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Hints to Poultry Raisers

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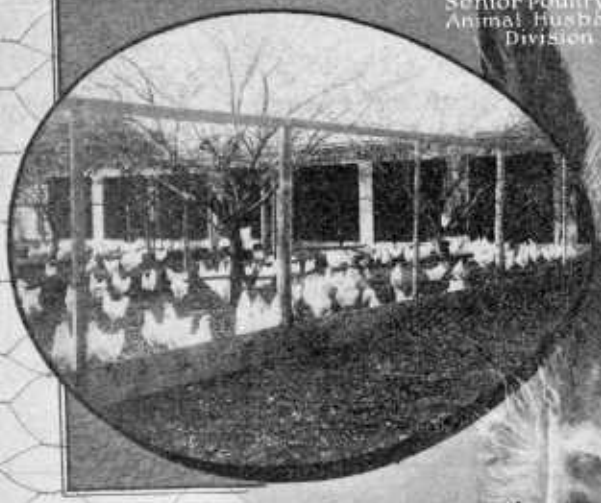

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Contribution from the Bureau of
Animal Industry
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WASHINGTON, D. C.

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THIS BULLETIN gives in a brief, concise way directions which will assist materially in poultry raising.

The essential points of poultry raising are mentioned, but no detailed reasons or explanations are undertaken.

The various subjects connected with poultry and egg production herein mentioned are more fully dealt with in other publications of this department, which may be had on request.

HINTS TO POULTRY RAISERS.

CONTENTS.

SELECTION OF A BREED.

BE SURE that the male at the head of the flock is purebred.

The Mediterranean or egg breeds are: Leghorn, Minorca, Ancona, Spanish, and Blue Andalusian.

The American or general-purpose breeds are: Plymouth Rock, Wyandotte, Rhode Island Red, Java, Dominique, and Buckeye.

The Asiatic breeds are: Brahma, Cochin, and Langshan.

The English breeds are: Sussex, Cornish, Dorking, Orpington, and Redcap.

For general farm use the American breeds are probably the best.

Purebred poultry means uniformity of products. Uniformity of products means increased profits, if products are properly marketed.

Given the same care and feed, purebred fowls make a greater profit than mongrels.

Subscribe for one or more good poultry papers.

Every poultry keeper who is interested in breeding better poultry should have a copy of the American Standard of Perfection.[1]

NATURAL AND ARTIFICIAL INCUBATION.

Eggs saved for hatching should not be subjected to high or low temperatures. Best results are usually obtained by keeping them in a moderately cool place, about 50° F. It is not advisable to hold hatching eggs longer than 10 days or two weeks.

February, March, and April are the best months for hatching.

[1] A book published by the American Poultry Association. It may be obtained from the Secretary, Mrs. S. T. Campbell, Mansfield, Ohio.

MANAGEMENT OF SITTING HENS.

Given proper care and attention the hen is the most valuable incubator for the farmer. Always test a hen on china eggs or some other kind of nest eggs before setting, to be sure that she can be depended upon to continue broody. In cold weather do not place too many eggs under a hen. The number may vary from 10 to 15, according to her size, but in every instance be sure that she covers them well.

If a broody hen is to be transferred to a new nest, she should be moved at night, so as to become accustomed to it and not abandon the new location.

Usually several hens can be set with good results in one large room or loft, providing each with feed, water, and dust bath, so that they may leave the nests and return at will. The nests should be placed several feet apart to avoid interference with one another. If a large number are to be set, nests about 14 inches square may be built in rows or tiers, with doors or covers for fastening the hens. When this method is employed the hens should be attended to at a certain time each day, letting them off for feed and water and placing them back on the nests again after the eggs are properly cooled.

Straw or hay, not chaff, makes the best nesting material. In constructing a new nest use care and have it well formed. Do not have the nest too deep, for the eggs will pile in the center and those at the bottom will not get sufficient heat. They are also oftentimes broken in this way.

To exterminate lice, dust the hen or chicks with sodium fluorid or some other good lice powder. A small quantity of equal parts of blue ointment and lard rubbed around the vent is also a good lice exterminator, but should not be used on sitting hens, as it may spoil the eggs.

Whole corn is the best feed for sitting hens. Do not use soft feed, as it may cause diarrhea. Water, grit, and dust baths should always be provided.

All eggs should be tested on the seventh day and the infertile ones removed. This often makes it possible to place the fertile eggs from two or more hens under one and reset the hens left without eggs.

HATCHING BY INCUBATOR.

If it is intended to hatch by artificial means, have everything ready beforehand and begin operations early. A well-ventilated cellar is the best place to use an incubator, and the machine should be operated according to the manufacturer's directions.

See that the incubator is running steadily at 103° F., without variation, before filling it with eggs. Do not add eggs to a machine during incubation.

Do not open the machine for the first two days. From the third to the eighteenth day, inclusive, turn the eggs twice daily. Once each day from the seventh to the eighteenth day the eggs should be cooled thoroughly. This should be done by taking out the tray of eggs and placing it on top of the machine, or on a table provided for

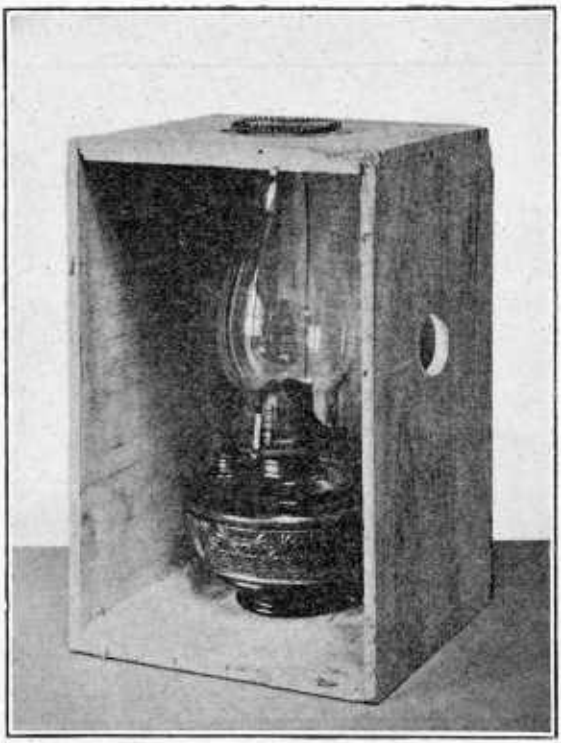

FIG. 1.—Homemade egg candler. The hole for testing eggs should be directly opposite the flame of the lamp. A black cloth or cover goes on the side of the box to retain the light and keep the box dark. It is necessary to candle eggs in a comparatively dark place.

the purpose, allowing it to remain there until the eggs feel just barely warm when placed against the face. Be sure that the tray does not project over the end of the incubator or table, for if it does the eggs will not cool uniformly. After turning the eggs reverse the egg trays, end for end, and from one side of the machine to the other. Also change the position of the eggs on the trays.

Turn and cool the eggs before trimming and caring for the lamp.

Be sure to keep the lampwick clean and trimmed so that the blaze will be even and not streak up at one side.

Test the eggs on the seventh and fourteenth days. An egg tester made from any box large enough to go over the lamp may be used as shown in the accompanying illustrations (figs. 1 and 2). Test the eggs with the large end up so that the size of the air cell may be seen as well as the condition of the embryo.

If the weather is very hot and dry, moisture should be supplied by sprinkling the eggs liberally with lukewarm water on the seventeenth or eighteenth day.

Do not open the machine from the eighteenth day until the chickens are hatched.

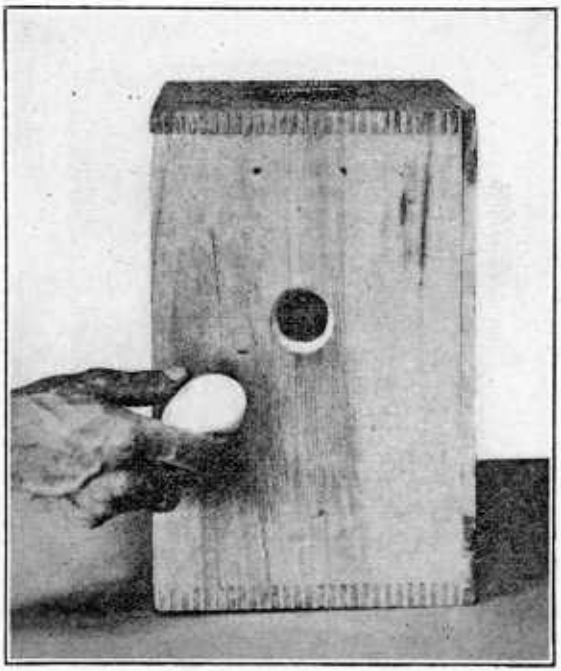

FIG. 2.—Use of the egg candler. In candling, the egg is placed against the hole in the box, at an angle of about 45 degrees, so that the light from the lamp shows through the egg.

NATURAL AND ARTIFICIAL BROODING.

It is a good plan to keep a record of each hatch, showing the date set, the number and kind of eggs, number tested out, and the chickens hatched. Toe-mark the chicks, as soon as they are hatched, by punching a small hole through the web of the foot, thereby indicating their age.

Do not feed the chicks for the first 36 to 48 hours, as they are unable to digest the feed.

To keep lice down powder the chicks with some good lice powder occasionally during the first eight weeks. A very small quantity of

melted lard rubbed under the wings and on top of the chick's head is also an effective remedy.

In cold weather from 10 to 12 chicks are sufficient for one hen, while in warmer weather from 15 to 18 can be cared for successfully.

Never mix chicks of different sizes.

The coop for hen and chicks should be well ventilated, easy to clean, and of sufficient proportions to insure comfort. (See fig. 3.)

Confine the hen to the coop until the chicks are at least two weeks old and strong enough to follow the mother when liberated.

If a brooder is to be used, light the lamps a day or two before putting the chicks in, to see that the heating apparatus is working properly. The lamps should be cleaned every day.

Remember that the early hatched pullet is the one that begins to lay early in the fall and winter when eggs are usually scarce and high in price.

FIG. 3.—Well-made brood coops for confining the mother hens.

The cockerel that can be marketed as a broiler in May brings more money than the one marketed in July or August.

POULTRY HOUSES AND FIXTURES.

Select a location that has natural drainage away from the building. A dry, porous soil, such as sand or gravelly loam, is preferable to a clay soil.

In most localities the building should face south, which insures the most sunlight throughout the year. Allow about 3 square feet of floor space per bird. Proper ventilation and sunlight mean a dry house and healthy birds.

The curtain-front or partial open-front house is conceded to be the best type for most sections. The colony plan of housing poultry may be adopted to advantage on many farms. This system does away with the danger of tainted soil.

The roosts should be built on the same level, 3 feet from the floor, with a dropping board about 6 inches below them. Good roosts may be made of 2 by 2 inch material with the upper edges rounded.

The nests may be placed on the side walls or under the dropping boards. It is best to have them darkened, as the hens prefer a secluded place in which to lay.

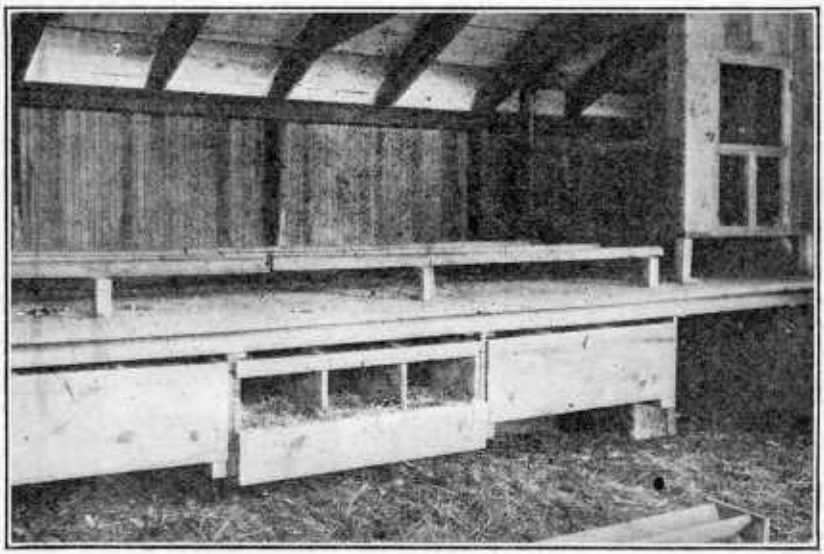

FIG. 4.—Interior view of poultry house, showing roosts and dropping boards with nests underneath and wire coop at end for confining broody hens.

FEEDING.

In order to obtain eggs it is necessary to have healthy, vigorous stock, properly fed.

Classification of poultry feeds.

Nature provides—	Scientific classification.	Poultrymen feed—
Worms and bugs	Nitrogenous material or protein	Eggs, meat (green-cut bone or beef scrap), milk, or cottage cheese.
Seeds	Nonnitrogenous	Oats, corn, wheat, etc.
Greens	Succulents	Lettuce, cabbage, kale, mangels, alfalfa, clover, sprouted oats, etc.
Grit	Mineral matter	Grit and oyster shell.
Water	Water	Water.

A good mixture for laying hens is 4 parts each of cracked corn and oats and 1 part barley or wheat, if available, which should be scattered in the litter. Provide 4 or 5 inches of good, clean litter.

A dry mash composed of equal parts of corn meal, bran, middlings, ground oats, and beef scrap should be kept in hoppers to which the fowls have access at all times.

Plenty of exercise increases the egg yield.

Cabbages, mangels, sprouted oats, cut clover, and cut alfalfa make excellent green feed.

When wet mashes are fed, be sure that they are crumbly and not sticky.

For the first three days chicks may be fed a mixture of equal parts of hard-boiled eggs and rolled oats or stale bread, or stale bread soaked in milk. When bread and milk are used care should be taken to squeeze all the milk out of the bread. From the third to fourth day commercial chick feed may be fed until the chicks are old enough to eat wheat screenings or cracked corn. After the chicks are 10 days old a good growing mash, composed of 2 parts by weight of bran, 2 parts middlings, 1 part corn meal, 1 part rolled or ground oats with the hulls sifted out, 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 moisture enough (either milk or water) should be added to make the feed crumbly but in no sense sloppy. When the growing mash or mixture is not used a hopper containing bran should be accessible to the chickens at all times.

Plenty of pure, fresh water, grit, shell, and green feed should be available from the first day.

There is very little danger of overfeeding young stock. Feed young chickens about five times daily and only what they will eat up clean in a few minutes, except at night, when they should receive all they want.

EGG PRODUCTION.

Produce the infertile egg. (See rule 5, page 13.) Infertile eggs are produced by hens that have no male birds with them. Removing the male bird has no influence on the number of eggs laid by the hens.

The hen's greatest profit-producing period is during the first and second years, and unless a hen is an exceptionally good breeder she should be disposed of at the end of her second laying season, before beginning to molt.

Few eggs can be expected until the pullets are matured.

Early hatching, with proper feeding and management, insures early egg production. If possible, mark the pullets that lay in the fall and use them in the breeding pen for the following spring.

Soft-shelled eggs are often caused by the fowls being confined, becoming overfat, and from lack of mineral matter.

MARKETING.

Uniform products command the best prices. Pure-bred fowls produce uniform products.

Begin marketing the cockerels as soon as they weigh 1 pound or attain a marketable weight.

Market white-shelled and brown-shelled eggs in separate packages.

When selling eggs to the country merchant or cash buyer insist that the transaction be on a quality basis.

Ship or deliver eggs at least twice or three times weekly.

Small or dirty eggs should be used at home.

When taking eggs to market they should be protected from the sun's rays.

Infertile eggs will withstand marketing conditions much better than fertile eggs.

LICE AND MITES.

The free use of an effective lice powder is always in order. Sodium fluorid makes an effective lice powder. In applying the powder hold the fowl by the feet, head down, and work the powder well down into the feathers. A dust bath is essential in ridding the fowls of lice.

The free use of kerosene or crude petroleum on the roosts and in the cracks will exterminate mites.

Whitewashing the interior of the house thoroughly once or twice a year helps to keep it sweet and clean.

COMMON DISEASES AND TREATMENT.

All diseased birds should be isolated.

Colds and roup.—Disinfect the drinking water as follows: To each gallon of water add the quantity of potassium permanganate that will remain on the surface of a dime.

Canker.—Sprinkle a little flowers of sulphur in the mouth and throat of the bird and put some chlorate of potash in the water. Also carefully remove the exudate with the aid of warm water and paint with iodin or apply a good disinfectant to the diseased tissue.

Chicken pox.—Apply a touch of iodin to each sore and then cover with carbolated vaseline. If the diseased parts are kept well covered with the vaseline, it will usually effect a cure.

Gapes.—New ground and vigorous cultivation will often remedy this trouble. A liberal sprinkling of lime around the coops and runs is quite often an effective remedy.

Scaly legs.—Apply vaseline containing a disinfectant to the affected parts, and after 24 hours soak in warm soapy water. Repeat treatment until cured.

Diarrhea in hens.—Low-grade wheat flour or middlings are good for this trouble. Also give each fowl a teaspoonful of castor oil containing 5 drops of oil of turpentine.

Bowel trouble in chicks.- Well-boiled rice mixed with a little charcoal will often check this complaint. Dissolve 15 grains of crude catechu in each gallon of drinking water.

FIG. 5.—Preserving eggs by the water-glass method.

PRESERVING EGGS FOR HOME USE.

During the spring and early in summer, when eggs are abundant and reasonable in price, attention should be given to preserving them for winter use. Fresh eggs properly preserved may be kept from 8 to 12 months in excellent condition and used with good results.

Eggs laid in April, May, and early in June have been found to keep better than those laid later in the season.

If satisfactory results are to be obtained, the eggs should be fresh and clean and, if possible, infertile. Eggs that float when placed in the solution are not fresh and therefore can not be preserved. Washing eggs removes a protective coating which prevents them

from spoiling, but when an egg is only slightly soiled, a cloth dampened with vinegar should be used to remove the stain. Under no circumstances should badly soiled eggs be used for preserving; if put into the jar while dirty they will spoil.

WATER-GLASS METHOD.

A good method for the preservation of eggs is the use of water glass (sodium silicate).

Use 1 quart of water glass to 9 quarts of water that has been boiled and cooled. Place the mixture in a 5-gallon crock or jar. This will be sufficient to preserve 15 dozen eggs and will serve as a guide for the quantity needed to preserve larger numbers of eggs.

1. Select a 5-gallon crock and clean it thoroughly, after which it should be scalded and allowed to dry.
2. Heat a quantity of water to the boiling point and allow it to cool.
3. When cool, measure out 9 quarts of water, place it in the crock, and add 1 quart of the water glass, stirring the mixture thoroughly.
4. The eggs should be placed in the solution. If a sufficient supply of eggs is not obtainable when the solution is first made, more eggs may be added from time to time. At least 2 inches of the solution should cover the eggs at all times.
5. The crock containing the preserved eggs should be kept in a cool, dry place, well covered to prevent evaporation. Waxed paper put on and tied around the top of the crock will answer this purpose.

LIME METHOD.

When water glass can not be obtained, the following method may be used instead. Many consider this method to be entirely satisfactory, though instances are known in which eggs so preserved have tasted slightly of lime.

Dissolve 2 or 3 pounds of unslaked lime in 5 gallons of water that has previously been boiled and allowed to cool. Allow the mixture to stand until the lime settles and the liquid is clear. Place clean, fresh eggs in a clean earthenware crock or jar and pour the clear limewater into the vessel until the eggs are covered. At least 2 inches of the solution should cover the top layer of eggs. Sometimes a pound of salt is used with the lime, but experience has shown that in general the lime without the salt is more satisfactory.

USING PRESERVED EGGS.

Fresh, clean eggs, properly preserved, can be used satisfactorily for all purposes in cooking and for the table. When eggs preserved in water glass are to be boiled, a small hole should be made in the

shell with a pin at the large end before placing them in the water. This is done to allow the air in the egg to escape when heated and so prevent cracking.

POULTRY MAXIMS.

It is urged that all farmers and poultrymen adhere strictly to the following principal rules in handling their poultry and eggs:

1. Keep the nests clean; provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.
5. Sell, kill, or confine all male birds as soon as the hatching season is over, so as to produce infertile eggs. The male bird has no effect on the number of eggs produced.

PUBLICATIONS OF UNITED STATES DEPARTMENT OF AGRICULTURE RELATING TO POULTRY RAISING AND EGG PRODUCTION.

AVAILABLE FOR FREE DISTRIBUTION BY THE DEPARTMENT.

Poultry Management. (Farmers' Bulletin 287.)
Pheasant Raising in the United States. (Farmers' Bulletin 390.)
Marketing Eggs Through the Creamery. (Farmers' Bulletin 445.)
Hints to Poultry Raisers. (Farmers' Bulletin 528.)
Poultry House Construction. (Farmers' Bulletin 574.)
Natural and Artificial Incubation of Hens' Eggs. (Farmers' Bulletin 585.)
Natural and Artificial Brooding of Chickens. (Farmers' Bulletin 624.)
A Simple Trap Nest for Poultry. (Farmers' Bulletin 682.)
The Community Egg Circle. (Farmers' Bulletin 656.)
Squab Raising. (Farmers' Bulletin 684.)
Duck Raising. (Farmers' Bulletin 697.)
Goose Raising. (Farmers' Bulletin 767.)
Turkey Raising. (Farmers' Bulletin 791.)
Mites and Lice on Poultry. (Farmers' Bulletin 801.)
Standard Varieties of Chickens. I. The American Class. (Farmers' Bulletin 806.)
Shipping Eggs by Parcel Post. (Farmers' Bulletin 830.)
Capons and Caponizing. (Farmers' Bulletin 849.)
The Guinea Fowl. (Farmers' Bulletin 858.)
Back-Yard Poultry Keeping. (Farmers' Bulletin 889.)
Standard Varieties of Chickens. II. The Mediterranean and Continental Classes. (Farmers' Bulletin 898.)
Important Poultry Diseases. (Farmers' Bulletin 957.)
How to Kill and Bleed Market Poultry. (Bureau of Chemistry Circular 61, revised.)

FOR SALE BY THE SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.

The Commercial Fattening of Poultry. (Department Bulletin 21.) Price, 10 cents.
Lessons on Poultry for Rural Schools. (Department Bulletin 464.) Price, 10 cents.
The Food Value and Uses of Poultry. (Department Bulletin 457.) Price, 5 cents.
Eggs and Their Value as Food. (Department Bulletin 471.) Price, 5 cents.
Fattening Poultry. (Bureau of Animal Industry Bulletin 140.) Price, 10 cents.
The Improvement of the Farm Egg. (Bureau of Animal Industry Bulletin 141.) Price, 10 cents.
The Care of the Farm Egg. (Bureau of Animal Industry Bulletin 160.) Price, 15 cents.
A System of Poultry Accounting. (Bureau of Animal Industry Circular 176.) Price, 5 cents.

THE LABOR PROBLEM is one of great difficulty, and some of the best agencies of the Nation are addressing themselves to the task of solving it, so far as it is possible to solve it. Farmers have not been exempted from the draft. I know that they would not wish to be. I take it for granted they would not wish to be put in a class by themselves in this respect. But the attention of the War Department has been very seriously centered upon the task of interfering with the labor of the farms as little as possible, and under the new draft regulations I believe that the farmers of the country will find that their supply of labor is very much less seriously drawn upon than it was under the first and initial draft, made before we had had our present full experience in these perplexing matters.—*President Wilson.*