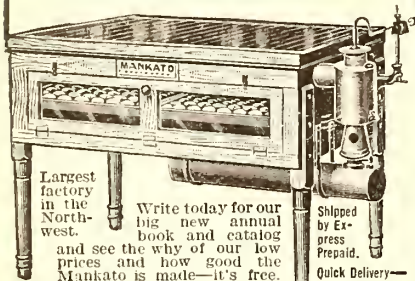
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for two to work together as described above.

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One of the chief advantages of this method is in the time saved. In a trial for time, two men working together went through 30 pens in a long house and through 16 colony houses, testing over 500 hens in 37 minutes. When the testing was done they were free for other work until time to gather the eggs in the afternoon. In running trap nests on the same fowls, it took one man more than one-half his time of a ten-hour day to look after the nest, record the eggs, and free the fowls.

Where only the individual egg record is desired and no pedigree breeding is to be done, this method of obtaining the record saves the expense of equipping the houses with trap nests. It also lessens the labor required in caring for the fowls and gives a more complete individual record than the trap nests now in common use.

By keeping a careful record of the number of eggs tested and gathered with a note on the difference as a check it was possible to reduce the number of unrecorded eggs to one-half of one percent. During the year 1915 the test showed 42,886 eggs. The sum of the eggs short at the time of gathering was 110 and the sum of those in excess of the test was 128. The error will be greater than this unless the work is carefully done soon after daylight. Since some hens lay shortly after leaving the perch, it is necessary to make the test early enough to catch these early layers.

The eggs short may have been lost, stolen, or broken and eaten by the hens, whereas the eggs over may have come from a hen laying two eggs in one day, which we find during the trap nest season occasionally happens, or from hens that laid very early in the morning before the test was made. It is not likely that any of these eggs are a duplicate because if the record showed one or more eggs short one day and the same number in excess the next the two were checked off from the egg sheet where they had been recorded as so many short.

**The Test vs. the Trap Nest**

Figs. 5 and 6 show the comparative value of the test and trap nest in obtaining the daily egg record of one of the pens for April and May—two of the months of heavy production. The error of the trap nest is always greatest during the spring. Due to the pleasant weather conditions, heavy egg production and the na-



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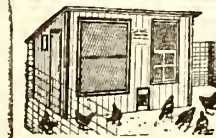
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tural season for hatching, more eggs are laid on the floor, out in the yard, or in stolen nests than at any other time; hence this error cannot be considered an average for the other months. The trap nest record is represented by the straight mark "I" and the test by "O." Where the "O" appears without the "I" the egg was tested and the hen given credit, but the egg was not laid in the trap nest. Three eggs were laid in the trap nests during the two months that were not recorded by the test. These eggs may have been laid before the test was made in the morning, the hen may have slipped through the exit without being caught by the tester, or the egg may have been missed—not felt—when the test was made. This last would happen but seldom with a careful tester.

At the bottom of each table is given for each day, (1) the total number of eggs tested, (2) the total number gathered, and (3) the eggs that were gathered out of the trap nest. There is only one day when the error of the test was great. May 30 the test gave ten eggs, while only six were gathered. An error as large as this is very unusual. The explanation of those in charge was that some one must have visited the nest and taken the eggs without recording them. During the month there were only eight eggs short of the number tested including the four on the thirtieth. During the month of April there were only two eggs short and one in excess of the test, or an error of three out of 307 eggs gathered, while the trap nest gave only 288, or an error of 19.

As there is no way by which the eggs of a certain hen can be identified, individual pedigree breeding cannot be carried on by this method. For this reason the trap nest must be used during the breeding or hatching season, in breeding experiments requiring an individual pedigree. In laying contests or where group selection for breeding is practised, that is, the grouping of hens with a record above or below certain limits, the trap nest has no particular advantage over this test. At the Utah Station, since nearly all the houses are equipped with trap nests, they are available for the pedigree breeding work during the hatching season. As soon, however, as this time is past the trap is tied down and the record kept by testing. The fowls are tested every morning during the year, whether the trap nests are working or not.

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**Better Bred Birds Lay the Eggs**

Poultry keepers interested in increasing the egg production of their flocks will pay marked attention to the methods of feeding, housing, culling and breeding. Probably the least progress on most farms has been made in the art of breeding poultry, says T. S. Townsley of the University of Missouri College of Agriculture.

To produce high layers only the best individual producers should be used as breeders. This suggests the necessity for having a special breeding flock. On farms where eggs for setting are saved from the entire flock, selection is usually based only on the size and shape of the eggs. With this system the breeder stands a good chance of setting many eggs from the very lowest producers. Even the poorest hens lay fairly well during the hatching season and their eggs are usually large and smooth. This method of mass selection of setting eggs is in the same class as the crib selection of seed corn and will bring just as poor results. The first step in improving the egg production is the establishment of a special breeding flock.

No special fencing is necessary to handle the flock. Free range gives ideal conditions for breeding fowls. A pen is a great detriment to the efficiency of the breeding flock and is not at all needed on the farm. Close confinement reduces the vitality of the stock and results in poor hatches and weak chicks.

Where separate houses are available for the breeding flock and the commercial flock, free range can be given the birds in each group. If feed is kept constantly available in the mash hoppers in each house the birds will return to the proper house to lay so that the eggs can be kept separate without any attention to yards. Of course, males should be supplied only for the breeding flock, and by keeping these birds in the house until eight or nine o'clock in the morning, satisfactory mating will be insured. Some mating may occur on the range between the hens in the commercial flock and the males from the breeding flock, but this does no special harm. On farms where there is only one poultry house, a partition can be put in to keep the two flocks separate. If it seems undesirable to allow both flocks to range at the same time, alternate the range by letting the breeders run at large one day, and the commercial layers the next. During the cool weather of the breeding season this system works satisfactorily.

The number of birds to include in the breeding flock should be determined by the number of high class individuals available and by the number of eggs needed for hatching. If incubators are used, enough breeders should be kept to fill the machines without holding any eggs longer than ten or twelve days. Usually a production of at least fifty

per cent can be expected during the hatching season. Forty breeders should furnish enough eggs to fill a two-hundred egg machine within ten days. However, only hens of high producing ability should be used as breeders even if it is necessary to buy some eggs for hatching.

**BROWN LEGHORNS**

Readers of this journal wishing high-class Brown Leghorns, both Light and Dark should write the Top Notch Farm, R 4, Quincy, Ill. Mr. and Mrs. Casper Mast, proprietors of this Farm are making a special price on their Brown Leghorns this season and breeders can rest assured of being treated right when ordering eggs from this farm. Their farm is the scene of many thoroughbred stock meetings throughout the year, having a fine herd of registered Jerseys and Poland China hogs. Mrs. Mast calls particular attention to their heavy egg laying utility Barred Rocks from which she will sell eggs for \$10.00 per hundred and you can order direct from her ad in this journal. Her prices on Brown Leghorns also are as low as it is possible to sell good stock. "Treatment must be satisfactory" is their motto.

**BROWN'S BARGAIN FENCE BOOK**

Get this Big Money - Saving Book and sample of BROWN'S ACID TEST HEAVY GALVANIZED FENCE, both free, postpaid. See the quality and compare my LOW FACTORY FREIGHT PREPAID PRICES. Our prices beat all competition—our quality we let you prove before you buy.

**LOWEST PRICES—I Pay All Freight Charges**

Don't buy a rod of fence this year until you get my New Bargain Fence Book. Shows 150 styles. Also Gates, Lawn Fence, Barb Wire—all at startling low prices. A postal brings sample to test and book free, postpaid.

**THE BROWN FENCE & WIRE CO. (9)**  
Department 457 CLEVELAND, OHIO

**HEN-E-TA BONE GRITS**

No. 1—Chicks No. 3—Turkeys  
No. 2—Fowl No. 4—Mash

**Only \$3.50 per 100 lb. Sack**

Oyster Shells, other bone, grit and charcoal not necessary when feeding "HEN-E-TA."

Use of beef scraps optional.

**Will Make Hens Lay More Eggs WILL MAKE CHICKS GROW**

Valuable formulae Free for your Dealers Name.

**HEN-E-TA BONE CO.,**  
Dept. 4, Newark, N. J.

## A FEW POULTRY "DON'TS"

- Don't stint on the feed.
- Don't tolerate lice.
- Don't expect good results in a poorly ventilated house.
- Don't fail to clean below the roosts regularly.
- Don't expect many winter eggs if you feed one grain alone.
- Don't keep too many hens for the size of the house.
- Don't let the hens drink ice water.
- Don't just keep chickens—try to make them partly keep you.
- Don't keep too many varieties. Better confine yourself to one breed and master it thoroughly. What looks nicer than the whole flock of one breed?
- Don't keep scrubs. You will be money ahead in the long run if you sell all the mixed breeds and invest the money in one-fourth the number of a recognized standard breed.—M. Hardy, Lewis and Clark Co., Montana.

## TURKEYS FOR LITTLE TROUBLE

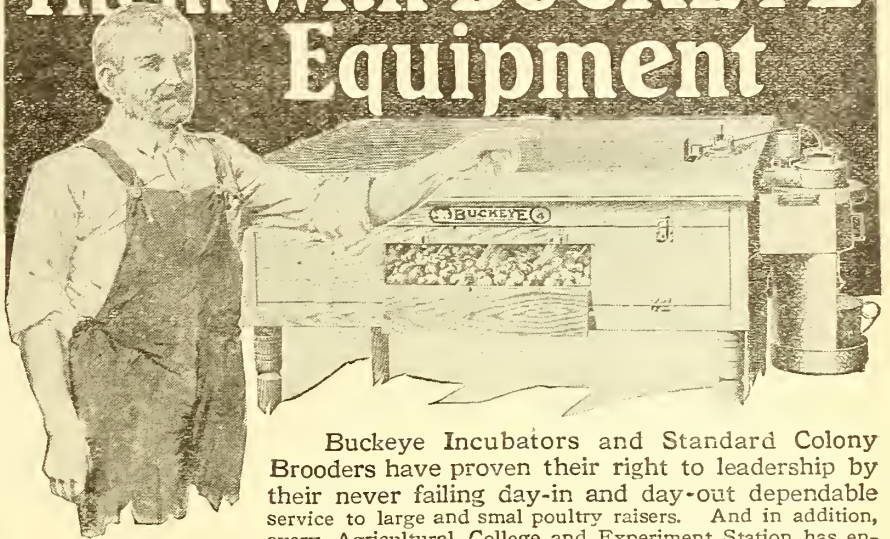
Many people seem to think they cannot raise turkeys unless they are kept dry, and hurry them in out of every little shower. We have good luck with turkeys, and they almost raise themselves. I keep several hens to lay eggs enough to make several hatches. When a turkey hen gets broody I set her on 16 or 17 eggs, making a good nest of hay, but if she is too far away from the house we carry her into the lot and set her, in a roomy crate or some place where she may be looked after. I try to watch over them for the first day or two after hatching, then the old mother hen is turned loose on the job, I feed them cornbread crumbs.

## POULTRY HOUSES AND FIXTURES

Poultry houses correctly planned and built are essential to the success of every poultry enterprise, whether it is established on a large or a small scale. New edition of "Poultry Houses and Fixtures" is full of expert information in regard to all details of planning and building. James E. Rice, Professor of Poultry Husbandry, New York State College of Agriculture, Cornell University, Ithaca, New York, thought so well of the previous edition of "Poultry Houses and Fixtures" that he used it in class work. Now he writes as follows about the latest edition: "This is the most complete, authoritative and practical publication on the subject which has come to my attention. I shall be glad to refer our students and others to this book as a text."

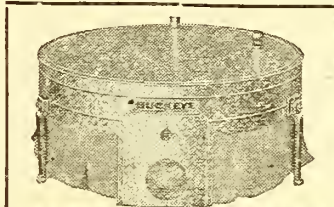
Size of book, 9x12 inches: 112 pages and cover. Printed on supercalendered half-tone book paper and profusely illustrated. Price, post-paid \$1.00. Address Poultry Keeper, Quincy, Ill.

# Hatch Them and Raise Them With BUCKEYE Equipment



Buckeye Incubators and Standard Colony Brooders have proven their right to leadership by their never failing day-in and day-out dependable service to large and small poultry raisers. And in addition, every Agricultural College and Experiment Station has endorsed them.

The Buckeye Incubator has earned a national reputation for greater efficiency. It has taken all doubt from artificial incubation and its quality construction has made in an investment that lasts a life-time. It operates in any temperature down to freezing. Requires no artificial moisture. No attention to regulator from the time the hatch is started until it is finished.



## BUCKEYE OIL-BURNING BROODER

The Buckeye oil-burning brooder is a scientific oil burner that is portable, and highly efficient. No fumes, no dirt—just a constant circulation of fresh, warm air. Insulating air space insures uniform and economical heating.

## STANDARD Colony Brooder

The Standard Colony brooder is the one best "bet" in the brooder field. It burns coal—only six to nine cents worth a day and requires filling only once every twenty-four hours. The coal-burning stove is safe, simple, self-regulating and self-feeding. It is absolutely dependable for it never fails to furnish adequate heat under all weather conditions. Every chick that has any chance for life at all will thrive under it.

## See This Better Equipment At Your Dealer's

Send for free catalog which fully describes the Buckeye. Then see the hardware or seed man in your town who handles them—and have him tell you why they are the one safe investment for you. He knows—and you will find his opinions doubly valuable after reading the facts.

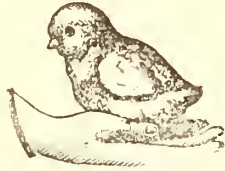


## The Buckeye Incubator Co.

15 Euclid Ave., Springfield, Ohio  
"The World's Largest Manufacturers of Incubators and Brooders"



## Chicks With "The Pep" --- HATCHED TO LIVE AND GROW



Sent by prepaid parcel post to your door. We hatch only high grade and bred to lay chicks, from good big, strong, vigorous, healthy stock. Many show winners among them. They produce the eggs. We hatch Barred and White Rocks, White, Brown and Buff Leghorns. White and Buff Orpingtons, Reds, and White Wyandottes. Prices from 15c per chick and up. Give us a trial order and we will please you.

HOLGATE CHICK HATCHERY,

Holgate, Ohio.



Booking eggs at \$7 per 15; or 45 eggs for \$20. Young fowls, \$20.00 a trio next June.

### U. S. MARINE GAME FIGHTING FOWLS

Red White and Blue; Supreme fighters and game as death Also (absolutely best), HUNTING DOGS, nothing cheap, but sold on a money back guarantee. Pointers, Setters, Hounds, Blood Hounds, Collies, Etc. Information free.

ALFRED F. GRAHAM, Cameron, N. C.

A few Pure White Ancona Eggs in Spring at \$10 per 15. Let me book you now.

## Single Comb White Leghorns

Won 1st cock, 1st old pen 5th hen, 2nd and 3rd cockerel, 1st pullet at Macomb show. Ferris Strain. Eggs from pen headed 1st cock at Macomb \$3.00 per 15. Range flock, \$1.25 per 15; \$7.00 per 100. Range flock headed by 2nd and 3rd cockerel at Macomb and two others equally as good.

W. H. SNOWMAN,

R. 2,

Industry, Illinois.

## Acme Incubator Lampwick

MADE OF MINERAL FIBRE—DOES NOT RUN OR CHAR—PRACTICALLY INDESTRUCTIBLE

Keep lamp well filled with oil and wick does not need trimming, running uniformly through entire hatch. Keep even temperature.

Three sizes—No. 1 (5-8 inch); No. 2 (15-16 inch); No. 3 (1½ inch). Be sure to give size. Price, 10 cents.

POULTRY KEEPER,

Quincy, Illinois.

## Hendersons Barred Plymouth Rocks

AMERICA'S FOREMOST WINNING STRAIN

Won more awards at the Iowa State Fair, Des Moines, Iowa, August, 1919, at Chicago Coliseum, November 26th to December 1st, 1919, and at the Heart of America Show, Kansas City, Mo., November 26th to December 1st, 1919, than ALL COMPETITORS COMBINED. These awards including SWEEPSTAKE CHAMPION COCKEREL of the American Class at Des Moines; SWEEPSTAKE CHAMPION OF THE ENTIRE SHOW at Kansas City, and BEST DISPLAY AT CHICAGO COLISEUM. I am offering this grand SWEEPSTAKE PRIZE WINNING BLOOD in exhibition Cocks and Pullet Bred Cockerels at GREAT BARGAIN PRICES during February and March. Get some of these birds and improve the quality of your flock.

\$10.00 for 15. EGGS FOR HATCHING \$5.00 for 15.

Write today for my mating list which fully describes twenty-two of the greatest breeding yards in America.

W. W. HENDERSON, Box K,

Bridgeton, Mo.

## ILLINOIS STATE POULTRY ASSOCIATION NEWS NOTES

Entree blanks for the First Annual Egg Laying Contest of Illinois will be mailed to all who desire to enter this contest about the middle of March. Breeders in Illinois will have to hurry or all the pens will be spoken for. Inquiries are now in from six states and more arriving in every mail.

Contest will open November 1st, at Benld, Ill., and fee will be \$25.00 for each pen. This will cover all expenses for feed, care, and attention and every owner of birds in this contest will receive a weekly account of what his birds are doing in the contest. The highest pen each month will be given a handsome silver cup. Many other features will be included which will be set forth in the catalog which we will send as above stated. This is your opportunity to show what your birds are doing. Every one entering this contest will be given a fair and square deal. You need have no fear but that your birds will be given the proper care and that the heaviest layers will win. Send for catalog and it will be mailed you as soon as it is off the press.

A. D. SMITH,

Sec. Ill. State Poultry Association.

### P. K. SELLS PIGEONS

Please discontinue my pigeon ad. in the Poultry Keeper as I have sold everything and could have sold twenty times the amount of stock I did had I been in a position to produce it. I received inquiries from states all over the union and made a large shipment to Washington, D. C., just the other day. Colonel Clare Irwin, Quincy, Ill.

### S. C. RHODE ISLAND REDS

Eggs from three good matings

\$2.00 to \$3.50 per 15

### WHITE WYANDOTTES

Blue Ribbon Winners

Eggs, \$3.00 per 15.

Baby Chicks after March 1st.

E. M. STEWART, R. R. 7.

QUINCY, ILL.



Lice and Mite Proof

HEN ROOST

The only straight road to more eggs the year round. GUARANTEED.

Allion Vermin Proof Perch Co.

Dexter, Michigan.

## TOM BARRON LEGHORNS

Baby chicks and eggs from this great egg-record strain. Catalog on request. Frank Schroepfel, Mt. Carroll, Ill.

Sharp's Black Langshans

For Sale } 3 Finest Cockerels  
All First Prize Winners  
Females and Hatching Eggs

All have 18 years best blood lines back of them.

T. WARREN SHARP,

216½ S. Sixth, Springfield, Illinois.

# FERRIS WHITE LEGHORNS



Hen No. 01074  
Record 280 Eggs



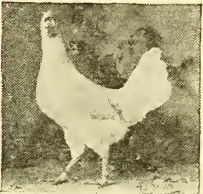
Hen No. 01058  
Record 266 Eggs



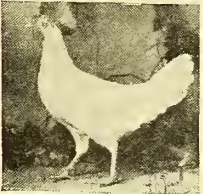
Hen No. 01076  
Record 250 Eggs



Hen No. 3293  
Record 263 Eggs



Hen No. 3109  
Record 271 Eggs



Hen No. 01077  
Record 237 Eggs

## WINNINGS AT CINCINNATI

First, Second, Third, Fourth Cock  
First, Second, Third, Fourth Hen  
First, Second, Third, Fourth, Fifth Cockerel  
First, Second, Third, Fourth Pullet  
First, Second Old Pen  
First, Second Young Pen

## WINNINGS AT OMAHA

First Cock Best display White Leghorns  
First Hen  
First Pullet  
First Cockerel Best display in show  
First Pen

## 30 EXHIBITION MATINGS NOW READY

These pens are headed by our winners at the largest shows, and many of them are from stock with high egg records. See catalog for prices and description.

**Exhibition Breeding Stock**—We can spare a number of choice males and females of our best exhibition stock. Write us for prices on a pen that will win and breed winners for you.

## BREEDING STOCK FROM HEAVY LAYING STRAINS

For 20 years Ferris White Leghorns have been bred to lay more eggs at all seasons than ordinary hens, and to lay particularly well in winter when eggs are highest. We do not breed from hens that are not good winter layers. We can't afford to, for with three of the largest poultry farms in the country we must have winter eggs to make them pay.

Thousands of poultry keepers in all parts of the country are having unusual success with Ferris stock; hundreds of customers in Canada also, and we have made successful shipments to Scotland, Germany, Africa, Japan, Australia, Nicaragua, Alaska, Philippine Islands, Bermuda, Cuba and Mexico. We guarantee safe arrival anywhere.

## We Ship C. O. D. and On Approval

We ship all mature stock on approval, allowing you to return within three days any birds that are not entire satisfactory. We assume the responsibility of seeing that your birds remain in good condition while they are becoming accustomed to changes of feed, care and climate. We replace any that die or get out of condition within 30 days. We endeavor to give every customer as good value as if you were here to make personal selection.

We also ship C. O. D. if desired. If you want to see the birds before paying for them, send us enough money to guarantee express charges one way and we will ship C O D

## Laying Pullets and Hens

Thousands of pullets and hens from our heavy laying strains are now ready for shipment

Your choice of pullets or hens at the following prices:

|                  | 200-230 Strain | 230-264 Strain |
|------------------|----------------|----------------|
| 4 Females.....   | \$ 20.00       | \$ 24.00       |
| 8 Females.....   | 40.00          | 48.00          |
| 12 Females.....  | 60.00          | 70.00          |
| 25 Females.....  | 115.00         | 135.00         |
| 50 Females.....  | 220.00         | 260.00         |
| 100 Females..... | 425.00         | .....          |

Hundreds of choice cockerels March hatched, from our very best matings. Also a number of yearling cockbirds that we have used in our breeding pens at the same prices—from 200-230 strain \$8.00, \$10.00 and \$12.00. From 230-264 strain \$12.00, \$16.00 and \$20.00.

## Eggs For Hatching

|                | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|----------------|----------------|----------------|----------------|
| 15 Eggs.....   | \$ 3.50        | \$ 5.00        | \$ 10.00       |
| 50 Eggs.....   | 9.00           | 13.00          | 26.00          |
| 100 Eggs.....  | 17.00          | 25.00          | 50.00          |
| 500 Eggs.....  | 80.00          | 115.00         | .....          |
| 1000 Eggs..... | 150.00         | 225.00         | .....          |

Eggs sent prepaid anywhere at above prices. Fertility and safe arrival guaranteed anywhere in the U. S. or Canada.

The years of careful breeding behind our strain has resulted in the eggs we ship being strongly fertile. The breeding stock is vigorous, properly raised, well matured and handled so that the eggs we secure are practically all fertile and sure to hatch strong chicks that will live and be profitable. Your success depends on getting this kind of stock.

No matter how near they approach standard requirements, we never breed from fowls that are weak, undersized, immature and not strictly first-class in every way. A hen that is not a good layer isn't fit to breed from even if she wins

## Day Old Chicks

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 12 Chicks.....   | \$ 5.00        | \$ 7.50        | \$ 15.00       |
| 25 Chicks.....   | 9.00           | 14.00          | 28.00          |
| 50 Chicks.....   | 17.00          | 26.00          | 52.00          |
| 100 Chicks.....  | 32.50          | 50.00          | 100.00         |
| 500 Chicks.....  | 150.00         | 225.00         | .....          |
| 1000 Chicks..... | 285.00         | 425.00         | .....          |

Chicks sent postpaid at above prices. Safe arrival guaranteed.

When chicks are properly packed they can be on the road for three days and yet be in exactly as good condition as though they were taken right from your own incubators. A chick should not be fed for 24 hours after hatching and can be left without food for 72 hours without injury. Consequently, if you live within a three days' journey from Grand Rapids, South Bend or West Palm Beach, you can order chicks with the assurance that they will all be alive and strong when you get them.

Our incubator capacity is 68,000 eggs or about 15,000 chicks a week

## Eight Weeks Old Pullets

|                  | 200-230 Strain | 230-264 Strain | 265-300 Strain |
|------------------|----------------|----------------|----------------|
| 4 Pullets.....   | \$ 10.00       | \$ 14.00       | \$ 24.00       |
| 8 Pullets.....   | 20.00          | 28.00          | 48.00          |
| 12 Pullets.....  | 30.00          | 40.00          | 70.00          |
| 25 Pullets.....  | 60.00          | 75.00          | 135.00         |
| 50 Pullets.....  | 115.00         | 145.00         | 260.00         |
| 100 Pullets..... | 225.00         | 285.00         | .....          |

Shipped express collect at above prices. Safe arrival guaranteed anywhere in the United States or Canada. Cockerels same price as pullets.

One of the most satisfactory ways to start with Ferris White Leghorns is to buy a pen of eight weeks old chicks. At this age the pullets weigh nearly three-quarters of a pound and the cockerels nearly one pound. The pullets can easily be distinguished from the cockerels, and the trouble and loss that sometimes occurs in hatching and raising chicks is avoided, for at this age the birds are ready to go on the roosts, no longer require such close attention and are practically out of danger if given proper feed, a good coop and reasonably good care.

## THIS FREE CATALOG TELLS THE WHOLE STORY



Send for your copy today. Describes fully the stock, eggs and chicks mentioned above. Tells all about how Ferris Leghorns are raised on three of the largest exclusive White Leghorn farms in the world, located at **Grand Rapids, Mich.; South Bend, Ind., and West Palm Beach, Fla.** Describes our methods of feed and care; how we have improved laying qualities; list of winnings at more than 50 big shows; many letters from satisfied customers in all parts of the world. Gives prices and guarantee on all grades of exhibition, breeding and laying stock, eggs for hatching, day-old and 8-weeks-old chicks. Even if you are not now in the market for stock, we will be glad to send you a copy. We want you to know why Ferris Leghorns are best.

**GEORGE B. FERRIS, 909 Union, GRAND RAPIDS, MICHIGAN**

# The Need of Hot Beds for Early Garden Plants

A hot bed or cold frame, you will find both essential and successful in garden work. Gardeners use hot beds because they are important, however, the amateur will be satisfied with a cold frame, as they require much less care, the only difference between the two is that the hot bed must have a deep layer of manure, as a part of the bottom to supply extra heat, while the cold frame depends entirely on the heat of the sun, either one makes possible the starting of plants, later as weather permits in spring to be transplanted in the open ground.

The hotbed or cold frame should be located in that part of the garden where it will receive the most of the sunlight. Some prefer the beds to face south, and others southeast. This can be better determined by the gardener, as different gardens vary in locations.

The building of these frames is very simple and the cost small. They are both made to be covered with sashes. These can be made to suit your needs, or the sashes you have on hand. If you purchase them the 3x6 ft. is the best size, these will last many years if care is taken, in putting them away, and giving the woodwork a coat of paint.

The walls can be made of some old

planks, boards will do, but will not last so long. The rear plank should be 12 or 15 inches high, and the front about nine, and the end planks cut on a bias to meet both planks. Have the slope the long way of the sash as this will give the plants more sunlight, and help to shed the water.

The hot bed must have a deep layer of manure. Tread it down; if dry pour water on it, so that it ferments, this makes the heat. Cover the manure with six or seven inches of good rich ground, mixed with some well rotted manure. For the cold frame you simply add well rotted manure, and then spade it well, so it is finely pulverized. After the plants are set or seeds sown if weather is not too cold water with tepid water. Transplant or sow in moist soil, and do not water until necessary, and then in the morning.

The experienced gardener knows how important it is for ventilation. On sunny days the sash should be opened about 11 a. m., and closed about 2:30 p. m., so as to retain as much as possible the warmth of the sun. Should there be very cold weather, cover up with old bags or carpet. This will prevent the plants from freezing.

By starting such plants as lettuce, cabbage, tomatoes, cauliflower, etc.,

in the hotbed you will have the plants ready to set out when the weather is nice, whereby you would only be sowing the seed in the open, therefore you will have these vegetables fully a month earlier than by sowing in the open ground.

E. M. Mengel.

Pa.

## THE CHICK BOOK

Guide to success in rearing chicks. Experienced poultry raisers furnish information on all problems connected with the breeding, rearing, developing and fattening of chicks. Chicks and chart on line breeding. The day-old chick business, etc., 80 pages, 3x12, illustrated. Price 50c. Address Poultry Keeper, Quincy, Ill.

## THE WYANDOTTES

A complete text book and instructive treatise. Tells how to select breeders and how to mate for best results. Care, feeding and management fully discussed. Edited by J. H. Drenstedt, breeder and judge. Three color plates by F. L. Sewell. 160 pages, 9x12, illustrated. Price \$1.00. Address Poultry Keeper, Quincy, Ill.



"That's the secret of our success" say thousands of owners of "Successful" Incubators. Here is the incubator with something more than the ordinary incubator construction.

It is a cabinet-made machine—built to give you not only the biggest possible returns from every hatch, but many years of successful service. Remember, the profits in getting those early chicks in only one or two hatches, will more than pay for the extra quality construction you get in

## "SUCCESSFUL" Incubators and Brooders

Now is no time to experiment or try to get along with a makeshift machine. Why not be sure of a money-making success this year with a "Successful" machine?

### Write for My Money-Saving Offer

Don't overlook the fact that "Successful" Incubators have had 28 years of experience and have always been the stand-by of the biggest money-makers in the poultry business.

**Poultry Lessons FREE** to every buyer of a "Successful" Incubator or Brooder. Famous little booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," sent for 10 cents. Big catalog is free. Send for it.

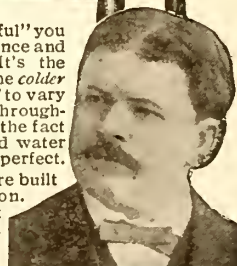
J. S. GILCREST, Pres. and Gen'l Mgr.  
DES MOINES INCUBATOR CO., 47 Second St., Des Moines, Iowa



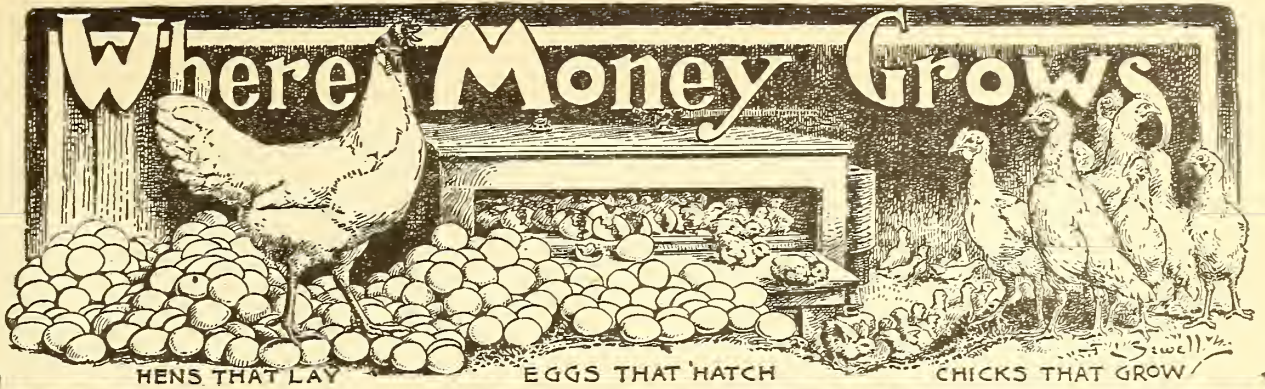
When you put eggs in a "Successful" you are as sure of good results as science and mechanical skill can provide. It's the only hatcher that heats around the colder edges of the body first. Guaranteed to vary not over a fraction of one degree throughout the entire hatch because of the fact that our own patented lamp and water thermostat regulators are 99.9-10% perfect.

"Successful" Brooders, too, are built better than ordinary construction. Raised floor, glass drop top, real hot water heating plant, rain and cold proof. Write for catalog and prices.

Also get offer on "Successful" Grain Sprouters. All steel—made in sections. Turn 1 bu. grain into 3 bu. of crisp egg making feed.



J. S. GILCREST, Pres. Life Member American Poultry Association



HENS THAT LAY

EGGS THAT HATCH

CHICKS THAT GROW

# WARD'S WHITE LEGHORNS

*We Breed Only the Ward's Type of Birds,  
Combining Useful and Attractive Qualities*

**FORTY ACRES DEVOTED EXCLUSIVELY TO THE ONE VARIETY**

High-Production, Line-Bred, Prepotent Layers and Breeders Have Been Our Specialty  
From the First. "AT It" Steadily Over Eleven Years. Come to Headquarters.

## Three Years Straight—and Great Results

PEACOCK'S POULTRY YARDS  
Winnebago, Ill., January 1, 1920.

Our Dear Sirs:—

Thought we would let you hear from us in regard to the performance of your birds in our care this year. They have been doing very well; we have been getting a very heavy yield. Out of the 625 pullets we raised last year we have been getting over 50% egg yield for about two months now, gathered 370 eggs yesterday (December 31st). They are going at the rate of from 350 to 400 eggs every day right now, with November 18th as our largest gathering, when we gathered 422 eggs.

We put them under the electric lights October 15th, 15 days later than last year, and then we did not give them the 14-hour day until the winter weather got pretty stiff; we started them out with a 12½ hour day and increased it five minutes a day every couple days. As the weather got colder and the days shorter we have had very satisfactory results. In December we shipped 33 crates of eggs, or 11,880 eggs—an average of over 19 eggs from each pullet of the 625. I should say 620 as we have lost four of them, but that is going some, and about two-thirds of the eggs went as hen eggs on the Eastern market.

Would like to have your prices on baby chicks for next spring and you can figure on us for 2,500 baby chicks before May 1st.

T. W. PEACOCK, Prop.

## HATCHING EGGS

|                          |            |
|--------------------------|------------|
| Setting of Fifteen ..... | \$ 2.00 up |
| 100 eggs .....           | 10.00 up   |
| 1000 eggs .....          | 80.00 up   |

**Our Hatching Eggs Guaranteed 100% Fertile  
After March 1st**

## BABY CHICKS

|                   |             |
|-------------------|-------------|
| 100 chicks .....  | \$ 20.00 up |
| 500 chicks .....  | 95.00 up    |
| 1000 Chicks ..... | 180.00 up   |

**Safe Delivery Guaranteed By Us**

## YOUNG PULLETS

|                            |            |
|----------------------------|------------|
| 12 weeks old pullets ..... | \$ 2.50 up |
| 16 weeks old pullets ..... | 3.00 up    |
| Ready to Lay .....         | 3.50 up    |

**Line-bred High Producers**

## YOUNG COCKERELS

Fully developed, ready for spring breeding, \$10.00 each. Everyone of these cockerels bred from better than a 250-egg dam.

Discount of 10% on all orders for five or more cockerels.

Yearling Hens and choice breeding cocks for sale. Glad to mate these line-bred birds for you and give advice. All prices reasonable for quality. Shipments C. O. D. if desired, so you can see the birds before paying for them.

## EXHIBITION VALUES:

third and fourth cockerels; first, second and third hens; third and fourth pullets, and first exhibition pen. This was one of the best shows that has been held in Central New York in a great many years, so the officers and judges stated—judges of National reputation.

Latest Printed Matter Free On Request. Write us freely about your wants in our line and let us get acquainted. Address.

At the Oneida, N. Y., District Poultry Show, January 6-10, 1920, our winnings were as follows on the exhibition line of Ward's type S. C. White Leghorns: first, second and third hens; third and fourth pullets, and first exhibition pen.

## WARD'S POULTRY FARMS

A. J. WARD, Prop., BOX K W. A. WARD, Supt.

**Stockbridge, New York or Munnsville, New York**

# POULTRY KEEPER

520 Hampshire Street.

Quincy, Illinois.

Issued the First of Each Month.  
A Journal for Everyone Interested in Making Poultry Pay.

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Advertising rates made known on applica-  
tion.

Poultry Keepers readers are cordially invited  
to express their opinions on any subject of  
poultry that will be of interest to our readers,  
give helpful talks to the inexperienced and ask  
questions in any department.

A. OTIS ARNOLD, Editor.



THE PUBLISHER OF THIS  
—MAGAZINE IS A—  
LIFE MEMBER OF THE  
American Poultry Association

## Questions and Answers

By F. Raymond Benson

### Who Can Help Us?

Can you give me the address of the makers  
of "Bonitone?"

We fail to find any such article  
among our files and ask any reader  
who knows the makers to please for-  
ward address to the editor of this de-  
partment.

### Vent Gleet.

I am a regular reader of your good paper  
and would like to ask you what ails my hen.  
The hen has a yellow crust around the vent  
with a very offensive odor. Otherwise I can  
see no signs of ill health. J. W., Mass.

I should call this vent gleet. The  
crust is caused by a discharge from  
the vent. To two quarts of hot  
water (as hot as can be borne on the  
wrist) add one teaspoonful of creo-  
lin. Remove the crusts and immerse  
the abdomen in this water and keep  
it there for 15 minutes. Dry care-  
fully and apply a soothing ointment.  
This may be spread by copulation so  
keep the sick hen alone. I usually  
keep a nice box down cellar by the  
furnace where it is warm and call it  
the hospital. A sick bird should be  
kept warm and quiet. By all means  
do not breed from the hen.

### Follow Directions

Please tell me how to run my incubator. It  
is a new one and want to get the best hatches  
possible. What do you think of the  
incubator? U. K., Ky.

The best advise I could give you  
would be to follow the directions  
which come with the incubator. The  
maker knows a lot more about his

# 100% Hatched---Raised All But One.

How to Get Big Hatches, Healthy Chicks, and Prevent Loss From  
Bowel Complaint—Practical Information on Brooding, Rear-  
ing and Feeding Baby Chicks That Has Never Failed.

**H**OW would you like to get big-  
ger and better hatches; to pre-  
vent practically all loss from  
chicks dying in the shell before  
hatching, and then, best of all, be  
able to brood and feed your chicks  
by money and labor saving methods  
that have never failed to prevent  
loss from that dreaded bowel com-  
plaint of white diarrhea?

Millions of chicks die annually  
during the first two to six weeks on  
account of improper care and feed-  
ing.

Millions of fertile eggs fail to  
hatch on account of improper feed-  
ing of the breeding stock; improper  
care of eggs before setting and often  
through the lack of simple methods  
that should be applied to all eggs re-  
gardless of how, when or where set.

How would you like to earn a  
clear profit of \$6.00 to \$10.00 per  
year from each of your hens? This  
is not out of the question. It has  
been done and is being done by  
others. It can be done by you.

The very foundation of "Success  
with Poultry" depends upon either  
buying or hatching baby chicks with  
the least possible loss in eggs and  
then you must raise and raise well,  
the very largest possible per cent  
and with the lowest possible feed  
and labor cost.

Besides the great loss in eggs and  
chicks millions of dollars are wasted  
and lost annually by town lot poultry  
raisers and farmers as the result of  
improper feeding methods. This al-  
ways results in weak, sickly chicks,  
bowel trouble, dead chicks, wasted  
feed and disappointment.

It has been proven there is no one  
best feed for chicks. If you under-  
stand the requirements of the baby  
chicks' fast growing body and if you  
know what kind of grains and feeds  
and the proper proportion of each  
that are best for chicks to really sup-  
ply their requirements, then you can  
use as a rule, the grains or feeds  
which are cheapest and nearest to  
you and be able to supply your  
chicks with feed properly mixed and  
proportioned to cause them to utilize  
all of it, waste none and make the  
quickest possible growth.

The very best feed, regardless of  
cost, will not give satisfactory re-  
sults unless it is properly applied.  
You must know how and when to  
feed chicks of different ages to pre-  
vent loss from weakness, sickness  
and bowel trouble.

Officially recognized as one of the  
world's greatest poultry authorities  
and most successful poultry farmers,  
Mr. T. E. Quisenberry, President of  
the American Poultry School; Direct-  
ing Manager of the American Poul-  
try Experiment Station and the  
American Egg Laying Contest has  
written and published a new sixteen  
page bulletin called "Solving Poul-  
try Problems" which he will mail  
you free providing you write him at  
once before they are all gone. Ad-  
dress him in care of the American  
Poultry School, Free Bulletin De-  
partment, 4013 Kansas City, Mis-  
souri, and we promise you Mr.  
Quisenberry will send you one of  
these free bulletins by return mail.

Besides giving facts and methods  
used by Mr. Quisenberry in success-  
fully hatching, brooding, feeding and  
raising thousands of baby chicks this  
bulletin devotes chapters on "Fight-  
ing Lice and Mites," "How to Feed  
Breeding Stock for Fertile Egg Pro-  
duction," "How to Tell Heavy Lay-  
ers from Poor Layers," "How to Cut  
the Cost of Feeding Grown Fowls  
and Increase Egg Production." His  
suggestions as given in this free bul-  
letin for culling out drones, slack-  
ers and loafing hens that will never  
earn a profit or pay for their keep,  
regardless of feed and care, are  
alone so important that you and all  
your neighbors and friends should  
each have a free copy.

If you feel the need of safe and  
sound advice—if you want real in-  
formation and no guess work but the  
result of actual experience then you  
will not be disappointed in this free  
bulletin. It contains no guess work,  
no freak stunts or fancies. It does  
not advertise some brand of magic  
medicine or tonic, nor any pet brand  
of feed. It is just plain ideas as  
used by a man who is one of the  
world's most successful chick raisers.

## HORNER'S PEDIGREE REDS

BRED TO WIN AND LAY

SSS  
7

Each pen headed with a prize winner male from my best trapnested females with  
high egg records.

If you are in need of new blood or want eggs from a heavy laying strain, write  
for mating list.

ERNEST G. HORNER, R. 7,

Eggs  
SSS

Quincy, Illinois.

machine than any other else. While  
certain general rules may hold good,  
yet as a whole I would do as the  
manufacturer says. I would express

no opinion as to the incubator you  
make except to state that it is a  
standard make and I believe will  
give satisfaction.



**Under Color.**

I am just starting with Rhode Island Reds and hear a lot about under color. I think I know what it means but want to make sure. I'll warn you that I'll be back again for help.  
A. J. P., Wis.

Under color is that portion of the feathers under the surface, only seen when the plumage is opened. In the breeding of Rhode Island Reds the under color plays a very important part. We are glad to hear from you and hope you will come again and again.

**Thank You.**

I want to thank you for the suggestion for packing eggs for shipping given in the last issue. It looks good to me and I am sure other breeders will join me in saying, "Thank you."  
G. O. K., Illinois.

Much obliged to you G. O. K.  
Hope you have good results in your shipping this year.

**To Clean Lamp Burners**

When I went to haul my incubator out I found the burner all stuck up. Tell me how to clean it. Please?

H. S. S., Cal.

Place the burner in hot water to which has been added a tablespoonful of washing soda and boil for several hours or until clean. If you use plenty of soda it will clean the burners of all dirt and make them safer to use.

**Hen Eats Eggs**

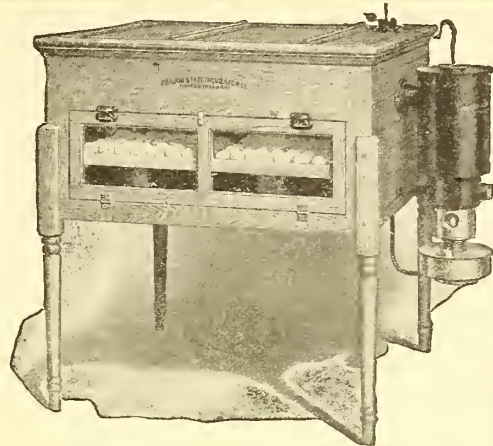
I found that one of my hens eats eggs and want to know if you can give me a remedy.  
J. J., Cal.

The best remedy that I know of is to use a good sharp hatchet. I have seen several schemes tried but it is a good rule that once an egg eater always an egg eater. Dark nests placed at least two feet from the floor will help prevent this vice.

**WHITE LEGHORN WINNERS**

We wish to call the reader of this journal's attention to the ad of William Plowman appearing in this issue. He hardly needs an introduction to most of the breeders who have shown at the shows in this territory for he is well and favorably known wherever good White Leghorns are talked about. He not only has won his share at the Coliseum show at Chicago, but has furnished quite a number of winners at other big shows throughout the United States. He has some exceptionally fine pens mated this season and readers wanting top notch quality in White Leghorns will do well to get in touch with Mr. Plowman. He will treat you right we are sure. He has given up all other work and henceforth will devote his entire time to his White Leghorns, and to the conditioning of both males and females for any breeders who wish it done. It is a well known fact that proper molting of a bird is a man size job and Mr. Plowman will take your birds immediately after the breeding season is over and properly molt them and prepare them for the shows for you. Many breeders will hail this announcement with delight, for it will fill a long felt want. If you wish your birds properly molted and taken care of properly until show time write W. E. Plowman, North Twenty-fourth St., Quincy, Ill.

**Biggest  
Hatches—  
Sturdiest  
Chicks—  
Year after  
Year—**



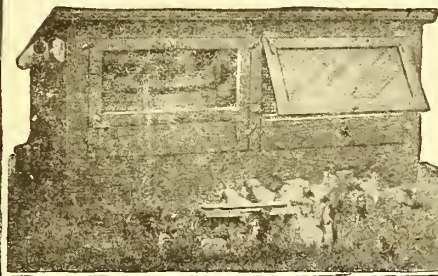
## PRAIRIE STATE

### INCUBATORS BROODERS

**Y**OUR first hatch with the Prairie State proves to you what perfect construction and accurate control of heat, moisture and ventilation means in large numbers of big vigorous chicks. And hatch after hatch, year after year, the results are the same because Prairie State is built to uphold its reputation of 38 years, as the accepted standard incubator of the highest efficiency. *Guaranteed to you for ten years.*

Grow your chicks in Prairie State Brooders, giving the youngsters every chance to develop into hardy, healthful pullets and cockerels. Made in several styles of indoor, outdoor and colony stove brooders to meet every requirement.

Get Prairie State Incubators and Brooders at once for this Spring's work. If your own dealer cannot supply you, let us know and we will see that your order is filled.



*Write today for Free Illustrated Catalog.*

**Prairie State  
Incubator Co.**

36 Main Street  
Homer City, Pa.

## Barron S. C. W. Leghorns

### HATCHING EGGS AND BABY CHICKS

NO STOCK FOR SALE

If you want EGGS or BABY CHICKS from good foundation stock—BRED-TO-LAY and WIN—let me supply your wants this year. I have only two classes which I am breeding or hatching from this year at the following prices:

CLASS 1—244 to 290 egg strain. Eggs, 15, \$4.00; 50, \$11.50; 100, \$20.00 Baby Chicks, 50, \$16.50; 100, \$30.00. Cannot supply in larger quantities.

CLASS 2—200 egg strain up. Eggs, 15, \$2.50; 50, \$7.00; 100, \$12.00. Baby Chicks, 50, \$12.00; 100, \$20.00. In larger quantities write for prices.

Order direct from this ad. Satisfaction and fertility guaranteed. Postage prepaid. I also have a few R. C. R. I. Red eggs for sale. Write for prices.

**U. B. PITTINGER, Box 194-K,**

**Mount Morris, Ill.**

**THE MATING AND BREEDING OF POULTRY**

By Harry M. Lamon, Bureau of Animal Husbandry, U. S. Department of Agriculture and Rob R. Slocum, Bureau of Animal Husbandry, U. S. Department of Agriculture.

Many books have been published on the various phases of poultry-keeping, but in this new volume the authors have given to the public the most valuable contribution in the form of poultry literature. As the name implies, the book deals primarily with mating and breeding, its principles, practices and laws as applied to all varieties of standard-bred chickens, bantams included. It outlines and discusses the fundamental principles of breeding, describes in detail the desirable characteristics of all standard varieties,

both male and female, defects to be avoided and the necessary procedure and proper matings to make in order to produce the very largest number of birds that approach the standard ideal. It tells you just what sort of birds should be selected for specific results, the kind of male and female to mate together to overcome prevalent defects; in fact, it takes up step by step the many intricate problems of breeding and points out how to overcome them. It may properly be called the Key to the Standard so completely does it cover the mating and breeding of every variety of chickens described in the American Standard of Perfection, supplying the very information necessary to produce high-class exhibition specimens.

There are also chapters on conditioning for the show room and

breeding for increased egg production. The former subject is discussed frankly and plainly, and tells how to put a bird in the best possible show condition. You are also given the latest and best information on egg production, outlining in a definite manner how to proceed with such stock and facilities as you may have on hand to secure a higher average egg yield.

It contains 268 pages, and nearly one hundred lifelike illustrations made from actual photographs, together with charts indicating the various sections of a fowl as well as ideal and defective heads, tails, combs, and other important sections. A complete list of common breeding terms is given and the book is thoroughly indexed from cover to cover.

Nothing like it was ever written or published heretofore, being absolutely new, original and authentic. No breeder should be without it as it will serve as an instructor and guide for both amateur and expert and a working companion for every earnest poultryman.

Profusely illustrated, 368 pages, 5 1/2 x 8 inches, substantially bound in cloth. Price, \$2.50. Address Poultry Keeper, Quincy, Ill.

**AN OLD FRIEND**

Editor Poultry Keeper.

We have run a classified ad in the Poultry Keeper for a number of years. We have raised White Wyandottes exclusively for 17 years, but we are moving to Bloomington so have sold all of our stock, and gone out of business. The spring of 1919 we had 125 hens and pullets. From them we sold \$660.00 worth of eggs and chickens and had 125 hens left for next year, but decided to go to town so had to sell these.


The Poultry Keeper was one of the reasons we made so much off of our birds.

We have received lots of letters of inquiry already this year about eggs for spring.

Yours truly, Elmer Hatton.

**FOR THOSE WHO CAN USE HAMMER AND SAW**

Built and Used by Poultrymen  
Is a 96-page book, paper bound; contains 108 illustrations, fully describing various styles of poultry houses for the large farm, as well as the back yard. Poultry house equipment, including roosts; trap-nests, food boxes and hoppers; drinking founts; fences, both permanent and movable; metal fence posts; brooders, both fireless and heated; brood-coops, covered chick yards; poultry catchers, the popular stove-pipe hopper, and many other useful appliances that can be made at home and money saved. For the man who enjoys making his own poultry appliances, building his own coops, houses, etc., this book is of especial value. Labor-saving and money-saving devices are fully explained and illustrated so that the man who can use a hammer and saw can make any of them. Price, 50 cents. Address Poultry Keeper, Quincy, Ill.



# Big Hatches of Hardy Chicks

**YOU** can hatch that sort from your own hens. Just keep them healthy and vigorous. And you know that's mostly a matter of making their feed digest.

## Pratts Poultry Regulator

makes the feed do its work. Makes your flock hardier so that the chicks you hatch will be stronger and easier to raise.

When your hatches come off, start your chicks on

## Pratts Buttermilk Baby Chick Food



You'll find it puts vigor into your youngsters when they need it most—in the first three weeks.

Samoset Farm, Augusta, Maine, used it last season. The proprietor, H. J. O'Hear, says:

"In feeding Pratts Baby Chick Food I find that it has eliminated the so-called baby chick diseases that we have had so much trouble with in days gone by. It has proven a bone and muscle maker, and a developer of chicks in the shortest possible time."

**"Your Money Back if YOU Are Not Satisfied"**  
Sold by 60,000 dealers. There's one near you.

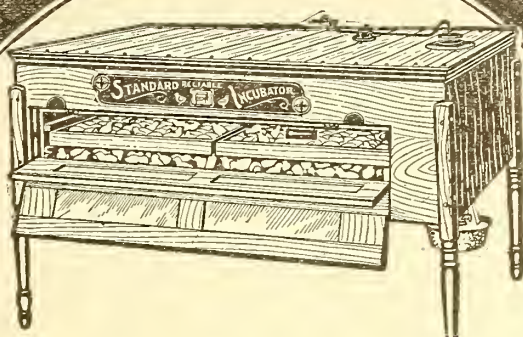
Write for Pratts New Baby Chick Book—Free

**PRATT FOOD COMPANY**  
Philadelphia Chicago Toronto  
Makers of Pratts Animal Regulator, Hog Tonic, Cow Remedy, Dip and Disinfectant, Veterinary Remedies.



J. W. MYERS, Pres. Whose many years experience is at your service in solving your problems.



# 38 Years Hatching Success

Over 1200 Times A Prize Winner

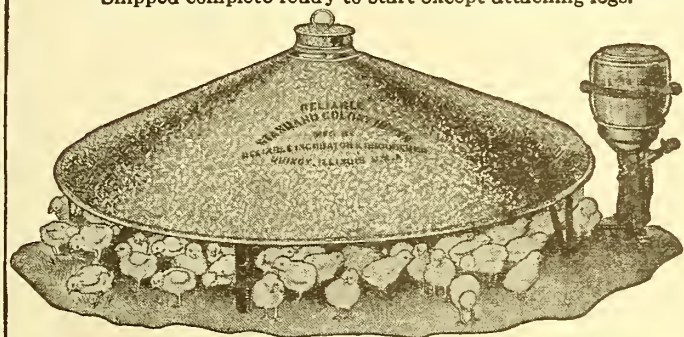
## STANDARD RELIABLE Incubators And Hovers

No matter how high eggs go it pays to turn them into early spring chicks, because each chick is worth a dozen or more eggs—either for fall meat or winter laying. The "Old Reliable" is distinguished as a cold weather hatcher, with least chance of losing a lot of costly eggs. It is a scientifically and mechanically correct machine. Its system of regulation is so nearly automatic that "it practically runs itself"—requires little attention.

Every Reliable Incubator that leaves my factory is guaranteed to be *quality built*. That means it must be up to the standard which has made the "Old Reliable" a favorite in the poultry raising world for 38 years— noted for maintaining correct hatching conditions in all weather conditions, at minimum fuel cost and with least trouble to the operator, and for sturdy construction which insures years of satisfactory service.

### The "Old Reliable" Incubator Is Distinguished

for its Enclosed Double Heating System, which is a double safeguard against chilling, a stronger assurance of uniform heat throughout the hatching chamber in severe weather. It utilizes all the heat from the lamp in two ways—saves fuel every hatch. Other valuable features are: Accurate automatic regulation of heat with thermometer tested by U. S. Government standard; correct moisture supply and ventilation; roomy chick nursery; solid wood construction; double walls and top thoroughly insulated; top and bottom tongued and grooved; strong legs; double glass doors. Built in all sizes, from 100 eggs to 2000 eggs capacity. Shipped complete ready to start except attaching legs.



### Reliable Blue Flame, Wickless, Oil Heated Colony Hover

In all my 38 years' experience manufacturing poultry raising equipment I have never offered my customers an equipment in which I have greater pride and confidence than I have in the Reliable Blue Flame Wickless Oil Heated Colony Hover.

Poultry raisers have received this hover with unbounded enthusiasm and proclaim it a marvel for convenience, economy and success. I'm giving the expressions of a few of them in this space.

Just think what these advantages mean to you and to the young chicks entrusted to the care of the hover:

- Heating with ordinary coal oil which is always easily obtainable.
- A wickless burner making a clear, steady, blue flame, absolutely safe.
- No wicks to trim, no smoke, no soot, no odor, no fumes, no dirt or dust.
- Abundance of heat automatically regulated.
- Has visible oil feed,—saves fuel.

This hover offers all the conditions essential to the comfort, health and safety of chicks. Built of galvanized steel, in four sizes: 18", 30", 42" and 52".

### Owners of Reliable Incubators and Brooders Tell of Their Success

**Mrs. Clara Colwell**, Smith Center, Kans., who paid for her own farm with poultry and is now using over 100 Reliable Incubators and Brooders, writes: "I want to help a widow here who has a mortgage on her farm; as I have had good success with your incubators and brooders, I want you to send me 10 incubators at once. I will help get her started and know she will be able to pay her mortgage off the first year. The machines I bought of you are as good as when I first got them and I can beat old Biddy any time."

**D. W. Goodling**, Oriental, Pa., writes: "Send me sixteen more 300-egg size Reliable Incubators as soon as possible. This makes a total of 21 I have bought from you. Have used six other makes, but none of them hatch as well as the Reliable."

**Arthur Bruening**, Colorado Springs, Colo., writes: "The coal burning Colony Hover and Blue Flame Oil Burning Hover which you sent me to test out in this cold climate were received six weeks ago. It is

giving excellent satisfaction. Can I return the Coal Burning Brooder to you and get in its place another Oil Heated Hover, for I have never operated a brooder that gave me such complete satisfaction?"

**Chas. Reynolds**, Aberdeen, S.D., writes: "Have had fine results from your Blue Flame Coal Oil Heated Hover. I like the way the chicks lie around under it. They seem to be comfortable and happy all the time. It has been very cold here but the brooder keeps the chicks warm in coldest weather."

Ask your dealer about these machines. If he does not handle them, write me and I will supply you direct from the factory. Write also for my latest book on Poultry Raising.

**J. W. MYERS, Pres.**  
**RELIABLE INCUBATOR & BROODER CO., Box A-15, Quincy, Illinois**

J. W. MYERS, Pres.  
Reliable Incubator & Brooder Co.  
Dept. A-15 Quincy, Ill.

Please send me Free Illustrated Catalog on your Incubators and Brooders.

My Name.....

P. O.....

State .....

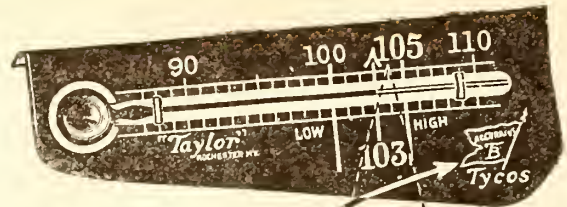
**FEEDING GRIT TO POULTRY**

We have noticed that fowls usually consume less grit when there is a fresh supply of shell and charcoal. When either one of the latter supplies falls short, the consumption of grit increases. The natural conclusion is that fowls eat grit not only for teeth, but also for the sake of putting something bulky in their crop or because they seek certain mineral matters which might add to their health or to the composition of egg shells.

Fowls on range are constantly picking up bits of different materials which are often classified broadly as grit. Yet we must remember that true grit (for grinding purposes alone) is absolutely indigestible, and therefore constitutes a small part of the hen's natural foraging. What she picks up is more likely in the nature of ash or carbon or lime or charcoal.

In cases of indigestion caused by pasty mashes lumping in the crop, grit helps greatly. Where much soft, sloppy food is fed to fowls, they will sometimes consume grit ravenously because it helps to prevent the food from passing through the system too rapidly. The extreme necessity for grit in such cases would be somewhat relieved, however, by feeding more bulky food, such as bran, alfalfa, clover, etc.

THE ventilation in your machine may vary, the amount of moisture may vary, without disaster, but if the temperature is wrong your hatch is done for. Don't take chances with an unknown thermometer—use the always-accurate



**Tycos Incubator Thermometer**

This is the one thermometer you can be sure of. Made by experts, precise at every point, tested under exacting conditions. When it says 103° you know the heat is 103°, for Tycos tells the truth and is sensitive to the slightest variation. Back up your regulator with a Tycos Thermometer so your machine can do its best. At your dealers or by mail. Style shown is No. 5774, price \$1.00 and 5 cents postage.

Send for "Incubator Facts Worth Knowing," FREE

**Taylor Instrument Companies**  
Rochester, N. Y.

There's a Tycos or Taylor Thermometer for Every Purpose

**Tycos Accuracy makes them hatch better in any incubator**



CC-5

**SUNNY CREST** *Single Comb* **White Leghorns**

YOUR SLOGAN FOR 1920

**A J-B J**

QUALITY—PLUS SERVICE

Is all you need to be in the front rank.



**A J-B J**

PEDIGREED MATINGS

Result of 10 Years Scientific Breeding.

**CORNELL UNIVERSITY**

Officially CERTIFIED, REGISTERED and SEAL BANDED 1033 Record Breeders at Sunny Crest in 1919, as coming up to the Exceptional Perfection in Utility Breeding Qualities.

The next largest certified flock on any farm in the state in 1919 is less than 500 breeders. This gives Sunny Crest the record of having over twice as many certified and registered breeders as on any farm or one-twelfth of the total number certified including all breeds on over 200 farms in the state.

**Hatching Eggs**

**DAY-OLD CHICKS**

From Pedigreed Certified Stock Up to 306 Eggs

**LARGE CHALK WHITE EGGS**

Weighing 26 to 30 oz. to the Dozen

Over \$3,500.00 is realized for large fancy Chalk-White Eggs as extra premium above the highest market quotations at Sunny Crest each year.

AN AMERICAN LEGHORN that weighs four to five pounds and is bred for a purpose. The kind that you can depend on to make you dollars and cents. Nothing else counts.

SEND FOR OUR 2ND EDITION SALES BROCHURE  
Considered one of the most original and sensible Catalogues Out.  
**YOUR SUCCESS**

**SUNNY CREST FARM, Inc.**  
Box K, Erie County, East Aurora, N. Y.  
R. S. MOSELEY, General Manager.

**OUR GAIN**

For ducks and geese grit is usually considered an indispensable feature of the dairy mash. This is proven by the fact that ducklings and goslings will not thrive on the same feed as young chickens, unless a liberal portion of grit is combined with it. The amount of this depends largely upon their supply of grass and green stuff. In bad weather, when a satisfactory grass range is not possible, we always mix coarse sand with the mash, though this really is done more for the sake of bulk and roughage than for use as grinding material.

It is so simple and inexpensive to keep a supply of good grit constantly before one's fowls that there is really no excuse for failing to do it. If they nibble at the grit a bit, and yet eat more of shells and charcoal, that is the normal condition. If they begin to consume, suddenly, large quantities of grit, it is one of the best possible signs of indigestion and bowel disorders. Thus, grit may be a valuable feeding gauge.—R. B. S.

**SHARP'S BLACK LANGSHANS**

Readers of this journal wishing high class, heavy winter laying strain of Black Langshans should write T. Warren Sharp, 216 S. Sixth, Springfield, Ill., for his prices on eggs. He undoubtedly has as fine a strain of Langshans as are bred in America. His birds have been consistent winners at Quincy, Springfield, Ill. State and Chicago shows. They are noted for their fine egg laying ability. Mr. Sharp has been breeding them for eighteen years and they will please anyone wanting good Langshans.

**SELLS S. C. W. LEGHORNS**  
Poultry Keeper, Quincy, Ill.  
Gentlemen:  
Enclosed find ad for March, April and May Poultry Keeper. I carried an ad in your paper last season and got more orders than I could fill.  
Yours very truly,  
**HARRY A. LIEBING,**  
Milbank, S. D.

**Rheumatism**  
A Home Cure Given by One Who Had It

In the spring of 1893 I was attacked by Muscular and Inflammatory Rheumatism. I suffered as only those who have it know, for over three years. I tried remedy after remedy, and doctor after doctor, but such relief as I received was only temporary. Finally, I found a remedy that cured me completely, and it has never returned. I have given it to a number who were terribly afflicted and even bedridden with Rheumatism, and it effected a cure in every case. I want every sufferer from any form of rheumatic trouble to try this marvelous healing power. Don't send a cent; simply mail your name and address and I will send it free to try. After you have used it and it has proven itself to be that long-looked-for means of curing your Rheumatism, you may send the price of it, one dollar, but understand, I do not want your money unless you are perfectly satisfied to send it. Isn't that fair? Why suffer any longer when positive relief is thus offered you free? Don't delay. Write today.  
Mark H. Jackson, No. 494 F. Gurney Bldg., Syracuse, N. Y.  
Mr. Jackson is responsible. Above statement true.—Pub.



## Poultry Raisers

### You Can Make

## Big Money with a Belle City

Because it's a time and labor saver—low in cost—economical—convenient—with a record for fifteen years of unfailing service as a wonderful hatching and brooding outfit.

Get into this profit-paying business now. It's money for you right from the start. Investigate—write me today for Free catalog "Hatching Facts." It tells how easy it is for you to make big profits with my

# \$12<sup>95</sup> 140-Egg Champion Belle City Incubator

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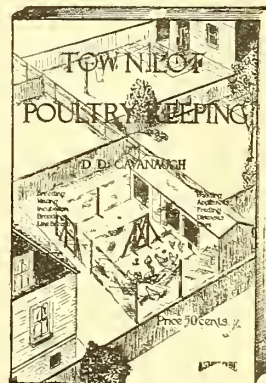
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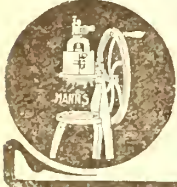


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We have found that one reason why our hens have not done so well as they might have in the past was because they were crowded too much. This is especially true in the winter, but don't deceive yourself into thinking that they do not suffer from the same inconvenience during the summer. Hens which know their premises at all will roost in their regular quarters, be it summer or winter. Too many flocks are confined in too small quarters, and it seems that even with the best of feed they will not respond very well. Yes, over-crowding is the cause of much of the poor laying. It is also responsible for many poultry diseases. Quarters that are over-crowded soon become damp, account of the immense amount of moisture exhaled by the hens. The general resulting diseases are such as colds, roup, etc. It matters little how much free range they have when kept in during bad or cold weather trouble will result. Crowding in floor space is detrimental to the health of the hens, but we should not think that if we provide ample floor space we are doing all that is necessary. Crowded perches is just as bad. We have found that a hen should have at least nine inches of room on the perches. Less means crowding, and crowding means less eggs and less profits.

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**ARTIFICIAL LIGHTING FOR EGG PRODUCTION**

The practice of lighting the hen house by artificial lights is something that is no longer a novelty. Many farmers are using lights. Commercial poultrymen have realized their value and have installed them. It is an established fact that electric lights have a definite influence on the normal production of the laying stock, says G. W. Hervey, of the University of Missouri. This effect on egg production does not necessarily mean an increased egg yield for the year but it does mean an increased number of eggs during the winter season when the supply is low and prices are high. In Missouri, yearling hens yield about 15 per cent production from November 1 to January 20 under the right kind of management. Then the production suddenly jumps and continues to rise until the middle of April and remains at a maximum level of between 50 and 60 per cent until the second week in May when it begins gradually to decline. The problem, then, is to get the hens to shell out eggs during November, December and early January. It is simply advancing normal production ahead two months and a half.

Many different systems of using the lights are being used. Some poultrymen turn on the lights at sundown and shut them off again at nine o'clock. Others use the lights from three or four o'clock in the morning until dawn. Sometimes this artificial illumination is given both morning and night. The birds on the poultry farm of the University of Missouri are given artificial light two and one-half hours before dawn each day. Just as soon as the lights are turned on the attendant goes through the pens and fills the water pails. It has been found that the hens as soon as they jump from the perches invariably go to the drinking pails for water and if it is not then supplied they are not active. It is a good plan to throw a few handfuls of scratch feed into the litter when the pails are filled to get the birds to scratching. Artificial lighting is of no value unless the birds are made to exercise during the increased light period. Attempts to increase the working day by turning on the lights at night have not as yet met with any measure of success at the University of Missouri. It is found that after the hens are given the regular afternoon scratch ration they go on the perches whether the lights are turned on or not. At present night lighting is not recommended.

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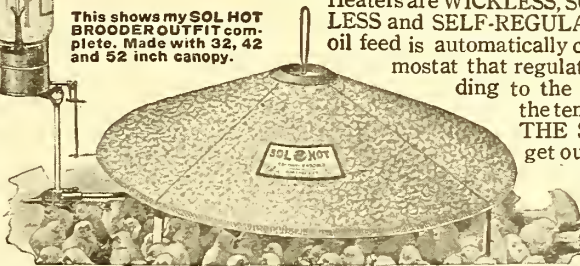
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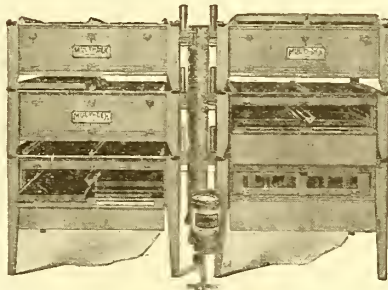
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Sol Hot Heaters, because of their dependability—because of the saving of time, labor and losses, soon pay for themselves in the saving affected—that's why they are cheapest in the end.

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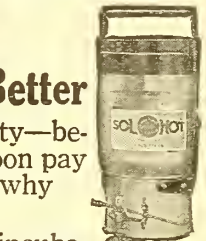
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# Five Females of Scott's Reds Layed 102 Eggs During Month of November

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is not all of their accomplishment. They produce eggs when they are high. Few there be who have not come within the range of the magic spell when the big brown eggs begin to shell.

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They were hatched March 20th being a few days over 6 months old when they entered the contest. Their record was 68 per cent in November, there being 51 pens in competition, 255 birds of various variety selected for this contest, yet this pen of S. C. Reds outlayed their nearest competitors by 11 eggs.



*The pullets in this contest are Exhibition Quality with a score of 90 points and better*

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**DARK CORNISH, SMITH AND BLANCHARDS** strains. Winners at Coliseum, Chicago, and Philadelphia Club meet. Eggs, \$5.00 and \$3.00 per 15. B. W. Grinyer, Eleroy, Illinois. 3-3

**DUCKS AND GESE**  
**MAMMOTH TOULOUSE GESE**—Good size and color, eggs, 40c each. Henry Tobias, Viroqua, Wis. 3-3

**BUFF ORPINGTON DUCK EGGS** of good stock, \$1.50 per 12 eggs. Rauch's Poultry Yard, Jenera, Ohio. 3-3

**WHITE MUSCOVA DUCKS**—Stock and eggs for sale. Rhode Island White eggs, \$2.00. C. H. Happ, Rockford, Ill. 3-2

**MAMMOTH PEKIN DUCKS** and Toulouse geese eggs for hatching—from prize winners. "Book your order now." Prices reasonable. Satisfaction guaranteed. Write me your wants. Harry Liebeng, Milbank, So. Dakota. 3-3

**FAWN and WHITE INDIAN RUNNER DUCKS** eggs, 13, \$2.00; 100, \$10.00 postpaid. Sylvan View Poultry Farm. G. E. Horton, Curryville, Mo. 2-3

**MAMMOTH PEKIN DUCKS**, Toulouse, White China geese. Ed. Sweet, Jr., Darlen, Wis. 1-2

BREEDER'S CARDS

**MAMMOTH PEKIN DUCKS**—Stock from Chicago, New York and World's Fair winners. 8 to 12 pounds each. Eggs, \$3.00 per 11. Eli F. Hersey, Parkersburg, Iowa. 2-4

**FOR SALE**—Canada wild geese, single or in pairs. Mallard duck eggs, heavy laying strain, \$4.00 per 12; \$25.00 per 100. Booking orders now for spring delivery. Stock for fall delivery. Albert N. Froom, Olathe, Colo. 2-3

**WHITE MUSCOVEY DUCKS**, Toulouse Geese. All leading breeds chickens, ducks, geese, guineas, pair wild geese, \$15.00. Chas. Smiley, Jndson, Ind. 1-3

**DOMINIQUES**  
**GENUINE AMERICAN DOMINIQUES**—Greatest layers. First prize winners. 15 eggs \$3.00. P. E. Parker, Hampton, Ga. 2-3

**GENUINE AMERICAN DOMINIQUES**—Eggs, \$2.00 setting. D. Baker, Preston, Md. 2-4

**GENUINE AMERICAN DOMINIQUES**—Greatest winter layers. Fifteen eggs, \$3.00. N. M. Gardner, Box 123, Hope Valley, Rhode Island.

**DOGS**  
**FOR SALE**—Pedigreed Collie puppies from working parents. Satisfaction guaranteed. St. Vincent Collie Kennels, St. Vincent, Minn. 2-3

**FAVEROLLES**  
**SALMON FAVEROLLES**—First Madison Square and Boston Shows. Eggs, \$5.00, \$7.50, \$10.00 setting, 15. Leslie Tyler, Winona St., Brockton, Mass. 2-4

**FAVEROLLES HAVE NO EQUAL** for eggs, meat and beauty. Circular free. White Faverolle Co., Caney Kansas. 2-3

**KLONDIKE FLUFFS**  
**KLONDIKE FLUFFS**—New breed of chickens. Good table fowls and splendid winter layers. Feathers valuable. Cannot fly. Eggs, \$2.50 per 15. Catalogue free. Mrs. Kate Black, Bolivar, Ohio.

**HAMBURGS**  
**GOLDEN SPANGLED HAMBURGS**—Eggs for hatching. Coopers Hamburg Ranch, Bainbridge, N. Y. 3-4

**SILVER SPANGLED HAMBURGS**—A few pens. several first prize winners included. Male and four females, fifteen dollars. A. I. Ganfield, Savannah, Mo.

**HOUDANS**  
**HOUDANS**—278 egg strain. Eggs, chicks, cockerels, pairs, trios. Circular. Fred Brenon, 122 North Pleasant St., Watertown, N. Y. 2-3

**HOUDAN COCKERELS**, \$2.00-\$3.00. Mrs. Loyd Shipman, Polo, Ill. 2-2

**BLACK JAVA**  
**FOR SALE**—One Black Java cockerel and one red cap rooster. Pure stock. William Hahn, Spades, Ind.

**LANGSHANS**  
**MAMMOTH BLACK LANGSHANS** weighing up to 12 lbs. Hogan tested, heavy winter layers, fine stock. \$10.00 per 15. Ella Whitwood, Hudson, Ill. 3-3

**BLACK LANGSHAN EGGS** from prize winners, postpaid, 15-\$2.50. Mrs. J. R. Davie, Hickman, Ky. 2-3

**BIG BLACK LANGSHANS**, greatest laying strain, utility and show stock. Guaranteed to suit. H. Osterfoss, Hedrick, Iowa. 10-12

**BLACK LANGSHANS**—Eggs from prize winners, \$2.50 per setting, good layers. Chas Zahn, Hagerstown, Md. 2-3

**LEGHORNS**  
**S. C. B. LEGHORN EGGS** from Gipes' Sure Lay strain means success for you. To please, is our motto. Eggs, \$2 per 15; \$7 the 100. W. C. Gipes, Van Wert, O. 3-3

**FOR BARGAINS IN LEGHORNS** and reliable information on all varieties consult The Leghorn World, Dept. C, Waverly Ia. Only 25c for year's subscription.

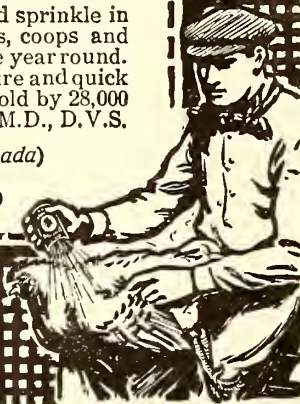
Keep down the louse pest. It means better fowls, more eggs, better growth in chicks. Chicks are coming along now. Don't let them be pestered to death.

## Dr. HESS Instant Louse Killer Is Quick and Sure

Take the handy sifting-top can in hand and sprinkle in feathers, in the nests, on roosts, about pens, coops and yards. Be sure to keep it in the dust bath all the year round. Fowls work it into the feathers—that means sure and quick death to lice—no injury to fowls or chicks. Sold by 28,000 dealers and guaranteed by Dr. Gilbert Hess, M.D., D.V.S.

1 lb. 30c, 2½ lbs. 60c (except in Canada)

Dr. HESS & CLARK, Ashland, Ohio



### APRIL-HATCHED CHICKENS MAKE GOOD FALL LAYERS

A test at the Ohio Experiment Station to determine the best date for hatching chicks shows that for Leghorns April 20 or thereabouts is a satisfactory date in the latitude of Wooster. Two weeks either way from this date would not be expected to affect materially the results secured with pullets.

It was found in one experiment that there is little to be gained by hatching Leghorns as early as February 22. It is difficult in normal seasons to get satisfactory hatching eggs at that time of the year and the percentage of fertility is lower. Chicks hatched at this date require brooding through a longer period and much more care than during warmer weather. In most instances these early-hatched pullets go through a molt similar to that of one-year-old hens in October and November.

Chicks hatched even as late as June 13 have been profitable for egg production, but it is generally more difficult to rear as large a percentage of the chicks as when hatched earlier in the season. Chicks hatched in April generally prove to be satisfactory fall and winter layers. The results secured with Leghorns in these experiments will not apply to some of the slower maturing breeds.

# Plowman's Leghorns

Have established a record similar to that of the American soldiers in France. "Over the Top" at the late Illinois State Show. Nine entries—nine ribbons; 1, 2 Cock, 1, 2, 3 Hen; 1, 4 Cockerel; 1, 2, Pullet; and at Quincy Quality Show, I won 1 Cock; 1, 2 Hen; 1 Pullet. It is unnecessary for me to go into detail about the winnings of this strain at such shows as the Coliseum and National at Chicago, Kansas City, Atlanta, Ga., and many smaller shows for a period of ten years, as their established record speaks for itself. If you are in the market for eggs to breed winners for the coming fall and winter shows, get in touch with me and I will describe my matings to you. Guarantee the price to be exceedingly low considering the quality. Let me take your birds from the breeding pens and properly molt and condition them for the fall and winter show. Prices on application.

## W. E. PLOWMAN

R. 3, N. 24th St. - - - Quincy, Ill.

### DEEGE'S BLACK DIAMOND MINORCAS

|   |   |  |   |  |
|---|---|--|---|--|
| <p>My Winnings<br/>In 1919<br/>and 1920</p> | } | <p>At Ill. State Fair 1, 2, 3, 4 cockerel; 1, 2, 3, 4 pullet.<br/>At Quincy Nov. 1, 2, hen; 1, 2 cockerel; 1, 2 pullet.<br/>At Ill. State Show, 1919, 1, 2 hen; 1, 3 cockerel and<br/>At Ill. State Show, 1920, 1, 2 pullet.<br/>At Chicago Nat. Show, 1920, 5, 4 hen; 4 cockerel; 2, 5 pullet.<br/>Color specials at all above shows.</p> | } | <p>Do you want<br/>this kind of<br/>quality?</p> |
|---|---|--|---|--|

I have mated four fine pens all Hogan tested for the egg trade and if you want Minorcas I am sure I can please you.  
GROVER DEEGE, 819 Jefferson St., Quincy, Illinois.

## Ballard's Supreme White Rocks

Winners wherever shown. My Grand Champion White Rock Male at the Quincy Show has 6 Blue Ribbons and 4 Grand Championships to his credit. He is the sire of all my winners. We have sons and daughters of this male for sale at prices to suit. Will mate 4 fine pens for egg trade. Write for prices.  
P. W. BALLARD, Galesburg, Illinois.

"JIM ROHAN"



The above is a splendid picture of "Jim" Rohan, President of the Belle City Incubator Co., Racine, Wis. We had planned to use this picture with the interesting article entitled "A Quarter-of-a-Billion Eggs a Day," written by "Jim" for our February issue, but unfortunately, we were unable to procure the half tone in time to appear with that article. "Jim" makes a cracker-jack incubator which you will see advertised in Poultry Keeper.

### THE ORPINGTONS

Gives origin and description of type of this popular breed. A chapter on the Black, Buff, White and Non-Standard varieties. The Orpingtons in the show room. Prominent breeder's opinion of them and a discussion of the breed as a utility fowl. Edited by J. H. Drevenstedt, Breeder and Judge. 80 pages, 9x12, illustrated. Price, 75 cents. Address Poultry Keeper, Quincy, Ill.

# Regal Dorcas White Wyandottes

## Layers and Winners

Montevideo, Minn., Jan. 24, 1920.

I will now let you know how I came out at Chicago. I won First Prize Cockerel, also Color Special and Champion Male; First Prize Pullet, Shape and Color Special and Champion Female. I only entered one cockerel and two pullets, so naturally I am more than pleased. Regal White Wyandottes are in a class by themselves. They are not only at the top in the show room, but they are record layers as well.

Wishing you every success, I remain.

Yours truly,

John H. Seelye.

Brantford, Ont., January 26, 1920.

I am pleased to state that I had splendid results last year from my Regal Dorcas pullets, sired by the cockerel I purchased from you. From December 1, 1918, to October 31, 1919, sixteen pullets laid 3094 eggs with an average of over 193 per pullet in eleven months. This record, I consider, would be hard to beat.

With best wishes, I remain.

Yours truly,

J. T. Garton.

The above letters reached my desk on the same day, and show fully the all round qualities of my birds. At Madison Square Garden, New York, last winter, they made the most wonderful White Wyandotte winning in the history of the show. Thirty birds were under ribbons and my winning of nine out of ten places in cocks and hens is a record that will no doubt stand for years to come.

In the American Laying Contest at Leavenworth, Kansas, my birds won over all the heavy weight varieties, and stood second only to the White Leghorns. Eight of my pullets made a combined official record of 1761 eggs, and they were nearly two weeks late in entering the contest.

## Regal Dorcas White Wyandottes are the Ideal Fowl Regal Matings for 1920

For years I have made it a practice to reserve my prize winners. With but few exceptions, my winners at Madison Square Garden and Boston are all in my breeding pens at Port Dover, as well as hundreds of others of the same breeding, and very close up to them in quality.

### What Does This Mean To My Customers?

It means that my customers who send to me for eggs will get them from the very best lot of matings in America. No pens reserved. I have always sent out eggs from my best birds and this fact being generally known, has done more to build up my business than anything else. What other breeder has sent out eggs that have produced first prize winners at Madison Square Garden, Boston and Chicago?

For the season of 1920, my fifty-eight Exhibition and Dorcas matings are the finest I have ever offered, and represent the result of years of careful breeding.

| EGGS FOR HATCHING        |              |
|--------------------------|--------------|
| Dorcas matings           | \$ 5 per 15  |
|                          | \$15 per 50  |
|                          | \$27 per 100 |
| Special matings          | \$10 per 15  |
| (Exhibition or Dorcas)   | \$18 per 30  |
|                          | \$25 per 45  |
|                          | \$50 per 100 |
| Special Utility matings) | \$20 per 100 |

### 2000 Cockerels, Hens and Pullets for Immediate Sale.

Special Value—Male and four females, \$40.00, \$50.00, \$75.00 and \$100.00.  
Choice pedigreed cockerels—\$10.00, \$15.00, \$20.00, \$25.00 and \$35.00 each.  
Hens and Pullets—\$7.50, \$10.00, \$15.00 and \$20.00 each.



FREE—Send for 20-page catalogue, fully illustrated, telling all about the Regal Dorcas Strain and my matings for 1920.

Send 10 cents for a copy of my Regal White Wyandotte Book. The information it contains will be very useful to you.

## John S. Martin, Box 113, Port Dover, Ontario





**The Iron Covered Incubator**  
**Biggest Hatching Value Ever Offered**



**Investigate the Ironclad Incubator before you buy.** Get my new catalog and learn why the Ironclad is the safest and best incubator. It tells how they are made and why they are better. My special offer of iron covered incubator and roomy brooder for only \$17.25 freight paid east of Rockies

**30 DAYS' TRIAL**  
**Money Back If Not Satisfied**  
 is the greatest incubator offer of the season. You can use the machine for 30 days and if not satisfactory, we will refund your money and pay return freight charges. Machine come to you complete, ready to use, and accompanied by a

**10 YEAR IRONCLAD GUARANTEE**

**Both for \$17.25 Freight Paid East of Rockies**

**150-EGG Ironclad Incubator**  
 Don't class this big galvanized iron covered, dependable hatcher with cheaply constructed machines. Ironclads are not covered with cheap, thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications: Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering. Large egg tray, extra deep chick nursery, hot water top heat, COPPER tanks and boiler, self-regulator, Tyco's Thermometer, class in door, and many other special advantages fully explained in free catalog. Write for it TODAY or order direct from this advertisement.

**IRONCLAD INCUBATOR COMPANY, Box 41 RACINE, WIS.**

**MADE OF CALIFORNIA REDWOOD**  
**150 Chick Brooder**

**TO HATCH 3,000,000 BABY CHICKS THIS YEAR**

Smith Standard Company of Cleveland Increases Incubator Capacity—Improvements Made in Their Enormous and Unique Incubator—Over 1,000,000 Eggs or 63 Tons Every Three Weeks.

At the Cleveland Show, visitors were attracted by moving pictures showing the wonderful hatchery of the Smith Standard Company which uses a whole house as a single incubator. This house has several compartments, but they are all heated by the same source of heat.

This enormous hot-house is kept uniform throughout by a system of fans that force the hot air from above down to the floor in the alley-ways between the trays which are separated from the alleys by loose canvass curtains that guide the air down. The air passes under the curtains and up through the trays, thus uniformly heating and thoroughly ventilating at the same time.

**Eggs Turned by Tipping Trays**

The eggs are placed in trays, which are deeper than the usual type, the trays resting on their points, instead of their sides. This plain increases the egg capacity of each tray, and also makes possible a most simple system of egg turning. The trays, excepting those containing eggs which are actually hatching are placed in steel racks suspended at the center of the top. The racks are collapsible, one side dropping down when the other side moves upward. Thus by merely pulling down one side of the rack, the trays are tipped at an angle of about fifty degrees, which throw the eggs well over on their sides. Reverse the process and the eggs go over on their opposite sides, and three thousand eggs are turned.

**Dr. Smith an Inventor.**

Dr. Smith is an inventor, and that means more than some people think. It means that he is of that type of mind that is never satisfied to "let well enough alone."

He wants something better. He's not only a thinker. He's a reasoner. He does the things that the ordinary man just knows can't be done. It means that he is a practical idealist. Instead of making two blades of grass grow where one grew before, he makes 1,000,000 chicks hatch where none hatched before.

Formerly the capacity of his incubator has been 666,000 eggs at a time. This is now being increased to 1,500,312 capacity and the doctor counts on hatching 3,000,000 chicks during the season. That means 63 tons of eggs at a pop.

**Varieties**

Among the many varieties hatched, the Smith Standard will have the following this season: Barred, White and Buff Plymouth Rocks, White, Brown and Buff Leghorns, Rose and Single Comb Reds, White Wyandottes, Black Minorcas, Buff Orpingtons and Anconas.

**Barred Rocks**      **TOP NOTCH FARM**      **Brown Leghorns**  
 Single, Light, Dark

Special attention given to egg laying qualities of both breeds. They lay for me and will for you if you buy eggs here.

ALL BIRDS HOGAN TESTED. NO DRONES ON THE PLACE.

At the shows this last fall and winter I have won—Quincy's Quality Show, 1, 2, Hen; 1 Cockerel; 2, 3 pullet. Hannibal, Missouri, Show, Best Parti Colored Pen of entire show. Illinois State Show, Galesburg, in a very hot class and the State Club Meet, I won 4 Hen; 2, 3, Cockerel; 3 Pullet, and Best Shape Female. Fourteen birds entered this winter and fourteen in the ribbons. Eggs from Light Mating, \$5.00 and \$3.00 per setting. Dark Pen, \$5.00 per setting. Eggs from heavy laying Utility Barred Rocks or Range Flock of Leghorns, \$10.00 per 100.

Order direct from this ad. Satisfaction guaranteed.

**Mrs. Casper Mast, Top Notch Farm R. R. 4, Quincy, Ill.**

Member of Single Comb Brown Leghorn Club and Ill. State Poultry Ass'n.

**S.—C.—R.—I.**  
**Reds of Quality**

My Birds Are Winners at the Best Shows in Missouri, Illinois and Iowa.

At the last Quincy show I won 1st and 3rd cockerel, 3rd cock, 4th young pen, best color male and female, best display, and the champion pullet of the show, all breeds competing. At the Great Heart of America Show, 1918, I won 2nd pullet in a class of 51. If it is quality you want I have it. A number of very fine cockerels, pullets and hens for sale.

Eggs from as good matings as the country affords. Mating List Free

**C. M. EWALT, Specialty Breeder,**  
 Canton, Lock Box 604, Missouri

**WHITE WYANDOTTES OF PROVEN QUALITY**  
**Braxton's White Wyandottes**

Won 1st hen; 4th hen; 2nd and 5th cock at the Illinois State Show, at Galesburg, and have been constant winners at the Illinois State Fair, State and Galesburg Show.

Will mate two extra fine pens for the egg trade. Write me your wants. Satisfaction guaranteed.

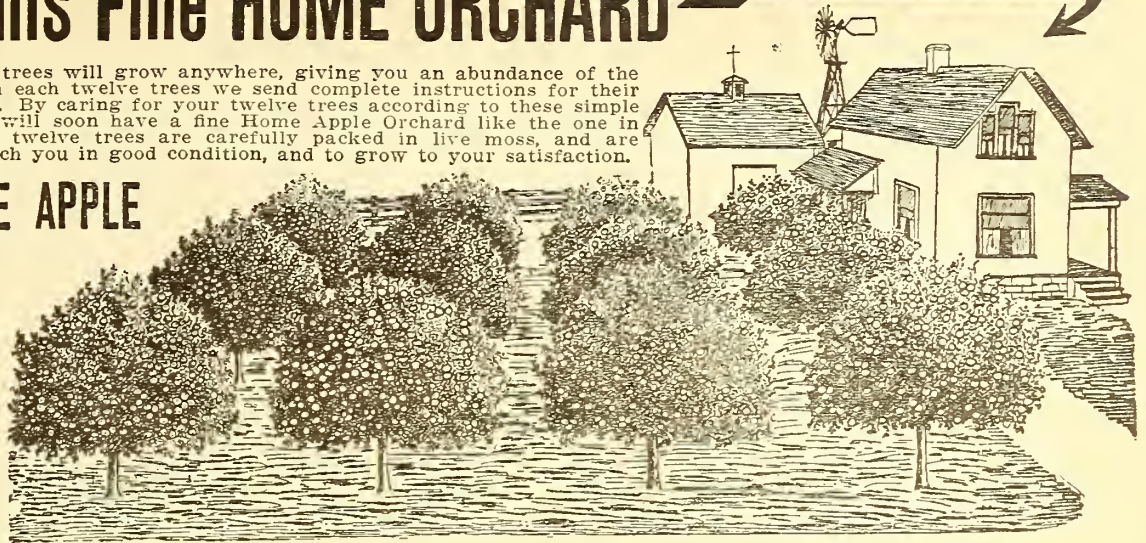
Address  
**CHAS. BRAXTON, R. R. No. 2, Box 73, Galesburg, Ill.**

# Plant this Fine HOME ORCHARD

These twelve trees will grow anywhere, giving you an abundance of the best apples. With each twelve trees we send complete instructions for their planting and care. By caring for your twelve trees according to these simple instructions, you will soon have a fine Home Apple Orchard like the one in the picture. The twelve trees are carefully packed in live moss, and are guaranteed to reach you in good condition, and to grow to your satisfaction.

## THIS HOME APPLE ORCHARD

will add to the beauty, attractiveness and value of your home, as well as to your own comfort and prosperity. It is yours if you take advantage of Our Offer and send the Coupon today.



## Two Trees Each of the Six Most Popular Varieties

To make it possible for every reader of this paper to plant an apple orchard this season, we have made a careful selection of the six most popular varieties, which, on account of their extreme hardiness, rapid growth, early maturity and heavy yield of choice fruit, have become general favorites. We will send two trees of each variety, twelve in all, postpaid to your mail box, if you simply take advantage now of our Liberal Offer below. Our Home Apple Orchard Collection is made up of:

**Two Genuine Delicious** This apple has, since its introduction, a few years ago, secured and maintained the very highest prices ever paid for apples. The Delicious regularly sells for ten cents apiece at the fruit stands. Wonderful flavor and aroma.

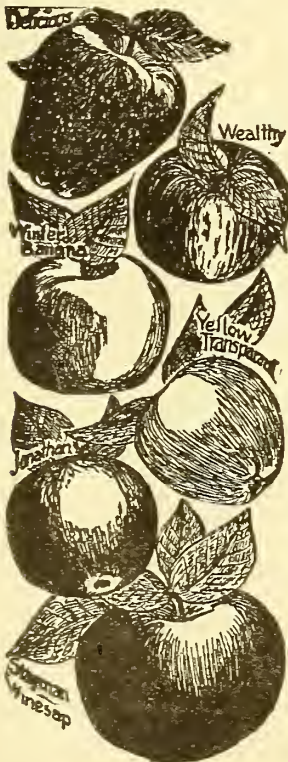
**Two Jonathan** A general favorite everywhere on account of its choice quality. A good keeper. Of medium size, deep yellow, nearly covered with a lively red. Rich, winery flavor, and crisp, juicy flesh. One of the most popular apples in all markets.

**Two Wealthy** A native of Minnesota. Wherever grown it has proved hardy, vigorous and productive. The fruit is of medium size and quality. The flesh is sweet and remarkably juicy, with a mildly tart flavor. The tree is a thrifty grower, and an abundant bearer of high quality apples.

**Two Yellow Transparent** A summer apple of choice quality. Bears very early sometimes the first year, even in the nursery row. Clear, transparent, white skin, shading to light yellow. Flavor mildly acid. A good apple, either for cooking or for eating out of hand.

**Two Stayman Winesap** Deep, rich red in color, it is a decided improvement over the old Winesap, both in appearance, color bright red, streaked with white. A good keeper. Rich and juicy, with mildly sub-acid flavor. One of the best and most productive apple grown.

**Two Winter Banana** A most beautiful apple. Yellow, with a deep red blush. Its peculiar, spicy flavor is deliciously sweet. A favorite apple for desert, and equally good for cooking. The tree is a rapid grower, bears early, and is very productive.



## We Will Send You Postpaid TWELVE GRAFTED APPLE TREES

Healthy, sound, vigorous little trees, of rapid growth. They are produced in a manner that insures every good quality. From healthy bearing trees, with high records for production of quality apples, bright, new branches, called "scions," are cut. Each scion is carefully grafted to a sound, one-year root, and wound with waxed twine. The little grafted apple tree, thus complete, is ready to be planted. It takes root at once, makes rapid growth, and bears big crops of apples, even sooner than larger trees planted at the same time. Each little tree we send you is about a foot high. You could not secure trees of better quality, or trees that will grow quicker.

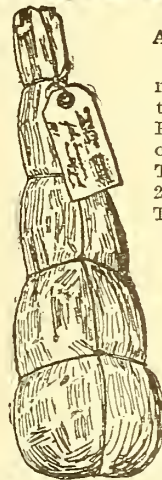
### OUR SPECIAL OFFER

In order to extend the circulation of the **POULTRY KEEPER** as quickly as possible we will send the Home Orchard free and post-paid with three years' subscription for only \$1.

### "POULTRY KEEPER"

comes every month and is full of live, interesting articles in regard to up-to-date poultry raising. Its motto is, "Make Poultry Pay."

We are sure you will be pleased with this collection. We called on one of the largest nursery firms in the country to go the limit on a collection that would send out on a dollar offer. The firm has such faith in this collection that they write us they guarantee them not only to reach you in good condition, but to grow to your satisfaction.



A. OTIS ARNOLD, Publisher, Quincy, Ill.

I enclose \$1.00 for which enter (or extend my subscription to The **POULTRY KEEPER** three years. You are to send as a **FREE** Premium the entire Home Apple Orchard, consisting of 2 Genuine Delicious, 2 Yellow Transparent, 2 Jonathan, 2 Winter Banana, 2 Stayman Winesap, 2 Wealthy.

The Paper and Trees may be sent to separate addresses.

State \_\_\_\_\_

P. O. \_\_\_\_\_

R. F. D. No. \_\_\_\_\_

Name \_\_\_\_\_

Write at Once. You Might Forget it if You Delay. Address

**A. OTIS ARNOLD, Publisher**

**QUINCY, ILLINOIS, U. S. A.**







**GROWING CELERY**

Cultivating celery which is perhaps our foremost salad article is a very simple operation, though it involves much work. Seed should be sown in frames or cool greenhouses three months before setting out the plants which should be done in June or early in July. The amateur gardener may secure the plants ready to set out. They should be placed in rows six inches apart. A moist peat soil is to be preferred, though celery can be grown in clay or even in a sandy soil with proper fertility and drainage. The old method of planting celery in a trench is no longer used to any large extent. A good arrangement of the plants is to alternate early and late varieties in successive rows. The early varieties can be blanched between boards and removed after which the soil is available for blanching the later varieties.

The two important methods of blanching are: First the use of boards placed on both sides of the row, or, second the use of soil in packing it about the plants. In small gardens blanching may be accomplished by wrapping paper about bunches. Blanching may be begun on the earlier varieties in September, and on the later varieties just before the usual time for the first frost. We have used four-inch tile for blanching. These are very satisfactory.

E. M. Mengel,

Pa.

**GET MORE EGGS—SAVE FEED**

**A New 16-Page Bulletin Gives Free Information**

Egg prices are high and going sky-high, higher than ever before. Those who know how and what to feed to get the most eggs will reap big profits. Improper feeding methods will result in fewer eggs, wasted feed-loss and disappointment. Prof. T. E. Quisenberry, Director-in-Chief of the great American Egg Laying Contest, and officially recognized as one of the world's greatest poultry authorities, has just completed a 16-page bulletin on "How to Get More Eggs and Save Feed." This bulletin also tells how he starts and feeds baby chicks to prevent white diarrhea and bowel trouble and how he feeds breeding stock to insure strong, fertile eggs, strong chicks and to avoid dead chicks in shell at hatching time.

He will mail this bulletin to readers of Poultry Keeper who will write him without delay. Send no money. Over a thousand hens under Quisenberry's direction laid from 200 to 306 eggs each per year. He just finished making a profit of \$6.15 per hen in nine months on commercial eggs from one large flock. Write him today for his free bulletin, addressing Care The American Poultry School Department 4017, Kansas City, Mo.—Adv.

**Make the ground return Larger Dividends**

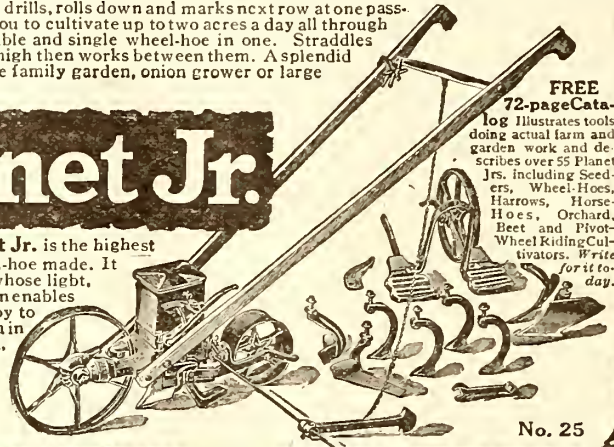
Planet Jr. Seeders, Wheel-Hoes and Cultivators will enable you to do as much work as three to six men using ordinary, out of date tools. They cultivate thoroughly, rapidly and properly. Planet Jr. tools are made with scientific accuracy, and of the best materials. Fully guaranteed.

**No. 25 Planet Jr. Combined Hill and Drill Seeder, Double and Single Wheel-Hoe, Cultivator and Plow** sows all garden seeds from smallest up to peas and beans, in hills or in drills, rolls down and marks next row at one passage and enables you to cultivate up to two acres a day all through the season. A double and single wheel-hoe in one. Straddles crops till 20 inches high then works between them. A splendid combination for the family garden, onion grower or large gardener.

**Planet Jr.**

**No. 17 Planet Jr.** is the highest type of single wheel-hoe made. It is a hand machine whose light, durable construction enables a man, woman or boy to cultivate the garden in the easiest, quickest, and best manner.

S. L. ALLEN & CO., Inc. Box 1106 C Philadelphia



**FREE 72-page Catalog** illustrates tools doing actual farm and garden work and describes over 55 Planet Jrs. including Seeders, Wheel-Hoes, Harrows, Horse-Hoes, Orchard, Beet and Pivot-Wheel Riding Cultivators. Write for it today.

No. 25

**BEST FOR BABY CHICKS**

**"American" Pans**



**3 PANS 50 cts.** Postpaid

**6 PANS \$1.00** Postpaid

The small holes in the top pan prevent the chicks from getting into the feed or water—prevent them from crowding too close around the feeder and prevent dirt and droppings from polluting the contents. There is absolutely nothing in the construction of these pans to become loose or broken—they overcome every objection to the ordinary Mason Jar pan and are the most desirable of all feeding and watering devices. Order them today. Sold and guaranteed by **AMERICAN POULTRY JOURNAL, 32 PETERSON BUILDING, CHICAGO, ILLINOIS** World's Oldest, Largest and Best Poultry Paper. 6 months 25 cts.—3 years (36 issues) \$1.00. Price increases—July First—ORDER TODAY.



**Give Your Hens The "EGG A DAY" Habit**

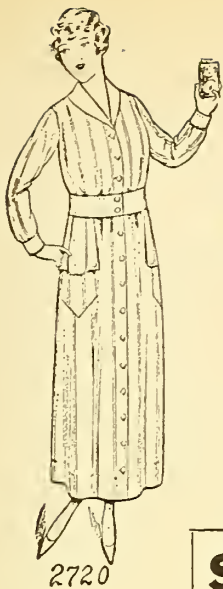
Your hens' egg making machinery demands protein to produce eggs in the winter time. And the best way to supply this necessary protein is to feed them DARLING'S MEAT SCRAPS. Be sure to insist on DARLING'S if you want results, because

**DARLING'S MEAT SCRAPS are Clean, Dry and Wholesome**

No refuse or foreign matter goes into DARLING'S MEAT SCRAPS. They're made from clean trimmings of fresh meat—cooked under high temperature—all excess grease and water pressed out—and then dried and ground up to make a clean concentrate of fresh meat, that is hygienically right, with 50% protein guaranteed, and nothing to turn rancid or harm your fowls. These are some of the reasons why you will guard the health of your entire flock if you use DARLING'S.

**Darling & Company, DEPT. 20 U. S. YARDS Chicago**





2720



2531



2877



2883



2732



2721



2697

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Fight the H. C. L.

Fight the H. C. L.

These days it is imperative that the housewife save every penny possible. How can you save money on your sewing? By using our money saving patterns. HOME INSTRUCTOR patterns are the only kind ever sold in this country for less than ten cents, and as the price of patterns at the stores have now advanced to sell from fifteen to twenty-five cents each, HOME INSTRUCTOR patterns mean a real saving. Thousands upon thousands of women have been using them for years. They give universal satisfaction. These patterns sell for eight cents each or two for fifteen cents. They are made by a reliable well known firm and correct in every detail.

### Big Fashion Book FREE!

As a special inducement to get you in touch with our money-saving patterns, we are offering our big Fashion Book free with a yearly trial subscription to HOME INSTRUCTOR. This big book illustrates hundreds of the latest styles. It contains illustrated lessons on dressmaking, and also illustrations showing the various kinds of stitches that are now in common use. And what is perhaps more important, we will sell you dress patterns of any style shown in the book at 8c each or 2 for 15c. We are making this special offer because we want you to read the

### HOME INSTRUCTOR FASHION MAGAZINE

It is bright, entertaining, clean and instructive—just the sort of paper you should have in your home. It has a department for every feature of home life. Its fashion department is illustrated entirely with our money-saving patterns. It gives you an opportunity to see the new styles each month as they come out and thus keeps you in touch with the latest in women's and children's wear.

### MY SPECIAL OFFER:

Send me twenty-five cents and I will send you the HOME INSTRUCTOR for one year, and will send my big Fashion Book to you free as a premium. Each issue for twelve months, HOME INSTRUCTOR will bring you the latest and best information about styles for women and children. Just think of the money it will save you. Stores are raising the price on patterns, and these money-saving HOME INSTRUCTOR patterns will mean much real money saved for you. I can sell them at this special price because I buy them by the thousands especially for our readers. I want your subscription to the Home Instructor, and I will save you all this money in return for getting your name on our subscription list.

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Quincy, Illinois.

Dear Sir:—Enclosed find 25 cents for which send me the Home Instructor Fashion Journal every month for One Year. Also send me FREE, and postpaid as a premium one copy of your latest special Fashion Book, illustrating your money-saving Patterns for women's and children's clothes.

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# More Eggs      More Chickens and More Money

*Some people are willing to profit by the experience of others, and there are many who are willing to continue their work in the same old way and are satisfied with just a living and nothing for the future.*

My success with poultry came from all the information I could get from others and years of study and experiments on my own poultry farm. That is why I have always made the poultry business very profitable and have helped thousands of others. My greatest discoveries have been made during the last three years and many things in connection with the work that I once considered impossible can now be easily accomplished. I can now help any one who will take my advice to make larger profits whether they keep six hens or a hundred thousand and will positively guarantee from ten to fifty per cent greater net re-

turns. Write me stating the number and breed of hens you keep, just how you feed them and the number of eggs you get, then I will be in position to help you to get more eggs and at a lower cost for feed and with less labor. Also to hatch more chickens at a lower cost and to raise more of the chickens hatched.

To get the largest profits from poultry every pound of feed must be full of egg forming elements and I want to tell every poultry keeper about my new plan of purchasing feed that comes direct from the farm without any by-products or waste material.

## Blow Out The Lamp

### And Hatch Your Chickens Without Artificial Heat

*One of my new discoveries is in so handling eggs that they can be incubated and chickens hatched with the natural heat they supply.*

After learning the new method of incubation without lamps, stoves, oil, fuel or any regular incubator you will wonder why it has required thousands of years to learn how to hatch chickens in such an easy, simple and inexpensive way. A great many people have worked years and spent thousands of dollars in an effort to do something that will almost do itself when given half a chance. By a simple process of bringing the latent heat of the egg into action and transforming it into natural heat, we have the same quality of heat furnished by a broody hen. The heat and na-

tural moisture of the egg is retained and large, strong chickens are produced that one could not expect by any artificial process. There is nothing expensive to buy and nearly everyone has all the necessary material on hand to hatch thousands of chickens without cost for fuel or danger from fire. Only a few days are required to bring the natural heat into action when the process of incubation will continue indefinitely or as long as fertile eggs are supplied. New eggs can be added daily, or every few days, to meet the requirements of the poultry keeper.

## My New Brooding Plans

Show how to make the best brooder from a box or lumber that will provide perfect conditions for health and comfort of the baby chickens and with them it is no more work to raise five hundred chickens than to raise a dozen with a hen. These plans were perfected in the North where the temperature is often below zero and also in Florida, making them perfectly adapted to all kinds of weather conditions.

My new way is an improvement over the former plan that has been in such general use for many years. The following is taken from letters recently received: Mr. McLain of Missouri, writes: "I have made and used several of your Brooders with good success and find them superior to the old heated method." Mrs.

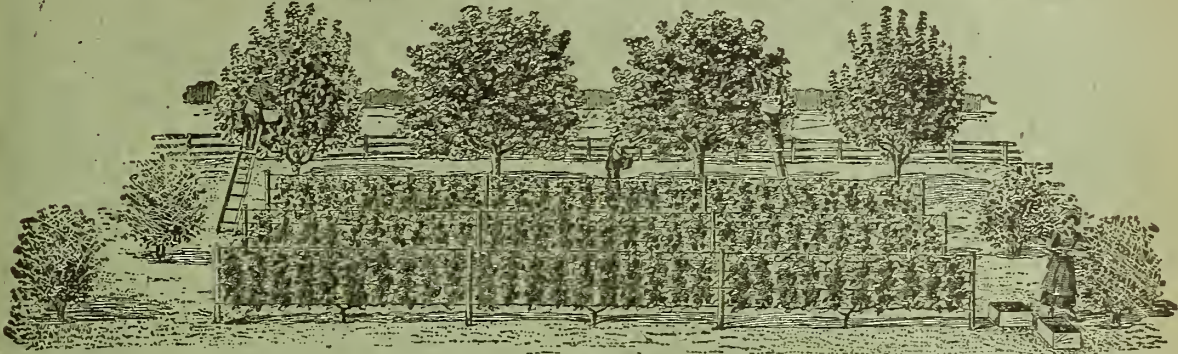
M. E. Bauman, of Missouri, writes: "Your instructions are better than you recommend them to be for chickens, ducks and geese." Mr. M. A. Kiskaddon, of Missouri, writes: "Your plan of raising chickens is honest all the way through and I have made money by it." Mr. Wm. A. Dreher, of Ohio, writes: "I have been following your instructions and using your Brooders with splendid success."

Send for my free booklet of facts about the poultry business. Complete Incubating Instructions, \$5.00. Complete Brooding and Feeding Instructions with Brooder and Colony House Plans, \$5.00. Send \$5.00 for Brooding Instructions with Brooder Plans, etc., and I will mail the Incubating Instructions Free.

**Edgar W. Philo,      501 Duval Building      Jacksonville, Fla.**

# Let Us Fill the Idle Space in Your Garden with This Mammoth Fruit Collection!

You can have Ripe Red Raspberries, ninety days after planting! Big, melting Dewberries next summer! And loads of Red, White and Blue Grapes, and Delicious Pears and Apples, in just a few years! Almost without cost to you! Read Our Liberal Offer, and let us help you to get this Mammoth Fruit Garden started this spring!



If you would enjoy having a Fruit Garden and Orchard like this, - Seventeen Trees, Vines and Berry Bushes, just plant this Mammoth Fruit Collection.

#### GRAFTED APPLE AND PEAR TREES

These grafted apple and pear trees are produced by a method that insures every good quality. From bearing trees, the new branches ("scions") are cut, and carefully grafted to a root of the same type. The little grafted tree takes root as soon as it is planted, makes vigorous growth, and will outstrip and out-yield a larger tree planted at the same time. Each little tree planting, and continue until fall.

#### PEDIGREED FRUIT PLANTS

The Red Raspberry and the Dewberry plants in this collection have been selected from fields that have made high records for heavy production of quality fruit. By following the Instructions, you can secure new plants every year from these we send you, and extend your planting every season. The REX everbearing red raspberry will begin to bear in ninety days after is about a foot high.

#### "CALLOUSED GRAPE CUTTINGS"

From selected vines in the best of the great Southern Michigan vineyards, cuttings about nine inches long are taken, and buried in damp, cool pits until they undergo a process called "callousing." The cuttings will then take root as soon as planted. The "Calloused Grape Cuttings" in this collection are all produced in this manner. They grow rapidly, make strong, healthy vines, and bear large crops.

#### ONE SNOW APPLE



Deep red skin, almost black. Pure white flesh of peculiar rich flavor. Very sweet and juicy. Bears big crops at an early age. A Russian variety and very hardy.

#### 2 REX Everbearing Red Raspberry

A picking every week from June to October. The new canes bear first year, 90 days after planting. Berries large, firm, sweet, and of delightful flavor. A most dependable new fruit.



#### ONE KIEFFER PEAR

Large, angular, and slightly irregular in shape, this old variety is the standard winter pear everywhere. Dark green. A splendid keeper, at its best in late winter.



#### ONE WEALTHY APPLE



Another favorite Russian variety. Yellow, overcast and streaked with red. Flesh is sweet, melting and tender, but slightly tart. Has few equals for every purpose.

#### 2 Improved Lucretia Dewberry



Vines covered every summer with immense clusters of big, sweet berries. Rich, winey flavor. Very juicy. Individual fruits average 1 1/4 inch long and an inch through.

#### ONE BARTLETT PEAR

Yellow skin with red blush. Flesh sweet, juicy and spicy flavor. Very melon when ripe. Can be picked and eaten from the tree. Yields heavily, begins to bear early.



Satisfactory Growth Guaranteed!



#### 3 DELAWARE GRAPE - Red

Large, well-shouldered, compact bunches of bright red, beautifully flavored grapes. Makes jelly or grape juice of finest flavor and aroma.



Complete, Illustrated Instructions for Planting

The Seventeen trees, plants, etc., in this collection are GUARANTEED to reach you in good condition, and to grow to your satisfaction. Failing in which, they will be REPLACED, at your request, absolutely without charge.

#### 3 NIAGARA GRAPE - White -

Immense clusters of delicious, waxy-white grapes. Remarkably sweet and juicy. Good for wine, preserves or jelly. In flavor it much resembles the Concord. A prolific bearer.



#### 3 CONCORD GRAPE - Blue -

The best blue or purple grape grown, and the universal favorite. More Concord grapes are grown and sold every year than all other varieties, on account of its wonderful quality.

are wrapped in each package. They are fully illustrated with pictures and diagrams, showing just what to do, and how and when to do it. By following these simple directions you will have success.

All Sent **Postpaid** to Your Mailbox with One Year's Subscription to *Poultry Keeper* for only **\$1.25**

If you have already sent your renewal, then pay no attention to this mark. We would appreciate it very much indeed if you would call the attention of your friends to this offer.

#### MONEY SAVING COUPON

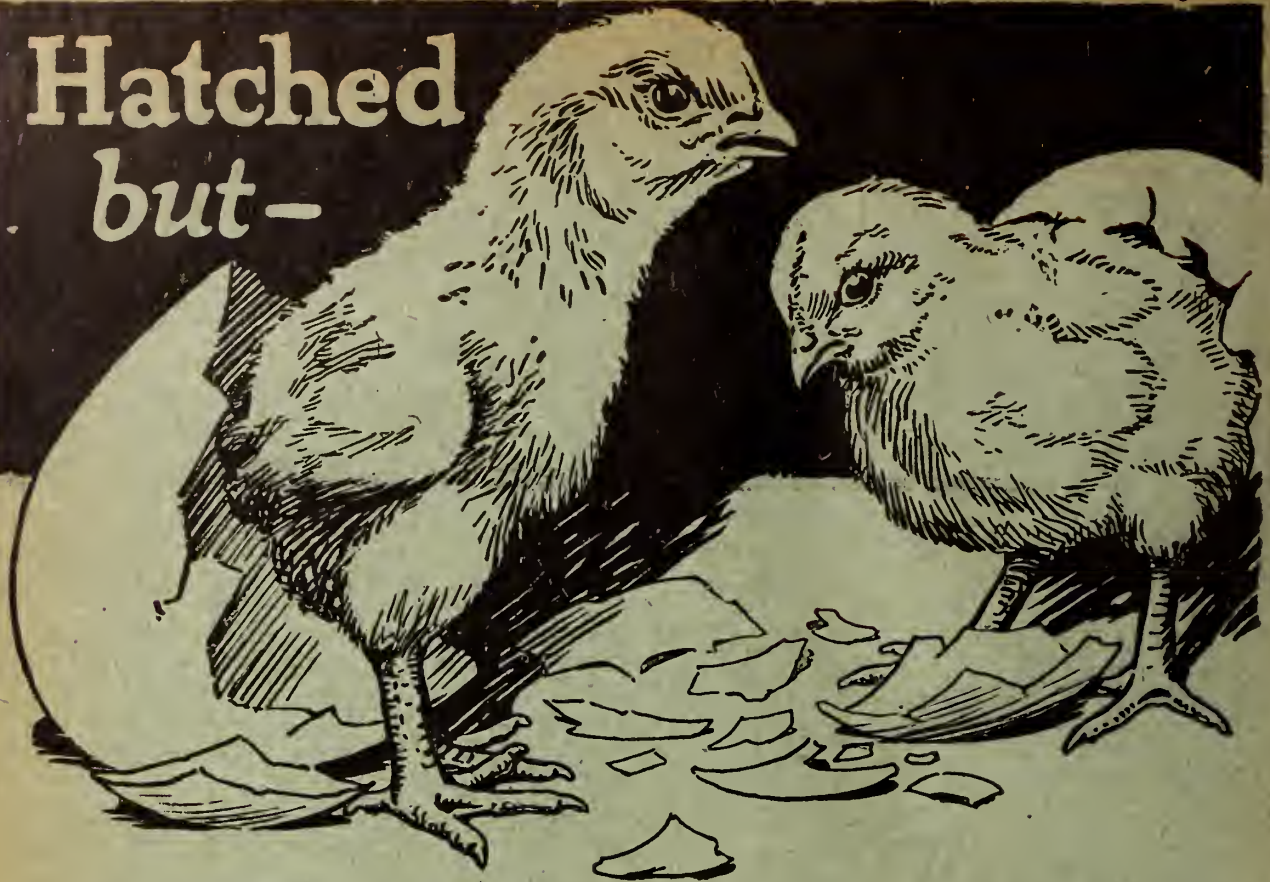
A. OTIS ARNOLD, Quincy, Ill.  
Enclosed find \$1.25 for which send me **POULTRY KEEPER** for one year and the Mammoth Fruit Collection postpaid as per your special offer.

Name

P. O.  State

Old or new subscriber

# Hatched but -



## How Many Will You Raise?

The loss in little chicks that die the first few weeks after hatching amounts to millions of dollars each year. Everybody must cut down the losses and increase production to the limit this season. How many chicks do you lose from *Gapes?* *Diarrhoea?* *Indigestion?* *Leg Weakness?* *Weakness from Rapid Growth of Feathers?* Prepare them to withstand little chick ailments by feeding

### Dr. Hess Poultry Pan-a-ce-a

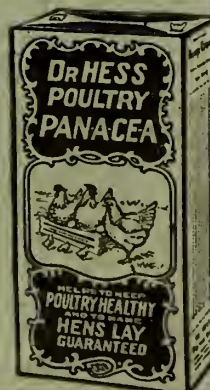
Remember that disease takes the weaklings—not the strong and healthy. And remember that indigestion is at the bottom of many little chick ailments.

*Pan-a-ce-a prevents and cures gapes. Pan-a-ce-a regulates the bowels.*  
*Pan-a-ce-a prevents and cures leg weakness. Pan-a-ce-a produces appetite; it promotes digestion.*

And remember good digestion is most essential during the rapid growth of feathers. A Pan-a-ce-a chick will outfeather a non-Pan-a-ce-a chick every time.

Your dealer is authorized to supply you with enough Pan-a-ce-a for your whole flock, with the understanding that it's to prevent and cure *Gapes, Indigestion, Diarrhoea, Leg Weakness*; that you are to see marked results during the growth of feathers; otherwise, he will refund every cent you have paid. 30c, 75c and \$1.50 packages. 25-lb pail, \$3.00; 100-lb. drum, \$10.00. Except in the far West and Canada.

DR. HESS & CLARK, Ashland, Ohio



GILBERT HESS, M.D., D.V.S.

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Stock Tonic**  
Keeps Pigs Healthy  
and Thrifty. Drives  
out the Worms.

## Dr. Hess Instant Louse Killer Kills Lice

Issued on the first of  
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# THE POULTRY KEEPER

A JOURNAL FOR EVERY ONE INTERESTED  
IN MAKING POULTRY PAY · DEVOTED PARTICULARLY TO PRACTICAL POULTRY KEEPING.

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APRIL, 1920

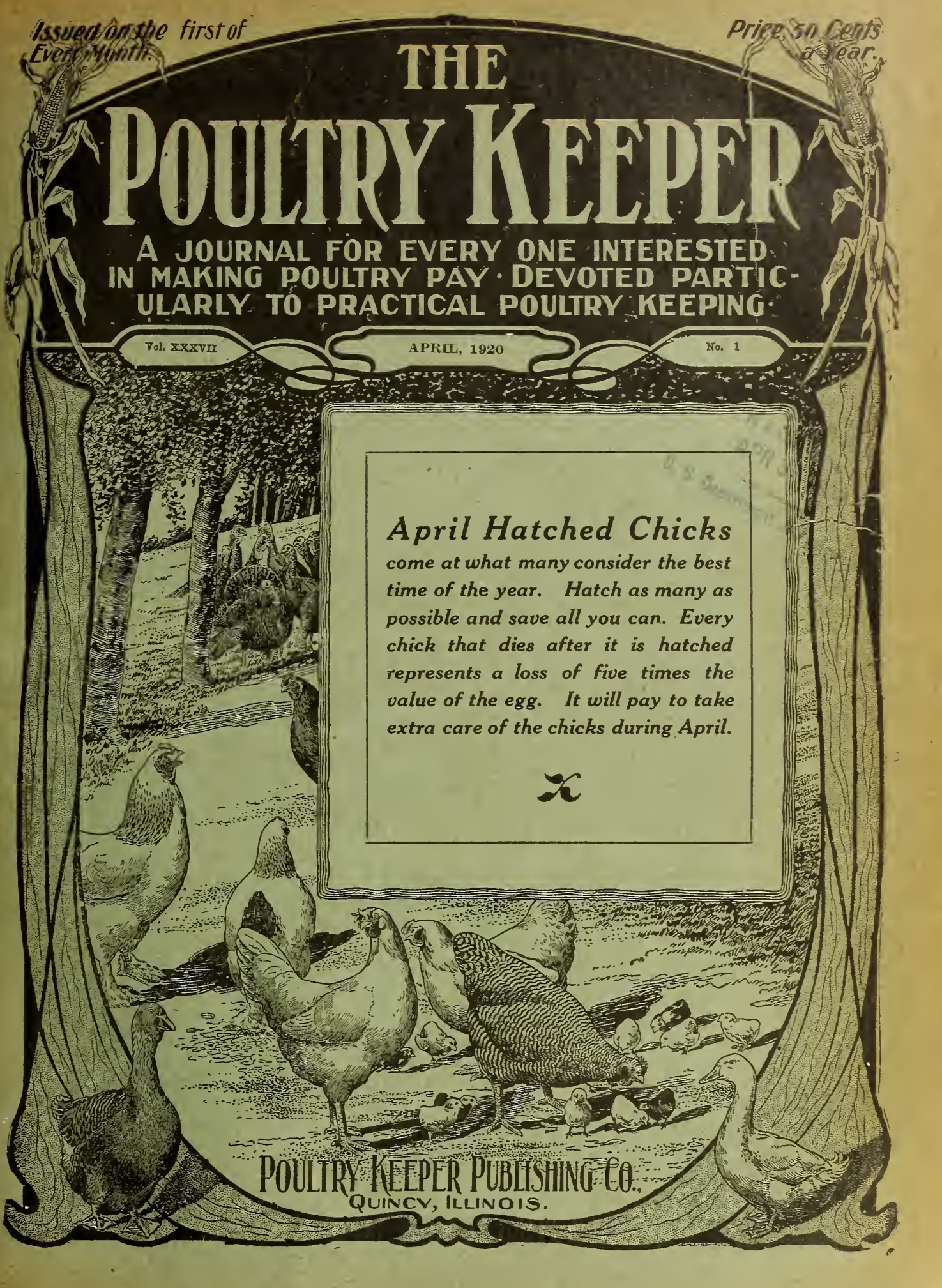
No. 1

## *April Hatched Chicks*

*come at what many consider the best time of the year. Hatch as many as possible and save all you can. Every chick that dies after it is hatched represents a loss of five times the value of the egg. It will pay to take extra care of the chicks during April.*



POULTRY KEEPER PUBLISHING CO.,  
QUINCY, ILLINOIS.



# The Hen That Lays Is the Hen That Pays

The Hogan Method of Scoring Hens According to Certain Bone and Body Measurements proving a Close Test to Show the Number of Eggs a Hen Will Lay in a Year. It Also Shows the Reproductive Powers of the Male. Thousands of Poultrymen Using This System Successfully.

## Selecting Poultry For Egg Production.

By Russell F. Palmer.

Haphazard methods of mating and breeding don't pay, and indiscriminate methods cannot prove successful in building up a flock of laying hens. There never was a time in the history of this country when poultry and eggs were in greater demand; the price at which poultry and eggs sell has increased much more in proportion than has the price of feeds necessary to produce these products.

The opportunity is ours to insure greater profits, if we carefully and systematically solve the problem which is facing us: "How can we insure a reasonably high average egg production?"

In July issue I had an article in which I pointed out that the "Hogan Method" of selection and breeding made possible culling out the non-layers—the drones and slackers—and keeping only those we know will produce eggs in profitable quantities. The writer has received many letters from readers of this paper regarding this method; all requesting more information.

There are exceptions to all rules. You will find some exceptions in selecting, testing, and breeding poultry according to the "Hogan Method" described in the book known as the "Call of the Hen;" but many breeders have tested it for some six or eight years; many of these have doubled their egg yield in that time.

The "Hogan Method" does not stop with the mere selection of a good or poor layer of eggs.

It continues and shows the kind of males and females which will breed good layers. It shows the characteristics of males that are sure breeders or fallurcs.

It is important to have males of the right formation to mate with the great layers for breeding purposes. The advantages of this method for one owning even a small flock of birds are so apparent that space need not be given to discuss it. Please read below the advertisement of "The Call of the Hen."

### THE CALL OF THE HEN

The book by Walter Hogan on the science of selecting and breeding poultry for egg production, is especially timely now, when poultrymen are using every opportunity to increase the food supply in poultry and eggs. They want to eliminate the drones which will increase the meat supply and keep every pullet or hen that will lay enough eggs to pay for her keep and a profit as well. This can be done by following the instructions given in the book. Score your pullets and hens by this method and you will know which to keep as profitable layers. Prof. E. F. Knapp, of Syracuse, N. Y., in 1916, scored about seventy females, and we give the scores he recorded by using the Hogan test, on twelve individuals, White Leghorns; and one year's laying, viz.:

| Hen      | Scored | Layed    |
|----------|--------|----------|
| No. 37   | 235    | 235 eggs |
| No. 39   | 250    | 255 eggs |
| No. 42   | 250    | 254 eggs |
| No. 43-R | 235    | 226 eggs |
| No. 43-G | 220    | 222 eggs |

|        |     |          |
|--------|-----|----------|
| No. 45 | 265 | 202 eggs |
| No. 46 | 250 | 242 eggs |
| No. 1  | 280 | 282 eggs |
| No. 3  | 255 | 258 eggs |
| No. 4  | 220 | 226 eggs |
| No. 70 | 205 | 210 eggs |
| No. 71 | 205 | 201 eggs |

This proves that the Hogan System is a very valuable discovery and should be used by all progressive poultrymen.

"The hen that lays is the hen that pays." There has never been a time that has demanded action more than just now. Drones are being culled out in all lines of business activity, and rightly so, and the same is true with the poultry business. The hen which delivers the goods is the hen which is your salvation, especially now when feed is so high. There is a profit in egg farming at the present price of eggs. If this workable science in the selection of layers is adopted, females can be scored at any time, even several months after they begin to lay, so you can tell how many eggs she will lay in one year. Males can be scored by this method to ascertain which are desirable as breeders to raise egg-laying type of birds.

The Hogan method has been tried out for several years, at experimental stations, large and small poultry plants all over the country, with satisfactory results, increasing the profit in egg production very materially, and has the indorsement of well-known poultry experts.

We would appreciate receiving your order for this book, which you will find advertised for sale below.



## YOU NEED THIS BOOK!

### IT WILL CUT DOWN YOUR FEED BILL

Why feed the hen that never lays or that never lays enough eggs to pay her keep? There is a way to prevent this.

### Learn Which of Your Hens Lay Best

THIS BOOK WILL TEACH YOU HOW



**B**UT ONCE IN A CENTURY is a discovery made which revolutionizes an industry, adding to the sum of human knowledge a "missing link" in the chair of civilization—creating an exact science, where before chaos reigned supreme,—where things went sort of hit and miss fashion. What Edison has done with electricity, what Burbank has accomplished in the field of horticulture, Walter Hogan has done for the poultry industry. So that you can understand and apply to your own poultry work the result of all this, the full details in plain and terse language is given in his new one hundred and fifty page cloth bound book

## "THE CALL OF THE HEN"

Under the touch of his magic hand Nature's secrets stand revealed—secrets, the value of which cannot be estimated in dollars and cents—secrets which have enabled hundreds of thousands of poultrymen to double their profits in a single year.

### DON'T KILL THE LAYER—SWAT THE DRONE

If you only keep a dozen hens you need this book. It will cut down the feed bill and increase your average egg yield. Don't judge "The Call of the Hen" by other poultry books. It's a cloth bound illustrated description of a new discovery, revolutionary in nature, the result of a lifetime of investigating and experimenting and has been thoroughly tested by hundreds of the most successful poultry plants and pronounced wonderful and sure.

### CULL YOUR FLOCK NOW—SELL THE LOAFERS—KEEP THE WORKERS

By the Hogan method you can not only select your good layers, but also good BREEDERS, both male and female; birds that will reproduce their kind and enable you to rapidly increase the average egg production of your flock.

**You Take No Chance** when you send us \$2.00 for the new revised cloth bound, profusely illustrated book, "The Call of the Hen." We do not ask you to take our word for it, nor the word of such men as Prof. T. E. Quisenberry; L. C. Byce, member of the executive board of the A.P.A.; Michael K. Bover and others.

You be your own judge. Get the book. Follow directions. Apply your own tests. If you are not satisfied—more than satisfied—send back the book. We will refund your money at once. Don't put this off. Order today. Right now! Price \$2.00 Postage prepaid.

Address Poultry Keeper, - Quincy, Illinois