

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

Volume XVIII.

LIBRARY
RECEIVED
JUN 15 1912
Number 10
U.S. Department of Agriculture

The Agricultural Student



10c per Copy

JUNE, 1912

75c per Year

Have You a Good Sheep Shearing Machine?

If not, we ask you to try out thoroughly this season one of our

Stewart No. 9 Ball Bearing Machines

We are confident you will find it superior to anything else in a hand operated machine. It is the best machine we have been able to produce after twenty years of experience in making clipping and shearing machines, and we offer it to you with the distinct understanding that

It must do your work satisfactory to you or it may be returned at our expense for refund of all paid out.

It has large, enclosed gear case containing extra size balance wheel; it has ball bearings throughout, including ball bearing shearing shaft and ball bearing shearing head.

Price, all complete,
with four sets of knives
only

\$11.50

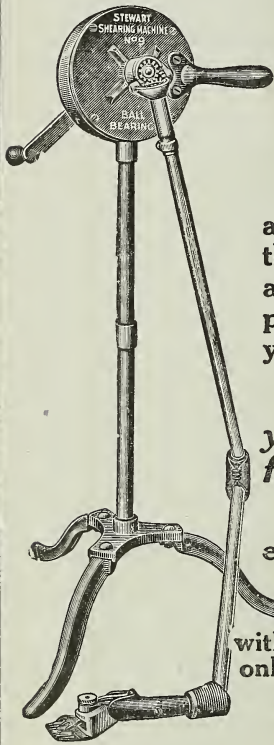
Get one from your dealer or send \$2 and we will ship C. O. D. for balance, subject to above agreement.

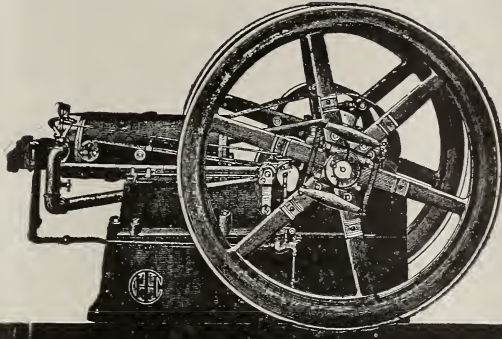
Write for new 1912 catalogue showing the world's largest and most modern line of shearing and clipping machines.

SEND NOW

Chicago Flexible Shaft Company

82 La Salle Avenue, CHICAGO





STANDARD OF QUALITY FOR EVERY FARM POWER NEED

For running the cream separator, churn, feed cutter, wood-saw, fanning mill, thresher, pump, grindstone, electric lighting plant, washing machine—any farm machine to which power can be applied—an IHC gasoline engine is the best investment you can make. It will work steadily and economically, it will last for years, and require less attention and repairing than any other engine made.

The record of IHC engines on thousands of farms is proof positive of their superiority. Their advantages in simplicity, strength, economy, efficiency, and durability are well known.

IHC Gasoline Engines

are built right—of the best materials obtainable—by skilled workmen, in the finest equipped engine factories in America.

When you buy an IHC you know it must be right in order to maintain the IHC reputation for highest quality.

In the IHC line there is an engine that meets your special needs. They are made in the following styles and sizes.

Vertical—2, 3, 25, and 35-H. P.; horizontal—1 to 25-H. P.; semi-portable—1 to 8-H. P.; portable—1 to 25-H. P.; traction—12 to 45-H. P.; sawing, pumping, spraying, and grinding outfits, etc. Built to operate on gas, gasoline, kerosene, distillate, or alcohol—air-cooled or water-cooled. See the IHC local dealer, or, write us today for our new catalogue.

International Harvester Company of America
Chicago (Incorporated) USA



IHC Service Bureau

The bureau is a center where the best ways of doing things on the farm, and data relating to its development are collected and distributed free to everyone interested in agriculture. Every available source of information will be used in answering questions on all farm subjects. Questions sent to the IHC Service Bureau will receive prompt attention.



ROSS THOROUGHLY MANUFACTURED SILO

The Silo that is wanted by those who want the BEST. Quality of material and proper construction is our motto. If price alone is considered, we want to be excused from quoting prices. If, however, QUALITY is wanted, give the ROSS a chance. Competition sidesteps quality and makes the price the main issue when figuring against THE ROSS.

We are entitled to make these assertions because THE ROSS SILO has features that are necessary for a GOOD SILO and these features are found on THE ROSS SILO ONLY.

BUY A ROSS SILO and let us prove that what we say above is TRUE.

Manufactured by

THE E. W. ROSS CO., Springfield, Ohio

Established 1850

ROSS SILO FILLING MACHINERY

LARGEST CAPACITY, MOST MODERN, MOST RELIABLE.



WING'S QUALITY SEEDS

**ALFALFA
SOY BEANS
SEED CORN**

Our ALFALFA SEED IS GUARANTEED FREE FROM DODDER. WE RETAIL MORE SOY BEANS THAN ANY OTHER SEEDSMAN IN THE UNITED STATES. PEDIGREED SEED CORN and SPECIAL GRASS MIXTURES.

For several years we have been selling our ALFALFA SEED to nearly all the EXPERIMENT STATIONS and AGRICULTURAL COLLEGES throughout the "Corn Belt" and the New England States, and to the Department of Agriculture at Washington.

Send for our booklet, "ALFALFA AND HOW TO GROW IT." This gives the latest and best methods for growing ALFALFA, instructions so complete that anyone can succeed by following them, tells more about SOY BEANS than you can learn from any other source, tells you how to build up your farm by the use of the right crops and the proper fertilizers.

WING SEED COMPANY

Box V, MECHANICSBURG, OHIO.

“Nature’s Source of Phosphorus”

GROUND PHOSPHATE ROCK

The most economical and only permanent soil builder. An application of 2000 lbs. per acre will furnish an abundant supply of Phosphorus for five to ten years.

Broadcast over clover and other legumes, or on stubble fields—at any time during the year—and when ready to do so plow in.

Mix it with all the animal manure—preferably making the mixture throughout the year as the manure accumulates by sprinkling in stables and feeding lots and over manure heaps, or pits, daily.

We have one of the most complete and “up-to-date” drying and grinding plants in the Mt. Pleasant District, and the only one producing a grinding of which 90% will pass a 100 mesh screen and 70% a 200 mesh screen. A large storage enables us to make prompt shipments.

We are always ready to correct and make good our mistakes and will use every endeavor to give satisfaction.

JOHN RUHM, JR.

MT. PLEASANT, TENNESSEE.

Ground Rock Branch of Ruhm-Phosphate Mining Co., Miners and Shippers of Tennessee Phosphate Rock

THE CALL IS TO “INTENSIFY”

Eliminate waste, conserve energy, grow two blades of grass where one grew before—“intensify,” in other words, is the call today.

Intensified dairy cleaning yields its percentage of profit the same as intensified farming.

And how easy it is for dairymen to make their work of cleaning “intensive.”

Indian in Circle



Wyandotte
Dairyman's
Cleaner and Cleanser

In Every Package.

although it requires less work, does dairy cleaning so thoroughly that dairymen do not hesitate to pronounce it the only dairy cleaning agent which really makes the cleaning “intensive.”

“Intensive” because Wyandotte Dairyman’s Cleaner and Cleanser cleans away every particle of dirt, old milk, and everything a bacteria could possibly thrive upon, thereby reducing the number of bacteria to practically nothing. And “intensive” because it leaves the dairy in a fresh, clean-smelling and wholesome condition.

Every Dairy Inspector in the United States and Canada recommends you to use Wyandotte Dairyman’s Cleaner and Cleanser because it “intensifies” your dairy cleaning. This means better cleaning, less work, and higher quality milk, cream and butter.

Why not then let Wyandotte Dairyman’s Cleaner and Cleanser prove these facts? It costs you nothing if every claim is not met satisfactorily.

Ask your dealer for a sack or write your supply dealer.

The J. B. Ford Co., Sole Mfrs., Wyandotte, Mich., U. S. A.

This Cleaner has been awarded the highest prize wherever exhibited.

Ohio Department of Agriculture

JACOB DEAN, Pres., Chester.	A. P. SANDLES, Secy., Columbus.
E. L. LYBARGER, V. P., Warsaw.	J. W. FLEMING, Asst. Sec., Co- lumbus.
L. W. KILGORE, Treas., London.	C. W. McFARLAND, Mt. Gilead.
P. G. EWART, East Akron.	W. G. FARNSWORTH, Water- ville.
J. A. BEIDLER, Willoughby.	C. H. GANSON, Urbana.
J. F. CROSS, Washington C. H.	
T. E. CROMLEY, Ashville.	

OHIO STATE FAIR

— COLUMBUS —

AUGUST 26-31

DAY AND NIGHT

Our Work

Twelve Department Bureaus.

- | | |
|----------------------------|--|
| 1. State Fair. | 9. Agricultural Promotion
Work. |
| 2. Farm Land. | 10. Nursery and Orchard Inspec-
tion. |
| 3. Farm Labor. | 11. Fertilizer Inspection and An-
alyses. |
| 4. Bee Inspection. | 12. Feed Stuff Inspection and
Analyses. |
| 5. Statistical Work. | |
| 6. Farmer Institutes. | |
| 7. Live Stock Commission. | |
| 8. Crop Reporting Service. | |

"We have used Sal-Vet since 1909 and would not know how to grow sheep without it. We consider it the only practical worm remedy on the market, for it destroys the worm before the latter has a chance to injure the sheep, if kept constantly before the animals. We have also had good success with the treatment in cases in which infection was well advanced. We consider that in Sal-Vet lies the salvation of the sheep business in America, and we recommend its constant use to our customers, as well as to others.
 "CHAS. LEET & SON, Mantua, Ohio."

"We have used Sal-Vet with excellent satisfaction, and while we have not obtained information as to the absolute effect in our sheep, they consumed the preparation with results which appear to us to corroborate your statement, that it is desirable for discouraging the development of worms and keeping sheep in good condition. I believe that Sal-Vet will repay the user in the results which come from its action in his flock.
 (Signed) "C. S. PLUMB, B. Sc.,
 "Prof. Animal Husbandry."

Warning!



Save Your Little Pigs

From Deadly Worms and Diseases

If you want healthy litters of pigs like these you must keep them free from worms. Even three weeks old pigs are often found loaded with these deadly pests. Their growth is stunted. They cannot put on money-making fat. They become easy victims of hog cholera and other destructive contagious diseases; not only that, but worms rob both old hogs and young pigs of their feed, sap their vitality, steal away your profits every hour they are allowed to infest your herd. Stop this costly loss with



The Great Worm Destroyer and Conditioner

A medicated salt guaranteed to rid hogs, sheep, cattle and horses of all stomach and free intestinal worms. Not only that, but Sal-Vet aids digestion, puts an edge on the appetite, keeps your stock in tip-top condition. You do not have to "dose" with Sal-Vet. No drenching—no handling. Animals eat it naturally. They doctor themselves. Read what this wise farmer says:

"I have been a free user of 'Sal-Vet' ever since its introduction, and find that it is the most perfect worm exterminator on the market today. I feed 'Sal-Vet' as I would salt, and not as a feed, and it will positively do all that you claim for it."
 E. C. STONE, Sec. Amer. Hamp. Swine Record Assn., Peoria, Ill.

Try it 60 Days Before You Pay I know that Sal-Vet will rid your hogs, sheep, horses and cattle of worms and indigestion and I want you to try it—at my expense if it fails. Just fill out the coupon telling me how many head of stock you are feeding and I'll send you, at once enough Sal-Vet to feed them 60 days. If it doesn't do all I claim, then you needn't pay me one cent. Send now.

Send No Money—Just This Coupon

S. R. FEIL, Pres. S. R. Feil Co. Dept. Ag. S. Cleveland, O.

Prices: 40 lbs., \$2.25; 100 lbs., \$5.00; 200 lbs., \$9.00, 300 lbs., \$12.00; 500 lbs., \$21.12. No order filled for less than 40 lbs.

Sydney R. Feil, Pres. The S. R. Feil Co., Cleveland, O.
 Claim me enough Sal-Vet to last my stock 60 days. I will repay
 you if it does not kill the worms by the 60th day. I will repay
 claim. If it does not, you are to cancel the claim.
 Name _____ State _____
 P. O. _____
 Shipping via _____
 Cattle _____ Hogs _____
 Horses _____
 5-15-12

Did You Ever Consider

the Advantages of Doing Business
with a Commission Firm situated at all the
Leading Markets ?

From Buffalo to Denver, from St. Paul to Fort Worth, we are in the most intimate touch with live stock conditions, supply and demand, and every factor that affects prices.

Our ten houses are in constant interchange of information. What one knows, all know.

If we think your stock will bring you more money on one market than another, we tell you so. And our advice is unbiased because it makes no difference to us which of our houses handles your shipment.

In cases where it seems in the customer's interest to forward stock from one market to another, you have but one commission to pay.

Take the matter of filling orders for feeders. Sometimes one market and sometimes another may be cheapest for a customer in a given territory. We always aim to fill your orders where the kind of stock you want can be had to best advantage, of course advising you fully beforehand.

Your Inquiries, Correspondence and
Consignments will Receive Our Very Best Care at
Any of the Markets named Below.

Clay, Robinson & Co.

LIVE STOCK COMMISSION

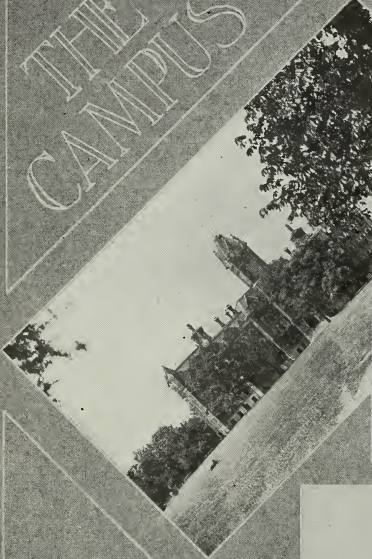
Chicago,	E. Buffalo,	Kansas City,	S. St. Joseph,
Denver,	E. St. Louis,	Sioux City,	S. Omaha,
	S. St. Paul,	Fort Worth.	



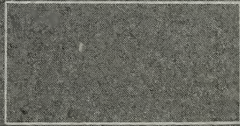
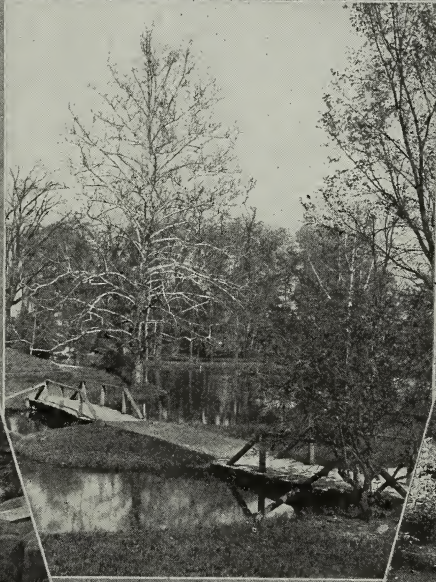
Contents

	Page
COVER—JUNE—	
FRONTISPIECE—	
THE BAREFOOT BOY—	
Prof. W. L. Graves	565
MILLETS AND SORGHUMS—	
Prof. G. Livingston, '08	568
OHIO ONIONS—	
R. W. Jordan, '14.....	570
THE FARM WOODLOT—	
Prof. W. J. Green	572
THE AGRICULTURAL WEEK IN BERLIN—	
Dean H. C. Price	574
TREE SPECIES USEFUL FOR REFORESTATION IN OHIO—	
Prof. Edmund Secrest	575
“OHIO STATE” DAY AT THE FAIR.....	580
THE HORSE SHOW	581
EDITORIAL	582
NEWS NOTES	586

THE
CAMPUS



BEAUTIFUL



THE AGRICULTURAL STUDENT

Vol. XVIII.

OHIO STATE UNIVERSITY, COLUMBUS, JUNE, 1912

Number 10

The Barefoot Boy

W. L. GRAVES, '93, '97
Associate Professor of English

THE summer afternoon was hot; the old bay horse's feet raised clouds of dust as he jogged heavily along; there was no one in sight either up or down the country road, and so, letting the reins fall loose, I leaned back drowsily in the carriage.

"Say, mister, lemme ride?"

I stopped the horse without much difficulty, and looking out saw a little fellow perhaps ten years old, who stood by the roadside nervously printing his bare toes into the dust, and apparently quite absorbed at his own timidity in making the request.

"Certainly," said I, "get in," and he climbed over the wheel. He carried a basket, and as we drove along I endeavored to engage him in conversation, but I could get him to say nothing more than that he had been to town with butter and eggs. He was as shy as a wood bird, and my questions received only monosyllables in reply. Presently he said, "I have to stop here," and when I pulled up he jumped out; then with a somewhat shamefaced "Much oblige," he disappeared over a rail fence.

It was a trifling incident, and yet as I moved slowly along I forgot whither I was bound; I became unconscious of my surroundings, even of my duties as a driver, and I saw going down a country road a little fellow in a checked shirt and home-made trowsers, a big

straw hat on his head, and a long fishing-pole wobbling about over his shoulder. His hair and eyes were brown, his red lips were pouted in a whistle, and his freckled nose was uptilted like that of a maid of whom Tennyson sings. His stout, bare legs were quite hidden in the dust which he luxuriously shuffled up at imminent risk of limping about, Tom Sawyer-like, with a stubbed toe. At his heels trotted a little black and tan dog.

They were going fishing up at the big bridge. The boy was quite familiar with the splendid hole there. He knew just where the white suckers stayed; knew that he must fish deep for the cat fish; knew that the sunfish and rock bass lurked in the roots of the old snag at one side. And so they climbed the slight ascent and entered the covered bridge. The little dog ran ahead, and the whole structure shook as he went, loosening pebbles which fell through the cracks in the floor and made a hollow echoing plunk in the water beneath. There was a board missing at one side, and the boy, squeezing into the empty space, sat down on a big beam, his feet dangling in the air. The dog watched intently, and then, as the line was dropped softly into the water, he lay down and slept.

It was very still. No one came by. Outside the dusty brown road stretched away in the glaring sun, but in the

bridge it was cool and shady. A little striped chipmunk whisked about in the rafters, and a solemn turtle, with many backward slips, crawled upon a water-soaked log, where he lay blinking his queer eyes at the motionless young fisherman.

No bites; not even a nibble. Now and then a little breeze would ruffle the smooth water, and the cork would dance deceptively; but suddenly, with no premonitory bob, it sank beneath the surface. Away went the chipmunk, off slid the turtle, and the little dog barked ecstatically as the boy, with sharp thrills of excitement shooting thru him, pulled from the water a struggling, flapping big bass! But it is so far to swing him in—if only that hook holds—ah! With a great flirt the gleaming thing loosens itself and drops swiftly into the rippled water. The boy, with tears of rage and disappointment, fairly gasps and the little dog almost weeps from sympathy.

But the bridge fades, and in its place

Sits the schoolhouse by the road
A ragged beggar sunning.

The noon hour is almost past, and some of the children are finishing a game of mumble-peg. There is the boy again, stretched under a big beech tree like a small modern Tityrus, and piping on an alder whistle. It is only the country lad who can make such things. And now the teacher appearing in the door-way rings the bell, and the scholars go in with reluctant footsteps. Their seats are made for two, and the desks are ink-stained and scarred. At one end of the room is the table of the teacher, who busies herself with crochet work while the children study or shoot surreptitious paper wads at one another. But in such weather as this the Piervian spring sufficeth not, a fact evidence by request of the brown

eyed boy to go after the water; and assent being given, away he goes with the cedar bucket, much to the envy of the others.

How quiet it is! No rattling of wagons over pavements, no rasping of electric cars—nothing except the shrill bark of a red squirrel in a tree near by and the cries of the meadow larks in the fields. A big bumble bee blunders in at the open door and then hurries out, much to the teacher's relief. Then the boy comes back, and taking a tin cup, he goes up one aisle and down another, greeted with smiles of anticipations out the cool, spring water. Their voices sing-song the old strains—

Oh, were you ne'er a school boy?
And did you never train,
And feel that swelling of the heart
You ne'er will feel again.

There is a blue bird in the beech outside, and his clear notes flute in mellow sweetness through the summer air. A little fragrant breeze wanders into the room from the meadows and flutters the leaves of the dog-earned spelling-books. Then—drowsy silence again.

Oh, the joy of being a boy in the country, where there is room to live and grow and think; where one can see the spring shake in the tree tops and creep in the grass; can smell the scent of the apple blossoms and drink in the melody of the birds hidden away amid the fragrant white drifts; can watch the wind in the grain fields, and listen to the whisper of rain dripping from the eaves in the night! What are the charms of the hot, hurrying city to the boy who is free as the air he breathes and who feels the soft throb of Nature's heart about him! The wild flowers and the wild songsters are his own; the pictures in his art galleries are originals—no copies; the morning oratorios of

the birds surpass any symphony concert ever listened to. The songs of the "running brooks," the fragrance of the locust flowers, the swallow's poetry of motion—they all belong to the boy who lives in the country. Think you that all the porcelain bath-tubs in existence could compensate him for the loss of that shady pool below the bank where the big sycamore hangs over, where he and his wild little comrade fairly revel in the clear water, splashing, diving, shouting till that elusive nymph, Echo, roused from her woodland dreams, goes shrieking with laughter far up between the leaf-fringed banks of the creek.

Poor child of the city? Never to know the joy of casting off the hot shoes and feeling the cool of the soft grass or of fresh plowed earth on the bare feet; never to lie on the ground and gaze up at the flying white clouds till you feel yourself sailing away with them, up—out of the world; never to sit on some mossy log in the woods and listen to the drowsy hum of insects, the strange calls of the birds, the mysterious swaying and stirring that comes from nowhere!

Can you imagine how blackberries taste eaten from the vine, or cherries from the tree? Have you ever sucked the sweets from the nodding red clover? Do you know how a wild rose smells?

There is a poet, the country boy's poet, who knew of such delights, and he sings:

O the days gone by! O the days gone by!
 The apples in the orchard and the pathway
 thro' the rye;
 The chirrup of the robin and the whistle of
 the quail
 As he piped across the meadows sweet as any
 nightingale;
 When the bloom was on the clover and the
 blue was in the sky,
 And my happy heart brimmed over in the
 days gone by.

In the days gone by when my naked feet
 were tripped,
 By the honeysuckles' tangles where the water
 lilies dipped,
 And the ripples of the river lapped the moss
 along the brink
 Where the placid eyed and lazy footed cattle
 came to drink,
 And the tilting snipe stood fearless of the
 truant's wayward cry
 And the splashing of the swimmer in the
 days gone by.

Suddenly I became aware that my originally slow progress had become infinite, and that the old horse was calmly munching the leaves from a wayside shrub. So my day dream ended, but as we once more jogged up the dusty road there rang through my memory Longfellow's lines:

A boy's will is the wind's will,
 And the thoughts of youth are long, long
 thoughts.

(By special permission of the Author from
 The Lantern, 1892.)

Where'er the wide old kitchen hearth
 Sends up its smoky curls,
 Who will not thank the kindly earth,
 And bless our farmer girls!

—Whittier.

Millets and Sorghums

G. LIVINGSTON, '08
Assistant Professor of Agronomy

MANY farmers have not yet solved the problem of providing forage for the coming winter. The standard hay crops, timothy and timothy and clover mixed, give promise of giving a good yield. However, the general failure of seedings of these crops a year ago has greatly reduced the acreage and not enough forage will result from the acres now in these crops to supply the demand this coming winter. Many farmers have provided a substitute by the seeding of oats and Canadian field peas, others on account of the late spring and frequent rains along with the rush of spring work have not been able to seed these crops at the proper time. Oats and field peas are cool weather crops and if seeded at this late date the returns would doubtless be small.

Besides cow peas and soy beans there are two other crops that can yet be seeded and a good yield reasonably expected. These crops are millets and sorghums.

The millets are a short season crop and find their greatest usefulness in Ohio as substitutes for some crop grown regularly in the rotation which for one reason or other has failed. They are useful, too, to fill in after it is too late to plant corn or other spring crops. They will be especially valuable this year for this purpose and also on account of the shortage of other hay crops.

There are several varieties of millets, but the varieties best adapted to Ohio and that yield the best quality of hay are the Hungarian and German. The Hungarian grass, as it is sometimes called, is an early variety with small

fine stems, and does not grow as rank nor produce as much hay as some of the later varieties. However, it can be removed from the field sooner, which is especially desirable if it is to be followed by wheat or rye in the fall. On average soils it can be expected to produce about two tons of hay per acre.

The German millet is a later, rank growing variety, with broad leaves and a large nodding head. This variety is well adapted to fertile soils and, if seeded in a well prepared seed bed and favored with good growing weather, may be expected to yield from $2\frac{1}{2}$ to $3\frac{1}{2}$ tons per acre.

Sweet sorghum or cane is best known by most Ohio farmers as a crop grown in a small way, the juice of which is used in the making of cane molasses. Comparatively few have made use of it as a forage crop. Sorghum is a good feed for animals, either when cut and fed green or when made into hay. If sowed thickly the stalks are fine and are largely eaten with the leaves. The crop could doubtless be grown to advantage by many farmers for hay or roughage to supplement timothy and corn stover. The yield per acre is much greater than that obtained from timothy, but the feeding value is not as high, and it is a little more difficult to handle. The yield of hay varies from four to ten tons per acre.

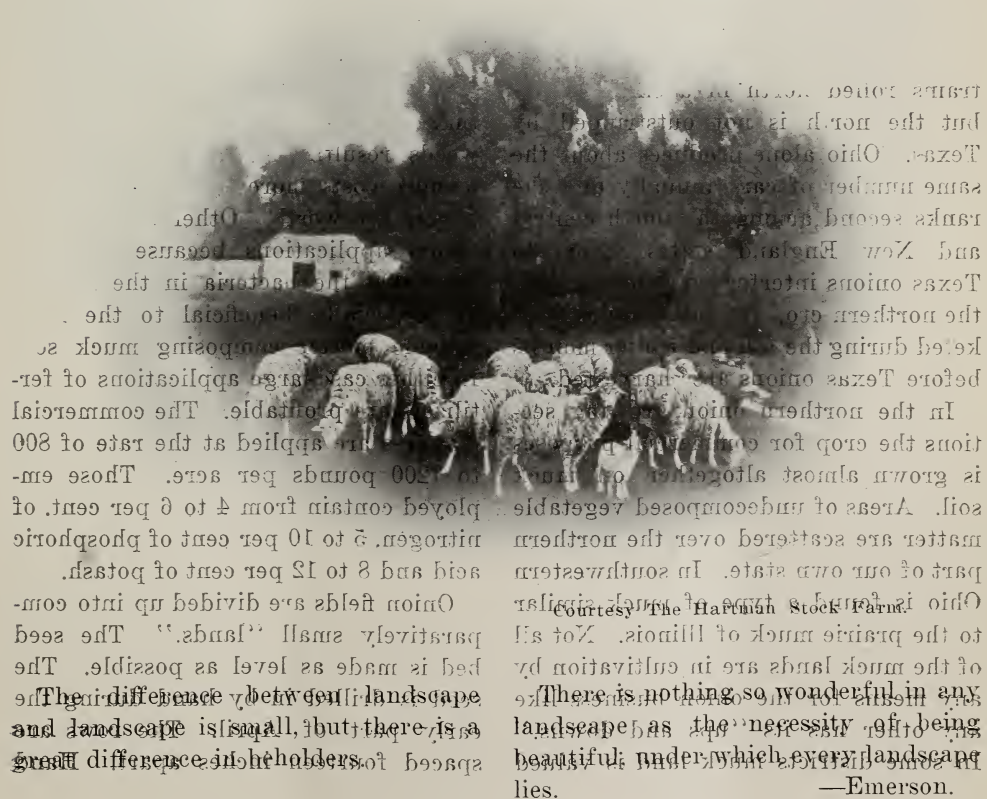
Early Amber is one of the best varieties for Ohio. All varieties of sorghum grow best and produce the largest yields on deep, mellow, fertile soils. However, good yields are often obtained on comparatively poor soils.

Both sorghums and millets, on account of their small seeds, require a

finely pulverized seed bed, free from weeds. Sorghum grows slowly at first, and if weeds are present, it may be overcome before the plants are well started. Sorghums and millets may be seeded with a drill, or broadcast and harrowed in, or they may be seeded in rows and cultivated. Millets are not often seeded in rows, except when grown for seed. The sorghums, on account of the size of the stalks, are difficult to cut either with a mower or with a scythe, when drilled or broadcasted. A better method is to drill in rows, using ten to twelve pounds of seed per acre, and cut with a corn binder or by hand. Millets should be seeded with a drill, using three or four pecks per acre. They

should be cut for hay before the seed forms, since if the cutting is delayed until the seeds are formed, or until they have ripened, the quality of the hay is greatly impaired. Hay from ripe millet is unpalatable and the seeds seem to have an injurious effect upon the kidneys of the animals to which they are fed. On account of the rank growth millet is more difficult to handle in making the hay than timothy, but the harvesting comes at a time when the weather conditions are usually favorable for curing.

If it is desirable to cut the millet early in order to get it out of the way for the seeding of wheat or rye, it makes good hay even when cut before coming into head.



Other applications because of the benefits in the soil. The benefits to the soil of decomposed vegetable matter are scattered over the northern part of our own state. In southwestern Ohio is a fine example of the benefits to the prairie muck of Illinois. Not all of the muck lands are in cultivation by (There is nothing so wonderful in any landscape as the necessity of being beautiful; under which every landscape lies.

the northern crop for commercial purposes is grown almost altogether of muck. Those employed contain from 4 to 6 per cent of nitrogen, 2 to 10 per cent of phosphoric acid and 8 to 12 per cent of potash. Onion fields are divided up into comparatively small "lands." The seed bed is made as level as possible. The difference between our landscape and landscape is small, but there is a great difference in the holders of the land.

—Emerson.

Ohio Onions

R. W. JORDAN, '14

THE onion takes its name from the city built by Onias in 173, B. C. It has been in favor with the Jews and Egyptians for centuries and is still gaining in popularity on our American markets as statistics will show. No vegetable known to the northern trucker is receiving more attention at the present time than the onion. This enthusiasm is partially the result of a low crop yield followed by the phenomenal prices of the past season. Even the farmer who had a hundred or a few hundred bushels to sell received as much as twenty-five cents per bushel more because of the short crop.

Quite frequently our attention has been called to Texas onions. This section is just thru shipping her season's output of 3500 car loads. At the height of the season six special onion trains rolled north in a single night, but the north is not outstripped by Texas. Ohio alone produces about the same number of cars annually and she ranks second among the north central and New England states. Nor do Texas onions interfere or compete with the northern crop for the latter is marketed during the fall and winter months before Texas onions are harvested.

In the northern onion growing sections the crop for commercial purposes is grown almost altogether on muck soil. Areas of undecomposed vegetable matter are scattered over the northern part of our own state. In southwestern Ohio is found a type of muck similar to the prairie muck of Illinois. Not all of the muck lands are in cultivation by any means for the onion business like any other has its "ups and downs." In some districts muck land is valued

at \$500.00 or more per acre, whereas in other places land having equal advantages is available at prices of ordinary farm lands. Again you will find dozens of onion farms abandoned,—purchasable for a mere song. The man element more than any other factor determines the value. There are, however, some muck soils that simply will not grow onions even with the best of skill. Others will produce record-breaking crops with ordinary care. Cases are not rare where such differences may be found existing on the same farm. No one can tell what the soil will do until portions have been tested with a crop.

Onion fields should be plowed in the fall more particularly to facilitate early planting in the spring. Manure is not used on some farms. This practice is due to the belief in the theory that the cost of freeing the lands of weeds resulting from applications of manure costs more than its beneficial effects are worth. Others make occasional applications because they believe that the bacteria in the manure are especially beneficial to the inert organic matter composing muck soil. In either case large applications of fertilizers are profitable. The commercial manures are applied at the rate of 800 to 1200 pounds per acre. Those employed contain from 4 to 6 per cent. of nitrogen, 5 to 10 per cent of phosphoric acid and 8 to 12 per cent of potash.

Onion fields are divided up into comparatively small "lands." The seed bed is made as level as possible. The seed is drilled in by hand during the early part of April. The rows are spaced fourteen inches apart. Hand

cultivation is commenced as soon as the young shoots appear above the surface. Cultivations are repeated according to soil and weather conditions, usually six or eight times, until it is impossible to get thru the rows. Weeding is accomplished by hand.

During July the onions commence to "bottom up" and by the latter part of August they have taken on the color characteristic of the variety and the tops die down. The tops are nipped

ping; one district grows a large portion of red onions, another grows nothing but yellows; one district has a few growers controlling a large acreage, another has a large number of growers, each controlling a few acres; one district is characterized by its thrifty and prosperous looking gardens, another is the opposite; one district has its insect troubles, another has diseases to combat whereas others have neither. Each has its limitations as



THE ARMY OF WORKERS.

off by topping machines operated by gasoline power. The onions are then marketed or placed in storage houses for later shipment. The majority of growers prefer to sell their crop outright rather than take storage risks and market contingencies.

Ohio is divided into several distinct onion districts. Each has its peculiar characteristics and its own way of doing things. One district uses onion toppers and finds them indispensable, another prefers hand methods of top-

ping as well as its good points. An observing grower should, and a progressive grower will, analyze his own situation. He will eliminate the weak points and incorporate the good ones from other districts as far as possible. The onion situation is constantly changing and there is always something new to learn about the business—something you hadn't thought of before. The wide-awake grower will be on the alert for the newest ideas, and in practicing the best will keep ahead of the rest.

The Farm Woodlot

W. J. GREEN

Chief of Department of Horticulture, Ohio Experiment Station

"I AM going to clean up my woodlot as soon as I can get the time."

This sentiment is often expressed by farmers when the subject of forestry is broached. By clearing up the woodlot they mean that the underbrush, good and bad, is to be cut out so as to allow the grass to grow. Some seek to make an open grove of their woodlots, after the manner of the old English parks, but the majority think only of the pasture, and to help the transformation from a seemingly slovenly condition to one of neatness—from one of apparent uselessness to one yielding an income. All kinds of live stock are turned in to eat off the sprouts and tender seedlings. This is the kind of forestry which has been handed down to us through several generations.

Fifty to one hundred years ago there were more forest trees than were needed, but even then most people prized the sturdy oaks and other good timber trees and considerable pains were taken not to destroy them needlessly. The so-called underbrush, however, was always regarded as useless. No one thought of a small tree of any kind as worth saving and giving room to grow until it would make a sawing. The small tree was a weed, a nuisance to be gotten rid of in some way, hence the "clean up" idea became prevalent. It still persists, and the numerous grove-like woodlots bear witness to the fact.

Ask a farmer what annual value per acre he puts on woodland pasture and it may puzzle him to give an answer. He knows that the small quantity of grass which grows in the shade of trees is almost insignificant, nor is it nutritious. He may get the value of fifty

cents per acre or less and possibly he may confess that it is worth nothing. Not a few agree that cattle do not thrive in woodland pastures, hence it has no value for them.

Curious, is it not, that farmers have taken pains to make woodland pastures that are worth nothing in the end?

Grant that such pastures are worth enough to pay the taxes, how about the interest? How many acres of such land have we in Ohio? No one can answer, but there are several millions. The annual loss by holding them in this condition is enormous, in the aggregate.

What is the remedy? In many cases there is none; the damage is beyond repair, except to cut off the remaining trees and make a real pasture of the land. It is difficult to make a woodlot of much value after the grass has crept in so as to form a sod.

There are, however, many timbered tracts where there is but little grass and many small trees of various species. Some are good and others worthless. Some may need to be cut out and vacancies may require filling, but first of all, exclude live stock. Cattle and sheep have done more damage many times over to our young forests in this state than fire.

It is not my purpose to give the methods to follow in caring for a young forest, nor to estimate the probable value of a well-stocked tract of young growing trees. I wish simply to call attention to the fact that the majority of our so-called forests are merely open groves of trees which do not and never will have any timber value, because the forest conditions have been destroyed. This destruction has been wrought be-

cause of the old notion, which still persists, that young trees are worth but little, coupled with wrong ideas regarding the care which should be given them.

I wish also to emphasize the necessity of a propaganda which will make clear the fact that we are not only pursuing the wrong course in the neglect and destruction of the young trees in woodlots, but that the right and rational course is very simple and easy. It is well to plant forest trees, but it is better first to protect and care for those which are already planted.

If the existing woodlots which have in them young thriving trees of good species were given the proper care there would be added to our forest area more acres than we can hope to get planted for several decades. To withdraw all such woodlots from pasturage would be no hardship to any one, nor would the added cost of care be felt by many. In no department of practical forestry is there any greater opportunities for good and useful work than in creating a sentiment in favor of a rational treatment of our farm woodlots.



Courtesy The Hartman Stock Farm.

Smile O voluptuous cool-breath'd earth!
 Earth of the slumbering and liquid
 trees!
 Earth of departed sunset—earth of the
 mountains misty-topt!
 Earth of the vitreous power of the full
 moon just tinged with blue!
 Earth of shine and dark mottling the
 tide of the river!

Earth of the limpid gray of clouds
 brighter and clearer for my sake!
 Far sweeping elbow'd earth — rich ap-
 ple-blossomed earth!
 Smile for your lover comes—
 Prodigal you have given me love—
 therefore I to you give love!
 O unspeakable, passionate love!

—Walt Whitman.

The Agricultural Week in Berlin

DEAN H. C. PRICE

Written in Halle a Saale, Germany

EVERY winter, the latter part of February, Germany has a round-up meeting of its agricultural organizations in Berlin. This agricultural week is to the German Empire what our agricultural week is to Ohio, only the attendance is much larger. This year it was estimated that between 8,000 and 10,000 persons were in attendance at the various agricultural associations that met at this time. It was a splendid opportunity for me to get an insight into the various German agricultural organizations.

So far as the programs were concerned, they were not essentially different from the programs of similar organizations in America, except they have many associations representing interests that we do not have, such as fish culture, moorland culture, sugar beet culture, the manufacture of denatured alcohol, and various others. On the other hand, we have many more live stock breeding associations, particularly of the special breeds. Among all the different meetings which were held during the week, of which there were probably fifty or sixty, there were only two or three breeders' meetings, the Merino Sheep Breeders and one or two horse breeders' associations. The breeds of live stock have not been developed in Germany to anything like the extent they have in England and America.

The German Agricultural Society.

The central organization of these mid-winter meetings is the German Agricultural Society (*Deutsche Landwirtschafts-Gesellschaft*), which is probably the largest organization of its kind in any country. It now has a

membership of nearly 19,000, notwithstanding the annual membership fee is five dollars. It is entirely a private organization and receives no state or government aid. Although it was not established until 1884, it already has property valued at almost a million dollars and has its own building in Berlin. It is a non-political organization and its purpose is the promoting of the scientific and practical agriculture of the empire. This is done through publications, and meetings and expositions that are held under its auspices. The work of the Society is divided into eight different departments, as follows: Soils and Crops, Live Stock, Farm Management, Horticulture, Farm Machinery, Plant Breeding, Fertilizers and Colonial agriculture. The last has particular reference to the German colonies in Africa. The Society also has over forty special standing committees which are assigned specific subjects in the various departments.

This organization is a very strong factor in promoting the agriculture of Germany and their publications are exceedingly valuable. Their work embraces anything that will help German agriculture. They not only publish their annual report, which appears in four quarterly numbers, but also a weekly publication and special bulletins. These bulletins vary in size from twenty or thirty pages to good-sized books and the number already published has reached about 200. Several of them are reports on American agriculture. The bulletin of the U. S. Department on Swine, by George Rommel, has been translated as a bulletin in this series.

So much for the organization, and now how about the men who make up the organization? To me, the most interesting part of the sessions was to see the class of men attending. Here was the greatest contrast between similar meetings in America. The sessions were regularly attended by from 500 to 1000 persons and were held in palatial rooms in the largest wine restaurant in Berlin. The men were not of the type of the American farmer who works with his own hands, because the German farmer, even of moderate means, does little manual labor. Very few of the men in these meetings looked as though they had ever done any farm work. They represented wealthier and larger farmers of the country. The agriculture of Germany is largely one of contrasts, and there are a great number of very small farms in Germany. In fact, three-fifths of all the farms are less than five acres in size. On the other hand, there are many very large farms and over 10 per cent of the total area of Germany is owned in farms that are over 1250 acres in size. Many of the large farmers are very wealthy and the members of the German Agricultural Society seemed to feel perfectly at home in their luxurious surroundings at their annual meetings.

Rural Life Conferences.

The most interesting sessions of the entire week to me were the meetings of the German Rural Life Association. They are doing what we have been trying to do in America through our rural

life conferences and country life associations. This association, which is a national organization, is not a part of the German Agricultural Society, but held its sessions the same week. It has been organized for sixteen years and at the meetings this year there were between 400 and 500 in regular attendance. The audiences were made up of quite a different class from those found at the other meetings, nearly one-half were women, the rest preachers, teachers, business men and farmers. The best addresses I heard were given at these meetings and they were on the same subjects which we are discussing in America—the improvement of the local neighborhoods, the furnishing of amusement for the young people, teaching the young people to love the open country, etc. This organization furnishes exhibits of good pictures that are sent from community to community, somewhat on the plan of our traveling libraries. They also have stereopticon and lantern slides covering a large range of subjects that they use in the same way. Then, in their literature, they have a large amount that has been prepared for this kind of work, some of it giving accounts of what has been accomplished and some of it suggestive of what may be done. Two semi-monthly papers are published, devoted entirely to this line of work. It was a surprise to me to see how much has been accomplished and what active, earnest work is being done along this line. It is a thing we can well afford to pattern after in America.

For he who blesses most is blest;
And God and man shall own his
worth
Who toils to leave as his bequest
An added beauty to the earth.

—Whittier.

Ye rigid ploughmen! bear in mind
Your labor is for future hours.
Advance! spare not! nor look behind!
Plow deep and straight with all your
powers. —Horne.

Tree Species Useful for Reforestration in Ohio

EDMUND SECREST
Forester, Ohio Experiment Station

OHIO, as well as most other states, unfortunately has but few tree plantations from which to obtain information relative to the many problems of silviculture, which now confront the American forester. These plantations are not only limited as to number, but also as to species, types of soil, conditions of planting, spacing, management, etc., so that first hand information is indeed very meagre.

In consequence of this general lack of data the Experiment Station adopted the policy of establishing experimental plantations of every species having any forestry value whatever, and under different conditions of soil, spacing, mixtures, etc. Whatever the results of these plantations, they will sometime answer the questions the people will be urgently asking.

The few brief notes I am presenting here following are those I have gathered from observation in various parts of Ohio. The data gathered is necessarily limited and confined mostly to range, adaptability to soil conditions, rate of growth and in many cases has been taken from individual specimens or groups of same.

POST AND POLE USES.

Black Locust. Adaptable to a variety of soils. Does not tolerate wet situations, nor thrive well on shaly banks. Is intolerant of shade, rapid growing, sprouts prolifically from root and stump. One year seedlings best for transplanting in permanent plantations. Easily transplanted and on account of rapid growth often desirable for planting among thin stands, and in open spaces in woodlots. Sometimes desir-

able for reclaiming permanent pastures, and checking erosion on hillsides. Wood very durable in contact with soil.

The tree is subject to the attack of the locust borer, which in some cases does serious harm to plantations. In plantation, trees should be set 6 x 6 feet.

Catalpa. Requires quite fertile soil, and attention in the way of cultivation and pruning whenever possible. Of rapid growth. Wood fairly durable, light and porous. One year seedlings should be used in permanent planting. If planted in brush or cutover land larger sizes may be desirable. In pure planting the trees should be set about 4 x 8 or 5 x 10 feet. It is a good plan to mix the Russian mulberry with the catalapa, since the latter is thin foliaged, and hence does not shade the ground sufficiently to exclude grass. In mixed planting the species can be alternated in rows.

Osage Orange. Of slower growth than species previously mentioned. The wood is probably more durable than any indigenous or exotic species found in the state.

It is quite hardy, occasionally winter killing on low fertile ground. One or two-year-old seedlings can be used for permanent planting. In pure plantation it is better to space the rows wider apart than the trees in the row. Ten foot rows are quite satisfactory, with the trees three or four feet apart in the row. This makes pruning and harvesting easier, since the thorns of the specie makes its care and handling rather difficult.

It is tolerant of shade and on account of its inclination to grow bushy, its mixture with a species of somewhat

more rapid growth, and lighter foliage, is desirable.

Russian Mulberry. This species is inclined to grow bushy on most Ohio soils. On light porous subsoils it does quite well. Used in mixture with other species it is often times forced up to fairly good form. Its growth is quite rapid and the species is to be recommended for use in mixture, as a filler. It is

In mixture the larch can be planted alternate with its associate, 6 x 6 feet. The larch is commendable for planting on the heavier soils in Western Ohio. In plantation it usually grows very straight and spindling. Two-year-old seedling or three-year-old transplants are probably best for ordinary planting, which should be done in the fall of the year or very early spring, since the



Courtesy The Hartman Stock Farm.

quite shade enduring and hence can be planted with light foliaged species equal or more rapid in growth. When planted pure, the mulberry should be spaced not farther than four or five feet each way.

European Larch. A European deciduous conifer of rapid growth, with wood of only moderate durability. It can be grown in pure plantations or in mixture with other species. It is very intolerant of shade, and does best when mixed with a heavy foliaged tolerant species, as mulberry, ash, or red maple.

buds start early. The larch responds very markedly to cultivation.

TREES FOR WIND BREAK.

In Eastern Ohio or on the freestone areas, White, Norway and Scotch pines, Norway and Douglas spruce may be used among the evergreen. The western portion of the state, comprising the heavy soils, are limited more or less to the Scotch and Austrian pines. Of the two, the Scotch pine grows the faster at the outset, but in form it is not as desirable as the Austrian. Both are

absolutely hardy, and free from insect attacks.

Whenever there is sufficient space it is desirable to have two rows of evergreens if possible. In such case the rows should be about eight feet apart and the trees eight feet apart in the rows. It is best to have the trees of the two rows alternated.

When the white pine is used, it is desirable to have a row of Norway spruce on the windward side, since the former sometimes grows so rapid and spindling that it is liable to storm injury, as is the case of such a planting on the Experiment Station farm. The branches of the Norway spruce are very rigid, and resistant to wind, hence it is quite desirable for wind-breaks.

Among the hardwoods the Russian mulberry, catalpa, red maple, ash and elms are desirable for shelter belts. In the case of hardwoods, however, several rows are advisable, since in the winter, at the time protection is most needed, the hardwoods are less effective without their leaves. A belt of four rows would probably be most satisfactory, unless more area could be given. The Russian mulberry fruits prolifically, and for that reason is quite desirable about an orchard. It is entirely evident, however, that an evergreen windbreak is superior in effectiveness and requires less space in proportion to its effectiveness.

TREES ADAPTED TO OLD FIELD SITES AND ERODED LANDS.

The aggregate of waste lands of this type in Ohio amounts to many thousand acres. What species are the most profitable to plant in such situations, we are unable to state definitely. We do know, however, that certain species are adapted to such conditions. In parts of Southern Ohio the pines will be found to encroach upon the old field areas.

There are three species of pine indigenous to this section, the most desirable being the **shortleaf pine**, *pinus echinata*. The pitch pine, *pinus rigida*, probably predominates, although it is a smaller tree. The shortleaf pine would no doubt be of excellent utility in checking erosion on hillsides. It thrives on dry ridges and hillsides. It is one of the most valuable of southern pines, and is of rapid growth.

Why its merits have not been more generally recognized is surprising. The White, Norway and Scotch pines might also be used in such locations. The latter grows crooked, and can be better controlled by close planting.

The **Red Oak** should and probably will figure most prominently in large operations where the soil is of fair fertility. It is not adapted to dry, shaly exposures. Moisture conditions influence its distribution more than soil fertility. Red oak is a rapid grower, quite free from natural enemies and to a large extent can be made to fulfill the same purposes for which white oak is used.

It is more economical to plant the red oak acorns direct than to grow the seedlings in the nursery. They should be planted in the fall of the year, and spaced about four feet each way. Some prefer to put two acorns in each hole. This insures a more uniform stand. Red oak plantations require very little care, excepting where weeds or undergrowth interfere with the small seedlings at the start. White pine, sugar maple and chestnut may be planted in mixture with red oak, after the seedlings have a start; although the species does well in pure plantation.

The **Chestnut** is a profitable tree to plant in many parts of Southeastern Ohio, but on account of the bark disease it can scarcely be recommended at this time.

The **Tulip Tree** or **Yellow Poplar** is one of the most valuable of timber trees, but it is quite exacting in its demands on soil and moisture.

It is well adapted to coves and northern or eastern exposures. It is quite rapid growth, intolerant of shade and will thrive best when used in mixture with some heavy foliated species of equal or less rate of growth. The Norway spruce would be desirable for this purpose, likewise the Russian mulberry.

TREES FOR AGRICULTURAL AREAS.

The white ash, tulip poplar, catalpa, and black walnut are standard species for tree plantations in the better agricultural districts. The white ash and tulip poplar apparently are well adapted to mixed planting and can be used together. They can safely be spaced 6×6 feet.

Black walnut can be grown from the nut, which should be planted in the fall. The nuts should be spaced about four or five feet apart. After the trees are four or five feet in height, the plantation should be interplanted with sugar maple. Walnut apparently does not thrive in pure planting.

DISTANCES OF PLANTING.

Little is really known about the

proper planting distance for the various species. This distance must necessarily be varied for different species and might even be desirable for the same species under different conditions of soil and moisture. It is a safe rule, however, to adhere to 6×6 feet spacing, which requires about 1,200 trees per acre.

SIZE OF TRANSPLANTS.

Whether seedlings or transplants are used the size of same must necessarily vary according to conditions. When cultivation can be carried on, smaller sized seedlings may be used, with more economy. But where there is a struggle with undergrowth or in recent cutover land, it is best to use larger sized stock, even though the cost of planting is proportionately higher.

It is almost always desirable to use evergreen transplants in Ohio. They are more certain to grow and thus preserve a uniform stand in the plantation. Two or three-year-old seedlings may be used where considerable care may be given them, but surely not in brush and cutover lands.

There is much to be learned in tree planting, but no knowledge is as good as that which comes direct from the actual demonstration itself.



“Ohio State” Day at the Fair

A committee of students and alumni are working out the details for “Ohio State” Day at the Ohio State Fair. Wednesday of the fair will be designated “Ohio State” Day, in that on that day occurs the students’ judging contest in which so many Ohio State people are interested. It is hoped to make this year’s contest the largest and most profitable in the fair’s history. In addition to the liberal cash prizes of the State Board, Mr. W. K. Schoepf will probably duplicate this year’s elegant trip for the twenty highest contestants who are members of Saddle and Sirloin Club.

“Ohio State” Day is inaugurated in the hope of getting all students and alumni of the College of Agriculture

together for a good time, better acquaintance, and the development of a booster spirit for the college.

Secretary Sandles has offered to bring a prominent speaker for the occasion. It is planned to have all Ohio State men on the grounds sit down to dinner together. You are assured a good time and are urged to come.

Register at “The Agricultural Student” booth which will be the official headquarters for all Ohio State men. There you will receive full information as to details.

Every loyal Ohio College man who can possibly come will be expected to report early Wednesday morning at “The Student” booth. Be there!



Courtesy The Hartman Stock Farm.

The Horse Show

On Saturday, May 18th, the Saddle and Sirloin Club staged its first (annual) horse show in the University Glade. An ideal setting called for an ideal show, and ideal it was. The crowd was large and enthusiastic, the seats were filled. The day was perfect. The band was at its best. The ladies were there in their finest creations, and withal the show had a distinctly metropolitan aspect.

The judges did their work in an eminently satisfactory manner. Prof. F. R. Marshall passed on the roadsters, and together with Lieut. Rittenhouse, U. S. A., the saddlers, etc. Supt. David M. Fyffe tied the ribbons on the drafters and unlike Minnesota exhibitions (as described in our last issue) not a single sign of disapproval was evidenced. Donald R. Acklin, '08, Perysburg, judged the Hackneys.

The greater part of the exhibition was by local talent, but the Delaware contingent of A. C. Long was strongly in evidence. Troop B, "the Governor's Own," O. N. G., gave a thrilling exhibi-

tion of horseback riding and equestrian stunts.

The sensation of the show was uncovered in W. M. Ritter's team, The Connoisseur and Madame Sherry, which showed in several classes and annexed several cups. A. C. Long's saddle stallion, Montgomery Boy, made a showing long to be remembered. Frank Tallmadge's mount, formerly a familiar figure on our own campus as the mount of Mr. Chisholm, was at his best and walked to the top of the largest class of the show. Booth's Indian Princess, and Anna M. Byerley's standard-breds attracted much attention.

The show was a complete success and the Saddle and Sirloin Club in such affairs seems destined to fill the proper niche.

After the show, Frank Tallmadge made the club a donation of ten dollars. This will be placed in a fund to assure a show for next year.

(It is hoped that next year, reporters may be granted the privilege of the ring, so that a full and detailed report may be given.)





OF

OHIO STATE UNIVERSITY.

A Monthly Magazine Devoted to Agricultural Education.

Published by the Students in the College of Agriculture.

Established, 1894.

Subscription Price, 75 Cents the Year.

Entered at the Postoffice at Columbus, Ohio, as second-class matter.

STAFF:

S. R. GUARD, '12, Editor in Chief.**G. G. HAYES**, '12, Business Manager.

O. M. KILE, '12, Assistant Editor.

B. A. WILLIAMS, Asst. Bus. Manager.

O. H. POLLOCK, '12, Art Editor.

ASSOCIATE BUSINESS MANAGERS.

C. S. WHEELER, '12, State Editor.

R. W. McCauley, '13.

ASSOCIATE EDITORS.

W. Bauchmiller, '14.

G. Gusler, '12.

J. W. Henceroth, '14.

R. P. Dowler, '14.

C. R. George, '12.

R. W. Jordan, '14.

A. J. Henderson, '14.

B. A. Schnell, '13. E. R. Hoftzyer, '15.

COLUMBUS, OHIO, JUNE, 1912.

Editorial

The month of brides and roses is upon us, the month of sweet girl graduates and diplomas, of farewells **JUNE**. and partings, of vacation and cultivation,—cultivation of land and of soul. Because it is the beautiful June, let us be glad of heart; let us attune our soul to all the loveliness of Earth, to all Nature's symphonies which greet us in the countryside, to all the matchless splendor of the June sky at eventide! Let us catch the June-time spirit,—universal happiness, by carrying to some other heart the June-time message, making it as lightsome as our own.

Head your Memoranda with this:
**“Horticultural and Forestry Building
 —Boost It!”**

The June number of “The Agricultural Student” establishes a precedent in the management of **THE ISSUE**. the publication. Herefore, in the memories of most of our readers there have been but nine issues the year. We believe there should be an issue for each month of the college year, and this plan is to be followed in the future. The June number is in the nature of a surprise to many, and we hope a pleasant one. Pass the good word along and help us grow.

For the illustrations which embellish this issue we are profoundly grateful to The Hartman Stock Farm, Columbus, and to the Department of Agricultural Extension of our own University.

It is time now for the Seniors to go
 afield, to pass out into the great field
 of life, plowing and
THE SENIORS, sowing and reap-
GOOD-BYE. ing. By far the

largest class in her
 history stands ready for the college
 crown of approval, the diploma. Some
 sixty men who for four sweet years have
 traveled together, stand now at the
 parting of the ways. Each of them
 is both glad and sad,—glad of a pur-
 pose achieved, glad for the coming
 chance to prove himself, but sad be-
 cause of the partings and the severing
 of the ties which four years' association
 have woven so deftly and so strongly.

Wherever we are and whatever we
 do we shall think often of the friends
 of college days. We shall pause once in
 awhile from the labor of the field and
 fly back on reverie's wings to the be-
 loved haunts that were ours. And
 will not that stir in us a desire to do
 something tangible to help our Alma
 Mater?

We part, gentlemen, but it is for our
 real field of endeavor. We enter it
 with careful preparation, a prepara-
 tion which should make our efforts
 fruitful, and our task a happy one.
 Altogether then—for success, happi-
 ness, and the Ohio College of Agricul-
 ture! Good-bye and Good Luck!

“Ohio State” is the name which
 conjures up many a fond memory and
 discloses many a tie, in
ALUMNI the mind of every alum-
INTEREST. nus and former student
 of our institution. Ev-
 eryone who has been thru her portals
 loves the Alma Mater. But our interest
 should be deeper than mere words or
 heart throbs. It should be capable of
 exacting labor and sacrifice. A true
 son of Ohio State will never let his in-

terest in her wane. When Ohio State
 is in need in any way he will respond.
 Let the authorities know you are inter-
 ested, let them realize you stand ready
 to answer any call for help. Keep your
 interest alive, dear alumnus, raise up
 your voice to let us know that it is
 alive, that you appreciate what is go-
 ing on, and stand always ready to aid
 in every advance movement.

The horticultural students are al-
 ready looking forward to next year's
 Apple Show. The
APPLE SHOW, spirit of exposition
NO. 2. is in the air, and
 the fruit growers
 doff caps to no one. Prizes will be
 more liberal than ever. The show will
 attract statewide attention. So can
 you, fellow student, if you begin soon
 to keep a sharp lookout for the kind
 of fruit that wins.

Since judging contests were first in-
 augurated, Ohio State has been a re-
 spected and feared con-
JUDGING testant. Her dogged fight-
TEAMS. ing spirit, and determina-
 tion to win, have meant
 much for the institution, in more ways
 than one. It fires alumni with pride
 and students with determination. Let
 not that spirit wane!

Now is the time to build successful
 judging teams for next year. The ma-
 terial is here, let it assert itself. Let
 your convictions be known, a coach
 will be ready. Let people know you
 are willing to work and to sacrifice in
 order to make the team. It means
 much to you personally, the experiences
 are invaluable. It means added pres-
 tige for your Alma Mater. The result
 will be that in both the dairy judging
 and the live stock judging contests,
 Ohio will finish in the first division.

Come out and show your colors, Scarlet and Gray.

The ten lads who were fortunate enough to be the guests of Mr. Shoepf on the trip which he gave the State Fair winners of the Saddle and Sirloin Club, will cherish the memories of his kindness for many a year. Everything that heart could desire or mind conceive for the comfort and pleasure of the party was abundantly provided. The boys are deeply appreciative of the kindnesses showered upon them and will not soon forget "the time of our lives."

In passing the management of the oldest of agricultural college publications into more worthy hands, the editor-in-chief and business manager do so with a profound appre-

ciation of the trust that has been theirs. For the opportunity of service they are deeply grateful.

The prospects for "The Student" have never been so bright in all her history. The full bloom of her promise is not realized in a single season. There must be a steady growth and a budding. The coming year you will see the best college publication you have known. We thank you for your loyal support and hearty co-operation in the past. We are sure you will continue it. To do so means that you are to know the fragrance of the full blown blossom,—for the 19th volume of "The Agricultural Student" will be a revelation to you.

But now comes the time when four of our staff must leave your service for other fields of endeavor. We thank you, gentlemen, for the associations



THE STAFF, 1911-12.

Standing—Henderson, Bauchmiller, Pollock, Hoftzyer, George, Henceroth, Gusler, Jordan
Sitting—McCauley, Hayes, Guard, Kile

which you have made possible. The parting is as sad as inevitable. But,—fare well and fair weather!

The first horse show of The Saddle and Sirloin Club was unqualifiedly a grand success. Everything went off perfectly. The club is to be congratulated. It is doubtful whether such an affair could have been so successfully executed on any other agricultural college campus in America. Arrangements have been completed for a similar show next year. As in the case of Corn Show and Apple Show, we may conclude, if you have anything of blue ribbon standard in the equine line, keep it carefully groomed until next year's "Ohio State" Horse Show. At any rate, "Be a Booster."

The progressive spirit which has claimed Ohio State for its own has inaugurated an Alumni Day at the great Ohio State Fair. At this time it is hoped that as many as possible of Ohio Agricultural College students, both past and present, will congregate at the Fair. "The Agricultural Student" booth will be the rendezvous, so as soon as you arrive, inquire there as to details. "The Student" booth will be easy to find, it will be one of the most conspicuous

places on the grounds. The wonder is that this affair should have been neglected for so long. Come and renew old friendships, have one of the best times ever, and boost the Ohio College. Be there, we'll miss you if you're not!

When Professor F. R. Marshall leaves us at the close of the school year to become head of California's Department of Animal Husbandry, we shall have sustained a great loss. Only we whom he has taught, so faithfully and so well, know what we and our institution are losing. But we bid him God-speed in his new and broader field of endeavor. In the imprint he has left on the characters and minds of scores of young men of Ohio he has erected a lasting and indestructible monument to the esteem in which he is held as scholar, teacher, and friend.

The second engagement in "The Battle of the Kerneds," will take place next year under the auspices of the class in agronomy 109, "Seeds and Market Grains." The class bids fair to be a record-breaker, and so does the Corn Show. Be on the lookout for blue ribbon corn, and prize winning grain, and come back determined to win or give the other fellow "an awful run for his money."

STAFF 1912-13

O. M. KILE, '12, '13, Editor-in-Chief.

R. W. Jordan, '14, Assistant Editor.

R. M. Salter, '13, Art Editor.

J. W. Heneeroth, '14, Agr. High Schools.

Associate Editors:

G. B. Crane, '13.

E. R. Hopteyser, '15.

B. A. Snell, '13.

B. A. WILLIAMS, '13, Business Manager.

A. J. HENDERSON, '14, Asst. Bus. Mgr.

Associate Business Managers:

W. Bauchmiller, '14.

R. P. Dowler, '14



NEWS NOTES



THE FARMERS' AND HOME MAKERS' SCHOOL.

Next winter, from Feb. 3-7, the farmers of Ohio, their wives, sons, and daughters will meet at Ohio State University for a feast of good things, in what is known as "The Farmer's and Home Maker's School." The Extension Department will have charge of this work and the entire instructional corps of workers will be called in to assist in entertaining and instructing those who attend. In reality it is to be an enlarged Extension School with all the equipment of the University placed at the disposal of the visitors.

This is the first attempt of this kind and promises to be very profitable for all who attend. The schedule will be arranged so that part of this time will be devoted to instruction in Animal Husbandry, Soil Fertility, Horticulture, Crop Production, Home Making, Rural Problems, etc. A fair portion of the time will be spent in inspecting the University, the State House, General Assembly, manufacturing plants and other points of interest about Columbus.

Not the least will be the special sessions for the boys and girls from 12 to 18 years of age.

Many illustrated lectures will be given, points of interest visited, separately and with the older persons and special efforts made to show the boys and girls a good time.

Every farmer should make a special effort to be here and bring his family.

Smith E. Sweet is engaged in dairying at Middlefield, Ohio.

Professor O. M. Johnson, '08, who since his graduation has been in the Extension Department, goes to West Virginia on July 1, where he has a position in the Experiment Station. Mr. Johnson will have charge of Farm Economics at a salary of \$2000 per year. This is an excellent opportunity and a recognition of high merits and ability.

The University is starting a nursery row, intended to take care of future plantings on the campus. Quite a bit of shrubbery has already been placed in the plot and will be permitted to grow to sizable condition. All future plantings will be made under the direction of Prof. Wendell Paddock.

In response to the demand for a course in Plant Breeding based on scientific lines, the Botany Department will offer a course in Plant Genetics for the first time next year. A study of genetics is based on both botany and zoology and it will be necessary that the student have preparation in the elementary courses of these branches.

Cleveland has been selected as the place for the national experimental laboratories for testing the color of butter and oleomargarine.

Prof. C. H. Goetz, of the Forestry Department, has an article entitled, "Forestry at the Ohio State University" in a recent issue of American Forestry. The article is finely illustrated with campus scenes and includes a picture of the old sycamore tree in the hollow which the students doctored up with concrete.

WHAT THE SENIORS WILL DO NEXT YEAR.

A Partial List.

W. E. Dobbs—Manager of Fox Hollow Farm, near Springfield.

C. A. Waugh—Editorial staff of The Ohio Farmer at Cleveland.

E. H. McKay—Operate the home farm, Clovermeade, near Wilmington.

J. M. Bell—Teach Agriculture in high school at Leroy, Ohio.

M. L. Nichols—Operate home farm near Bellevue.

S. R. Guard—Editorial staff of The Breeders' Gazette, Chicago.

G. G. Hayes—Business staff of Farm Press, Chicago.

F. F. McFarland—Teacher of Agriculture in secondary school; for summer of 1912, professor of Agriculture, West Lafayette College.

M. F. Detrick—Operate home farm near Bellefontaine.

C. G. Fieldner—Lumber business and farming at Ney, Ohio.

C. C. Engle—Soils work for private firm under the direction of Cornell University, Ithaca, N. Y.

A. M. Bell—Operate own stock farm, Bell View, near Utica.

J. A. Taylor—Operate home farm near Paoli, Tuscarawas Co.

T. G. Phillips—Graduate work in Dept. Agricultural Chemistry.

C. B. Clevenger—Graduate work in Dept. Agricultural Chemistry.

O. M. Kile—Graduate work in Dept. Agricultural Extension.

A. H. Benton—Graduate work in Dept. Rural Economics, Penn. State College.

G. R. Rinehart—Graduate work (general) at Ohio State University.

C. S. Wheeler—Operate home farm near Paulding.

L. L. Heller—Teach Animal Husbandry and Dairying.

O. A. Jamison—Manager of large creamery at Cardington, O.

Louis Boving—Operate home farm near Carroll.

W. W. Brownfield—Farming and dealing in Pennsylvania coal lands.

J. F. Cox—Orchard investigation work for Ohio Experiment Station.

O. P. Dill—Milk condensing business in Northwestern Ohio and Michigan.

A. F. Elliott—Operate own farm near Plain City.—Reliable information states that wedding bells will soon be ringing.

C. M. Fritz—Chemist at Ohio Experiment Station.

H. C. Hoyt—Operating farm near North Fairfield.

W. E. McCoy—Superintendent of large ranch and land project in New Mexico.

R. W. Kelley—Landscape gardening, tree surgery, etc., Columbus.

V. C. Smith—Teach Agriculture in secondary school.

C. B. Durham—Orchard business, Nova Scotia.

L. E. Melchers—Plant pathologist at Ohio Experiment Station.

V. E. Brubaker—Landscape gardening, tree surgery, etc., Columbus.

D. C. Mote—Investigation work on parasites of domestic animals at Ohio Experiment Station.

G. M. Worman—Animal Husbandry investigation work.

R. R. Thomson—Operate home farm near Foster, Ohio.

C. R. George—Study two weeks at Union Stock Yards, Chicago; Graduate School of Agriculture, E. Lansing, Mich., 1912; teach Animal Husbandry.

J. P. Hershberger—Operate home farm near Lancaster.

A. C. Brookley—Teach Agricultural High School in Minnesota.

TALK TO AGRICULTURAL SENIORS.

You owe something to the University which gives you a standing. You owe something to the State which gives to all this great University as an opportunity for developing ourselves for a selfish purpose, namely, the increasing of our earning powers. But you do receive benefits that will convince you that your investment is a good one. If you were not going to receive full value in return for the money which you will put into the Ohio State University Association, that should not keep you from enrolling in its membership. If you are not now familiar with what membership in this Association entitles you to receive, now is the time to ask questions for fear you do pass up a good bet. We want the support of the Senior men and women in the Agricultural College.

H. S. WARWICK, Sec'y.

Ex-'85—Wm. Bradford Atwood is chief of the Entomological Laboratory, U. S. Dept. of Agriculture, at Charlottesville, Va.

Ex-'86—Russell Peterson is engaged in farming near Austin, Ross County, Ohio.

'00—Mr. Charles N. Mooney, former editor of "The Agricultural Student," has accepted a position with the Ohio Experiment Station. Mr. Mooney has been connected with the U. S. Bureau of Soils since graduation and will assist in making the soil survey of Ohio.

Ex-'01—William E. Orrin is engaged in farming at McClure, Ohio.

Ex-'02—Fred Estle is operating a farm near Springfield, Ohio. His address is R. D. No. 4.

'03—Otto E. Jennings is Assistant Curator of Botany at the Carnegie Museum, Pittsburgh.

Ex-'04—O. Clarence Alleshouse is running a farm at New Bedford, Ohio.

Ex-'04—Homer B. Crall is operating a general farm near Bucyrus, Ohio.

Ex-'07—Herbert P. Dutton, a dairy farmer, is located at Hockingport, Ohio.

'08—Milford H. Bartter is located on a farm near Columbia Station, Ohio.

Ex-'08—Herbert S. Winkler is engaged in gardening at Hanging Rock, Ohio.

Ex-'12—Albert W. Mayferth is operating a farm at Winesburg, Holmes County, Ohio.

Wilford B. Smith is located on a farm near Sharpsburg, Ohio.

Seldon S. Devol is operating a rubber and banana ranch at Truxillo, Honduras, Central America.

JUDGING CONTESTS.

The Extension Department is now planning to instruct the boys of the state in stock judging so they may be able to take a more prominent part in the County Fair Judging Contests this fall. This work will be done at summer schools, through the assistance of County Fair Boards. The boys will get training in judging all classes of live stock. Thus they obtain valuable knowledge concerning the right type of animals to keep on the farm and at the same time secure a great deal of pleasure from the work.

TALK TO ALUMNI.

Again through the courtesy of the management of "The Student" I have the opportunity of addressing each of you who have gone out from the University into various activities. While I appreciate that all are busily engaged in furthering your individual interests, nevertheless I wish to ask for your serious consideration of the possibilities of service which you as members of the Ohio State University Association can render. Individually you can do little, but collectively you can be very efficient in promoting the interests of the University. If local associations of Ohio State men and woman are formed in the various counties of this State, for example, what a strong influence could be directed in the selection of men for the State legislature who would be favorable to the requests of the Agricultural College. Why do we not get busy? I am sure that membership in this organization will not only help Ohio State, but that every one will get more than value received.

There are five hundred copies of "Who's Who" left. Those new members who join will receive a copy of this publication until the supply is exhausted. Send your check now while the suggestion is fresh in your mind.

H. S. WARWICK, Sec'y.

Prof. L. M. Montgomery's class in Vegetable Gardening recently made a tour of Northern Ohio, visiting the famous greenhouse plant of M. L. Ruetnik at Cleveland and those at Ashtabula and Toledo.

The Extension Department will have exhibits at twelve county fairs this summer.

Mr. F. B. Brown, florist of the Botany Department, has been conducting some tomato experiments on hybrids of different species and varieties. These experiments will bring out some important results of both scientific and practical value.

Recently the Extension Department completed a five-grange itinerary in Columbiana County. Two extension men and one domestic science teacher were in charge. They visited farms during the day and held meetings in the evening.

Professor V. H. Davis, of the Horticultural Department, was recently tendered the position of Chief Horticulturist at the Maryland Agricultural College and Experiment Station, at an initial salary of \$2,000.00. This excellent offer comes in recognition of the high standard and the exceptional quality of the work being done by Prof. Davis at Ohio State. We are glad to be able to announce, however, that Prof. Davis promptly declined the offer.

Secretary A. P. Sandles, of the State Department of Agriculture, is arousing considerable enthusiasm in connection with the "Boys' Corn Growing Contests" which he is organizing over various parts of the state. In several counties the local merchants have pledged themselves to bear the expenses of a prize for the highest yielding acre of corn, grown by a boy, in each of the townships of the county.

The prize is to consist of a trip to the national capital on a special train conducted in regal style. Arrangements have already been made for at least one hundred and fifty boys on this trip.

Title Index

	Page		
Advanced Registry Work in Ohio—		Grange As a Factor in Farm Life, The—	
Prof. E. F. Rinehart.....	157	Prof. Alfred Vivian	33
Agricultural Trains	333	Home Acre, The—	
Agricultural Week in Berlin—		B. W. Anspou, '10	383
H. C. Price	574	Horse Show, The	581
Alumni	117	Horticultural Appreciation, A—	
Apple Show, The—		F. M. Lutts	394
R. W. Jordan, '14	213	Horticulture in Extension Work—	
As a Man Soweth—		Prof. J. H. Gourley	393
Prof. George Livingston.....	314	Horticultural Society and The New Build- ing at Ohio State—	
“Battle of the Kernels”	222	A. D. Selby	391
“Battle of the Kernels”—Official Report—		Horticultural Tour of Neighboring Cam- puses	401
C. S. Wheeler, Sec'y-Treas.....	275	How to Grow Good Tomatoes—	
“Back-To-The-Land” and its Sequel, “Stiek-To-The-Land”—		Adolph Kruhm	395
O. Merton Kile, '12.....	526	Impressions of Washington—	
Barefoot Boy, The—		The Wandering Alumnus.....	209
W. L. Graves	565	Impressions of The Winter Course in Agri- culture, My—	
Better Corn for Ohio—		J. W. Zeller, Winter Course, '12.....	263
D. W. Galehouse	315	In Memoriam	168
Boy and Agriculture, The—		II. Justin Smith Morrill—	
Joseph E. Wing.....	259	J. W. Henceroth, '14.....	269
Breeding of Draft Horses by the Corn Belt Farmer—		“Johnny Appleseed”—	
W. S. Corsa	40	W. G. Kesler, '14.....	387
Care and Feed of the Work Horse, The—		Kerry and Dexter Breeds of Cattle, The—	
Prof. B. E. Carmichael.....	450	Prof. C. S. Plumb.....	153
City Milk Problem, The—		Landwirtschaftliche Institute of The Uni- versity of Halle, Germany, The—	
O. P. Dill, '12	159	Dean H. C. Price.....	464
Cost of Living in Germany, The—		Lesson of The Premium Plate, The—	
Prof. W. R. Lazenby.....	407	Prof. Wendell Paddock	17
Country Architecture —		Life in Agriculture, A—	
J. Upton Gribben.....	514	Gilbert Gusler, 12.....	528
Country Church—		Making of a Horse Judge, The—	
Prof. W. C. F. Lippert, Winter C. '12.	265	Prof. J. L. Edmonds, '08.....	448
Coniosporium, A Warning	334	Marketing of Grain—	
Dairy Cow in Ohio, The—		J. W. McCord	323
Prof. O. C. Cunningham	37	Millets and Sorghums—	
Easter Lily—		G. Livingston	568
L. E. Melchers, '12.....	398	Motor Plow Test in Germany, A—	
Editorials—		Dean H. C. Price.....	203
44, 110, 166, 218, 278, 366, 408, 468, 530,	582	National Dairy Show—	
Experiment Station and The Farmer, The—		V. A. Place, '12.....	161
Prof. R. C. E. Wallace	30	News Notes—	
Fair Fields of Ohio—		48, 113, 169, 224, 281, 339, 411, 471, 532,	586
Prof. A. G. McCall	313	Norton Strange Townshend, a Biograph- ical Skech—	
Farmer and The State—		L. L. Heller, '12.....	99
Gov. Harmon of Ohio.....	11	“October”	91
Farm Woodlot—		Ohio at the International’—	
W. J. Green	572	B. A. Williams, '13	215
Finance and The Farmers—		Ohio Field Crop Notes of Interest.....	335
Ex-Governor Myron T. Herrick.....	202	Ohio Onions—	
Fitting Birds for The Show—		R. W. Jordan	570
William Freshley	212	“Ohio State” Day at The Fair.....	580
Foreword—		Ohio State Horticultural Society and The New Building, The—	
Acting Dean Alfred Vivian	257	A. D. Selby	391
Foreword—		Opportunities in Agriculture—	
Prof. Wendell Paddock.....	379	Pros. W. O. Thompson.....	13
Foreword—		II. Opportunities in Agricultural Rural	
Prof. F. R. Marshall.....	445	Y. M. C. A. Work—	
From Whence Our Bread—		C. C. Hatfield	102
Wood B. Economist	327		
Fruits of The Short Course—			
A. J. Bishop, '15.....	95		

	Page		Page
III. Opportunities in Horticulture—		Senior Member of "The Class of Sixty-	
W. J. Green.....	380	One," A—	
IV. Opportunities in Agriculture—Agri-		F. M. Lutts, Winter Course, '12....	263
cultural Journalism—		Soil: Ohio's Most Valuable Asset, The—	
John F. Cunningham, '97, '99.....	512	Prof. A. G. McCall.....	16
Outlook of The South, The—		Soil Moisture Problem, The—	
Reed O. Brigham, '12.....	331	H. J. Bower	271
Our Youth and Our Forestry—		Starting a Herd of Profitable Dairy Cows—	
Prof. C. H. Goetz	273	Prof. Oscar Erf	147
Passing of a Notable Greenhouse—		State Fair and The Live Stock, The—	
C. B. Durham, '12.....	398	Prof. C. S. Plumb.....	19
Philosophy of The County Fair, The—		State Fair Judging Contest, The.....	108
Prof. A. B. Graham.....	28	Tale of The Early Show Ring Days—	
Philosophy of Grain Marketing, The—		David M. Fyffe	523
J. Ralph Pickell.....	317	Training and Developing the Three-	
Plea for The Pure Bred Fowl, A—		Gaited Saddle Horse—	
Prof. Geo. D. Black.....	12	J. A. Taylor, '12.....	461
Poem—"Boost Ohio"—		Utilization of Surplus Vegetable Pro-	
Rev. George W. Brown	277	ducts, The—	
Points in Feeding Dairy Cows, Some—		Prof. L. M. Montgomery.....	96
Prof. O. C. Cunningham.....	150	Vacation Tale, The—The U. S. Morgan	
Position of The Hackney—		Horse Farm—	
Donald R. Acklin, '08.....	453	George M. Worman, '12.....	456
Pressing Needs in The Study of Forestry,		What And Why—	
Some—		A. C. Mamseyer, Winter Course, '12..	267
Prof. A. D. Selby	521	What Do Farmers Read?—	
Producing Pure Milk—		T. L. Wheeler.....	206
Harry S. Mesloh	155	What The Dairyman Must Do To Conserve	
Professor Oskar Kellner—		Fertility—	
Dean H. C. Price.....	261	Ex-Governor W. D. Hoard.....	145
Real Agricultural Fair—		"When The Sap Runs Sweet".....	345
C. S. Wheeler, '13.....	98	Winter Egg Production—	
Reforestation in Ohio, Tree Species Use-		Prof. C. R. Titlow.....	92
ful For—		Winter Episode—	
Edmund Secrest	575	Gordon Dixon, Winter Course, '12....	268
Remarks—		Yuletide On The Farm—	
Secretary A. P. Sandles.....	12	Cincinnati	345
Ruralist and Religion, The—			
Rev. J. J. Richards.....	25		

Author Index

Acklin, Donald R., '08—		Cunningham, John F., '97, '99—	
Position of The Hackney.....	453	IV. Opportunities in Agriculture—	
Anspou, B. W., '10—		Agricultural Journalism.....	512
The Home Acre	383	Dill, O. P., '12—	
Bishop, A. J., '15—		The City Milk Problem.....	159
Fruits of The Short Course.....	95	Dixson, Gordon, Winter Course '12—	
Black, Prof. Geo. D.—		Winter Episode	268
A Plea for Pure Bred Fowls.....	12	Durham, C. B., '12—	
Bower, H. J.—		Passing of a Notable Greenhouse....	398
The Soil Moisture Problem.....	271	Economist, Wood B.—	
Brigham, Reed O.—		From Whence Our Bread.....	327
The Outlook of The South.....	331	Edmonds, Prof. J. L., '08—	
Brown, Rev. George W.—		The Making of a Horse Judge.....	448
Poem, "Boost Ohio"	277	Erf., Prof. Oscar—	
Carmichael, Prof. B. E.—		Starting a Herd of Profitable Dairy	
The Care and Feed of The Work		Cows	147
Horse	450	Freshley, William—	
Cincinnati—		Fitting Birds for The Show.....	212
Yuletide On The Farm.....	345	Fyffe, David M.—	
Corsa, W. S.—		Tale of The Early Show Ring Days..	523
Breeding of Draft Horses by The Corn		Galehouse, D. W.—	
Belt Farmer	40	Better Corn for Ohio.....	315
Cunningham, Prof. O. C.—		Goetz, Prof. C. H.—	
Some Points on Feeding Dairy Cows.	150	Our Youth and Our Forestry.....	273
The Dairy Cow in Ohio.....	37		

	Page		Page
Gourley, Prof. J. H.—		Montgomery, Prof. L. M.—	
Horticulture in Extension Work....	393	The Utilization of Surplus Vegetable	
Graham, Prof. A. B.—		Products	96
The Philosophy of the County Fair..	28	Paddock, Prof. Wendell—	
Graves, W. L.—		Foreword	445
The Barefoot Boy	565	The Lesson of The Premium Plate... 17	
Green, W. J.—		Pickell, Ralph J.—	
The Farm Woodlot.....	572	The Philosophy of Grain Marketing.. 317	
III. Opportunities in Horticulture....	380	Place, V. A., '12—	
Gribben, J. Upton—		National Dairy Show	161
Country Architecture	514	Plumb, Prof. C. S.—	
Gusler, Gilbert, '12—		The State Fair and The Live Stock. 19	
A Life in Agriculture.....	528	The Kerry and Dexter Breeds of Cattle 153	
Harmon, Judson, Gov. of Ohio—		Price, Dean H. C.—	
Farmer and The State	11	The Landwirtschaftliche Institute of	
Hatfield, C. C.—		The University of Halle, Germany 464	
II. Opportunities in Agriculture—Ru-		A Motor Plow Test in Germany..... 203	
ral Y. M. C. A. Work.....	102	Professor Oskar Kellner	261
Heller, L. L., '12—		The Agricultural Week in Berlin... 574	
Norton Strange Townshend—A Bio-		Richards, Rev. J. J.—	
graphical Sketch	99	The Ruralist and Religion..... 25	
Henceroth, J. W., '14—		Rinehart, Prof. E. F.—	
II. Justin Smith Morrill.....	269	Advanced Registry Work in Ohio.... 157	
Herrick, Ex-Governor Myron T.—		Sandles, Secretary A. P.—	
Finance and The Farmer.....	202	Remarks	12
Hoard, Ex-Governor W. D.—		Secrest, Edmund—	
What The Dairyman Must Do to Con-		Tree Species Useful for Reforestation	
serve Fertility	145	in Ohio	575
Jordan, R. W., '14—		Selby, A. D.—	
The Apple Show	213	The Ohio State Horticultural Society	
Ohio Onions	570	and The New Building.....	391
Kesler, W. G., '14—		Some Pressing Needs in The Study of	
"Johnny Appleseed"	387	Forestry	521
Kile, Merton, O., '12—		Taylor, J. A., '12—	
"Back to The Land" and Its Sequel		Training and Developing the Three-	
"Stick to The Land".....	526	Gaited Saddle Horse	461
Kruhm, Adolph—		Thompson, Pres. W. O.—	
How to Grow Good Tomatoes.....	395	Opportunities in Agriculture..... 13	
Lazenby, Prof. W. R.—		Titlow, Prof. C. R.—	
The Cost of Living in Germany.... 407		Winter Egg Production	92
Lippert, Prof. W. C. F., Winter C., '12—		Vivian, Prof. Alfred—	
Country Church	265	Foreword	257
Livingston, G.—		The Grange as a Factor in Farm Life 33	
Millets and Sorghums	568	Wallace, Prof. R. C. E.—	
Lutts, F. M., Winter Course, '12—		The Experiment Station and The	
A Senior Member of "The Class of		Farmer	30
Sixty-One"	263	Wheeler, C. S., '13—	
A Horticultural Appreciation	394	"Battle of The Kernels"—Official Re-	
Marshall, Prof. F. R.—		port	275
Foreword	445	Real Agricultural Fair	98
Melchers, L. E., '12—		Wheeler, T. L.—	
Easter Lily	398	What Do Farmers Read?.....	206
Mesloh, Harry S.—		Williams, A. B., '13—	
Producing Pure Milk	155	Ohio at The International.....	215
McCall, Prof. A. G.—		Wing, Joseph E.—	
Fair Fields of Ohio.....	313	The Boy and Agriculture.....	259
The Soil: Ohio's Most Valuable Asset 16		Worman, George M., '12—	
McCORD, J. W.—		A Vacation Tale, The U. S. Morgan	
Marketing of Grain	323	Horse Farm	456
		Zeller, J. W., Winter Course, '12—	
		My Impressions of The Winter Course	
		In Agriculture	267

Subscribers

The Agricultural Student

Instructs

Entertains

Pleases

It leads in the rural uplift movement ;
Insists upon the desirability of a life in
Agriculture—**The New Agriculture** ;
Cultivates a sense of the beautiful and
aesthetic.

It numbers among its contributors the State's greatest Agricultural Authorities. Read the blue slip enclosed with this issue and note some of the good things our readers will get next year.

75 Cents NOW—\$1.00 After July 10th.

Advertisers

Do you realize that "The Student" reaches a class which constitutes the very cream of Ohio's Agriculture? A pure bred animal, an up-to-date machine, or a chemical preparation purchased by one of these men immediately becomes the center of discussion for the neighborhood, and many tentative customers are created.

YOU SHOULD NOT OVERLOOK THIS MEDIUM.

Advertising Rates Upon Application.

THE AGRICULTURAL STUDENT PUBLISHING CO., COLUMBUS, OHIO

WHEN IT'S

ILLUSTRATIONS or ENGRAVINGS

of any kind see or write

BUCHER ENGRAVING CO.

80½ N. High St., Columbus, Ohio

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

There Are Melons and Melons—

but the rich, sweet, juicy ones are those that had plenty of available

POTASH

to insure normal ripening with rapid sugar formation.

The right kind of fertilizer is a good investment. The vines will continue to bear melons of first quality instead of yielding only one or two pickings and a lot of unmarketable culls.

Supplement the compost with 1000 to 1500 pounds of 5-8-10 goods, the ammonia to be derived mainly from organic substances like blood, tankage, fish or cottonseed meal.

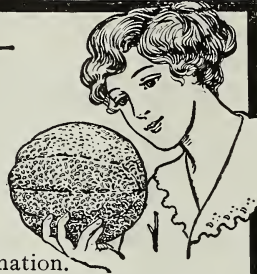
This is equally good for cucumbers, pumpkins and squashes.

Write us for Potash prices and free books with formulas and directions.

Potash Pays

GERMAN KALI WORKS, Inc.

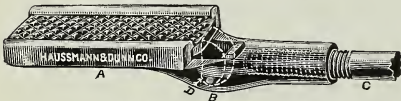
Baltimore: Continental Building Chicago: Monadnock Block
New Orleans: Whitney Central Bank Building



WE LEAD THE WORLD IN

VETERINARY INSTRUMENTS

DUNN'S "LOCK" FLOATS.



(Patent Applied For.)

ABSOLUTELY PERFECT—A MARVEL OF SIMPLICITY AND DURABILITY.

Points of Superiority

Has no screws. Will hold a long or short Blade. Easily cleaned. No parts to rust.

Requires no Special Blades.

- 824 Straight Float \$2 50
- 825 Angular Float 2 50
- 826 Black Molar Float 2 50
- 827 Concave (spoon) Float 2 50
- Set of 4 with 2 handles..... 9 00

Write for Special Circular of Dunn's Perfected Mouth Speculum

SPECIAL PRICES TO STUDENTS—Send list of wants. We will not be undersold.

HAUSSMANN & DUNN CO.

VETERINARY INSTRUMENTS

TEXT BOOKS AND SUPPLIES

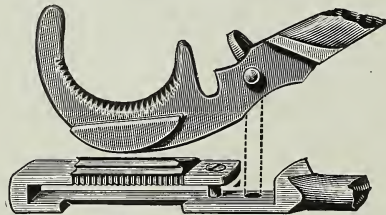
708 SOUTH CLARK ST.

CHICAGO, ILLNOIS

Write for Catalogue and Special Prices for Cash

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

DUNN'S "ASEPTIC" EMASCULATOR.



(Patent Applied For.)

(Figure 1760.)

A modification of the Dr. Geo. R. White-Haussmann Emasculator. This instrument is essentially the same as the White-Haussmann Emasculator, but considerably improved by being made aseptic as shown in the illustration. This instrument and the White modification should not be confused with other so-called White Emasculators, as they are materially different in construction. The emasculators manufactured by us. Price 10.00.

Ohio State University

COMPRISES SEVEN COLLEGES.

The College of Agriculture.

The College of Engineering.

The College of Arts, Philosophy and
Science.

The College of Law.

The College of Education.

The College of Pharmacy.

The College of Veterinary Medicine.

Bulletins describing the work of these College will be sent on request.

The College of Agriculture

OFFERS EIGHT DISTINCT COURSES OF STUDY.

- | | |
|---|---------------------------------------|
| 1. A Four Year Course in Agriculture. | 5. A Two Year Course in Agriculture. |
| 2. A Four Year Course in Horticulture. | 6. A Two Year Course in Horticulture. |
| 3. A Four Year Course in Forestry. | 7. A Winter Course in Agriculture. |
| 4. A Four Year Course in Domestic
Science. | 8. A Winter Course in Dairyng. |

For Bulletins describing these Courses or other information in regard to them,
address

H. C. PRICE, Dean, College of Agriculture, Ohio State University.



MUTUAL

Life Insurance Company

of Boston, Massachusetts

J. C. CAMPBELL, State Agent for Ohio and West Virginia
Hartman Building, Columbus, Ohio.

Total payment to policy-holders during the 50 years' experience,
over \$175,000,000.

Payment to policy-holders during 1911, represents an average of
over **Thirty-one Thousand Dollars** for each working day in the year.

For further information, address

W. E. & R. W. HOYER,

HARTMAN BUILDING, COLUMBUS, OHIO.

Citizens Phone 2853

Bell, Main 1390



GROUND PHOSPHATE ROCK



EVERY CAR

HAS SPECIAL CARE,

IS GUARANTEED,

IS ANALYZED.

“PRAIRIE STATE”

MEANS QUALITY

Our Standard and Guarantee is positively 12½% phosphorus

We will furnish higher grades, if desired.

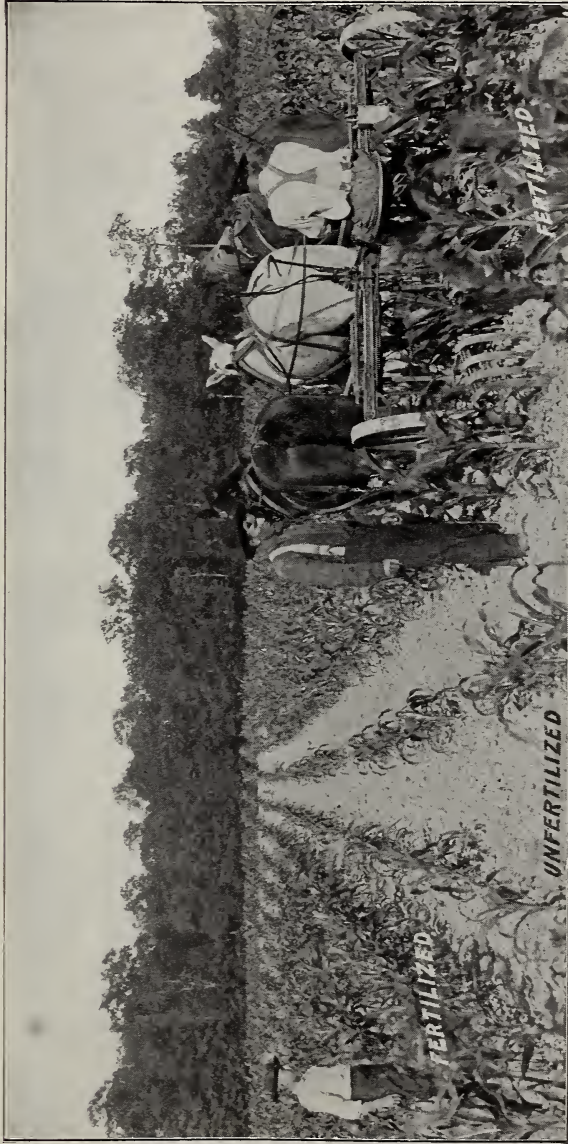
Fine and uniform grinding make our Phosphate Rock valuable.

PROMPT DELIVERY DIRECT FROM OUR OWN MINES TO YOU.

PRAIRIE STATE PHOSPHATE CO.

(The Natural Phosphate Co.)

Monadnock Block, CHICAGO, ILLINOIS.



This progressive young farmer makes money by using Jarecki Fertilizer under his corn and saves money with his double row cultivator.

We have been manufacturing Fertilizers for thirty-one years. Where our goods have been introduced there is a steadily increasing demand and the dealer to whom we shipped the first car of fertilizers produced by us back in 1881 is today still selling the same in increasing quantities. Our business is conducted on scientific lines by experienced and trained men who have grown up in the industry and know the actual wants of the farmer and how to supply them most economically. Our factories, located at Cincinnati and Sandusky, Ohio, are models of their kind and the location of the same gives us unsurpassed manufacturing and shipping facilities.

Ask us to send you our special circular with suggestions as to how you can

Double Your Corn Crop

THE JARECKI CHEMICAL CO., Cincinnati and Sandusky, Ohio

FARMING?

INCREASE YOUR YIELD
IMPROVE THE QUALITY
HURRY MATURITY
ENRICH THE SOIL

Use Armour's Fertilizer The Quality Brands

Armour brands feed the plant right from the beginning of growth through to maturity.

Field results are positive evidence of their superiority.

Our factory is located at Union Stock Yards, Chicago, right at the source of supply of **Animal Matter**, such as Tankage, Bone, Blood, which we supplement with High Grade Potash Salts, Acid Phosphate, etc.

All materials used are combined under the supervision of experienced chemists and practical agriculturists, whose experience has taught them what formula is best for the purpose intended.

GUARANTEED ANALYSIS is not our only aim. We go further than that by having the best **AGRICULTURAL VALUE** or field results.

Write for our 1912 Farmers' Almanac—a very interesting and instructive book.

Armour Fertilizer Works

Union Stock Yards, Chicago, Ill.

The Smith Offer

WHEN any fertilizer manufacturer, or any manufacturer, purchases raw material for his products it is tested or analyzed before it is used.

The farmer is entitled to the same knowledge of the fertilizer he uses---before it is used, that he may know for what he is paying.

The Smith Agricultural Chemical Company will go the farmer one better than the manufacturer and pay for that analysis.

Any agent of this company will, upon request of the purchaser, draw samples of the particular shipment of fertilizer and send to a chemist for a report, that the purchaser may know before use, that it contains the elements that it is represented to contain.

Understand, The Smith Agricultural Chemical Company pays for this analysis.

If the report shows that the fertilizer contains a less proportion of plant food value than is claimed, an allowance will be made for the shortage.

The chemist may be any one mutually agreed upon by the purchaser and agent.

The Smith Agricultural Chemical Company
Columbus, Ohio. Indianapolis, Ind.

(Agents Wanted)

Prominent Live Stock Breeders

These men solicit your trade. They have a reputation for honesty and square dealing and we recommend them to be reliable and safe. Mention "The Student" when you write.



PURE BRED REGISTE D
**HOLSTEIN
CATTLE**

The most profitable dairy breed, greatest in size, milk, butter fat, and in vitality.

Send for **FREE Illustrated Descriptive Booklets**

Holstein-Friesian Assn., F. L. Houghton,
Sec'y. Box 154, Brattleboro, Vt.

Polled Jersey Cattle

Rich milking, horness beauties. Pleasant to work with. Profitable to own. For names of breeders, etc., write

CHAS. S. HATFIELD, Sec'y,

R. D. 4, Box 30. Springfield, O.

MAKE YOUR WANTS KNOWN.

BERKSHIRE HOGS

They have quality and type as well as pedigree.

HERD BOARS

ROYAL CHAMPION IMPROVER, 143000

PREMIER C'S MODEL, 144000

Also have some extra good Single Comb Rhode Island Red Cockerels for sale at \$1.50 apiece. Eggs in season. **A. E. FISHER, Orient, Ohio.**

MULE FOOT HOGS



Largest prize-winning show and breeding herd in the land. Foundation stock of all ages for sale from big, growthy and healthy litters. Seven big herd Boars.

JOHN H. DUNLAP,

Box P, Williamsport, O.

S. M. CLEAVER

DELAWARE, OHIO.

Breeder of High-Class

MERINOS

Making a speciality of breeding the three types for exhibition purposes. Stock at all times for sale.

MAPLEWOOD STOCK FARM, on the C., D. & M., Stop 48, one mile and a half south of Delaware.

Quality Durocs

With breeding and individuality to match at prices that are right. Come or write.

D. O. McKinley

ORIENT, OHIO.

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

Lake View Farm

Hull Bros., Props.,
PAINESVILLE, OHIO.

Brown Swiss Cattle

Something for Sale at All Times.

Yorkshire Swine

"Want some pork,
Get a York."

CHOICE YOUNG STOCK FOR SALE.

J. C. SHAW

P. O. Box 537 NEWARK, OHIO.

Pentoila Stock Farm

G. A. Dix, Successor to C. D. F. Dix & Son
DELAWARE, OHIO

Breeders of

**Registered Percherons,
Berkshires and Shropshires**

Young Stock For Sale

Prices Reasonable, Breeding and Quality Considered.

American Hampshire Hogs

Bred by

ADAM ALT, Rockford, Ohio

Herd headed by Searchlight 2nd, Grand Champion, International 1910; Beauties Exile (1559). Such sows as Ohio Beauty (11578), White Stocking (4862).

Public inspection invited.

The Wade & Digby Swine Company

GRAND RAPIDS, OHIO.

**Registered O. I. C. & Berkshire
Swine For Sale**

We showed the Grand Champion Berkshire Sow at the recent American Berkshire Congress Show, held at Columbus, Ohio. We have breeding stock of all ages for sale at all times. Have just recently had our herds inoculated for cholera protection.

F. J. WADE,

E. J. DIGBY,

Mgr. of Fairland Farm, Mgr. of Kellogg Farm,
O. I. C. Swine. Berkshire Swine.

THE
Hartman Stock Farm

OFFERS SPECIAL INDUCEMENTS

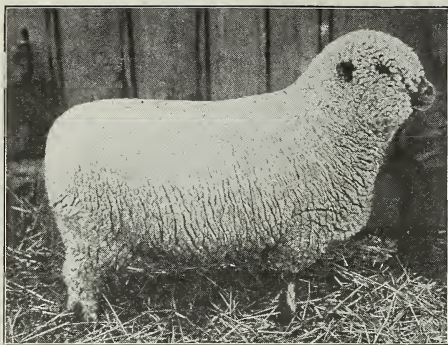
To those starting in the Jersey Cattle or Poultry business by selling the very best of Breeding and Individuality at Reasonable Prices.



LUCY'S CHAMPION 79315

Is at the head of our Jersey herd of over five hundred head, conceded to be the largest herd of registered Jerseys in the world.

THE HARTMAN STOCK FARM



Shropshire Sheep

Bred by

W. F. Palmer & Son

PATASKALA, OHIO.

First prize Flock of Ohio Bred Shropshires, 1910; 17 other prizes in the Open and Ohio Bred Class. Come and look over our Flock. Newark Traction Line, Near Wagrgam Stop. Ewes and Rams for sale.



Broad Head, 1220—First at Columbus, 1909.

Grass Lick Stock Farm

Breeders and Exhibitors of

Amer. Merino and Delaine Sheep

This flock showed at "thirteen" leading "State" and County Fairs in 1911, won 151 Firsts, 119 Seconds and 19 Flock and Champion prizes. Ewes and Rams for sale.

J. J. DEEDS & SON

PATASKALA, OHIO.

Newark Traction Line, Stop Moore's Corners.
Call up Mr. Schoeff.

Elder Ridge Shorthorns

Bred and Owned by

C. E. JOHNSON, Flushing, Ohio

Herd headed by the prize winning **Monarch's Favorite**, assisted by **Rosewood Dale**. Over 80 head in herd. Stock for sale at all times. Inspection invited.

White-Stock Farm

CHEVIOT
AND SHROPSHIRE SHEEP
FOR SALE

F. L. Postle & Sons, Stop 7, O. E. Ry.
CAMP CHASE, O.

America's Leading Horse Importers

PERCHERON AND FRENCH COACHERS



HORSES DIRECT FROM FRANCE

Our horses won every first and championship at Ohio State Fair this year.

McLAUGHLIN BROS.

COLUMBUS, OHIO; KANSAS CITY, MO.; OAKLAND, CAL.

Please mention THE AGRICULTURAL STUDENT when writing advertisers.



Herd Boars



GOOD E NUFF AGAIN, 24,875
 GOLD BOND, 20529
 LAGONDA, 26079

We have some very excellent gilts that are bred to Good E Nuff Again, "The Duroc Wonder." They are bred right, and priced right. Ask about them.

WM.H.ROBBINS. SPRINGFIELD OHIO.

Choice Pure Bred Live Stock

is bred by the Animal Husbandry Department of the

Ohio State University

We breed Percherons, Clydesdales, Hackneys, Shorthorns, Jerseys, Holstein-Friesians, Guernseys, Shropshires, Merinoes, Berkshires, Duroc-Jerseys, Large Yorkshires and some other. We often have surplus stock for sale at a reasonable price.

Address, DEPARTMENT OF ANIMAL HUSBANDRY,
 Ohio State University, Columbus, Ohio.

Idealyld Stock Farm

SPECIALTIES — Norman Horses, Short Horn and Red Polled Cattle, Shropshire, Oxford and Merino Sheep, Poland China Swine, Bronze Turkeys and Plymouth Rock Chickens.

All Stock Registered.

Ers. Chambers & Sons, Mansfield, O.

Lagonda View Farm

EDWARD H. MICKLE, Prop.
 SPRINGFIELD, OHIO.

For Sale:

2 BOAR PIGS

By Good-E-Nuff Again, 24875,
 "The Duroc Wonder."

Chinchinna Stock Farm

PERCHERONS
 Young Stock For Sale.

J. Q. SMITH & SONS, New Carlisle, O.

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

Chestnut Hill Farms

COALBURG, OHIO

Office, 403 Wick Building, Youngstown, Ohio.

—THE HOME OF—

Galaxy's Sequel

Chestnut Hill Yeksa

Skeezicks

Honor Bright

Chedda May

12,674.00 lbs. milk, 694.64 lbs. fat.

11,514.30 lbs. milk, 643.12 lbs. fat.

Talladeen

Imp. Island Butter Queen

11,906.81 lbs. milk, 633.51 lbs. fat.

12,158.80 lbs. milk, 619.31 lbs. fat.

Emma McPeake

9,452.00 lbs. milk, 605.05 lbs. fat.

Suwaanee B.

Jean of Tawawa

10,231.31 lbs. milk, 511.05 lbs. fat.

8,747.60 lbs. milk, 490.25 lbs. fat.

We are offering at this time some very choice Young Bulls of the above and similar breeding. Also a few Heifers and Young Cows bred to the above named Bulls. Raise the grade of your herd by infusion of the best Guernsey blood.

EST. MYRON C. WICK, Prop.

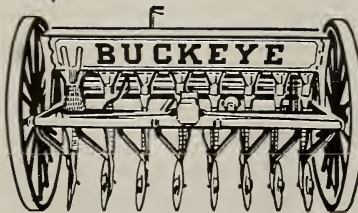
CHAS. H. DRISSEN, Supt.

Veterinary Supplies

THE KILER-WALTERS DRUG CO., Columbus, Ohio

BUCKEYE GRAIN DRILLS

"The Buckeye—
a wise buy."



BUCKEYE DRILLS have many exclusive features to be had on no other Drill—features that mean much to the farmer. It is the only drill having the fertilizer hopper lined with galvanized metal; the only drill with a glass cone fertilizer feed. The Buckeye is the only drill that has a nested cone gear driver. The Buckeye is the drill with an absolute force feed that will sow all seeds accurately and put them in the ground at an even depth. Made in all styles and sizes. Go to your local dealer and insist on seeing the Buckeye Drill. Send for catalogue.

The American Seeding Machine Co.
INCORPORATED
Springfield, Ohio, U.S.A.

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

CONTAGIOUS ABORTION



Do you suspect it in your herd? The best authorities claim that proper disinfecting is the only effective remedy. And you know, if you have ever used it, that the best disinfectant for this and all general purposes is

Minor's Fluid "The Yellow Can"

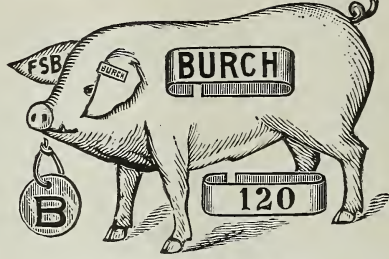
It is non-poisonous, easily prepared and guaranteed to kill lice, ticks and stomach worms; it cures mange and scab and prevents hog cholera, etc. Your dealer carries MINOR'S FLUID in stock or can get it from his jobber. If not, write us direct. Get our prices on Dipping Tanks.

The W. E. Minor Disinfectant Co.

1519 Columbus Road

Cleveland, Ohio

Mark Your Stock



We make six styles of Stock Marks, Labels, Buttons, Poultry Leg Bands, etc. Send for samples and catalogue O. S.

F. S. BURGH & CO., Chicago.

A Reinforced Concrete Silo



embodies all that is latest and best in Silo construction. Just concrete and steel combined in approved, scientific manner and form, both in the making of the block and in the erection of the structure.

SIMPLE! STRONG! DURABLE COMMERCIALLY PRACTICABLE.

Will not burn, blow, nor rot down. Lowest after-cost of keep-up. Manner of construction and reinforcement fully covered by letters patent. Ask for illustrated and descriptive booklet and testimonials.

The Perfect Silo & Cistern Block Co.

DELAWARE, OHIO.

BUCKEYE CULTIVATORS

Are made in every style. Recognized everywhere as the "complete, dependable line." No matter what kind of crops you grow or on what kind of land—steep hills, slightly rolling or flat land—there is made a Buckeye Cultivator that will "insure the greatest yield from any field." Send for Buckeye Cultivator Catalogue and go to your local implement dealer and insist on seeing Buckeye Cultivators. "The Buckeye—a wise buy."

THE AMERICAN SEEDING MACHINE CO. INCORPORATED
SPRINGFIELD, OHIO. U. S. A.

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

More Money For Cream

We need more cream to take care of the increasing demand for our
"DAISY BRAND" BUTTER.
Better start today and ship us what you can spare.

"Checks Mailed for Each Shipment"

We pay one cent above Elgin Market for
Butterfat



The Ohio Dairy Co.

COLUMBUS, OHIO

THOMAS

DRILLS
HARROWS
HAY MACHINES

THE STANDARD

Ask for Catalog.



The Thomas Mfg. Co.
SPRINGFIELD, OHIO.

\$3,000,000



Will be saved this winter to the users of **INDIANA SILOS**. There is another winter coming. 15,000 silos in use our best salesmen. We are the largest manufacturers of silos in the world. Licensed under Harder patent No. 627732.

INDIANA ILO CO.

50 Union Bldg.,
ANDERSON, IND.

PRINTING

FOR FARMERS

We make a specialty of printing pedigrees, sale catalogs, pamphlets. Many farmers hold stock sales, or keep pure bred stock, and

need printed matter

We are located at the corner of Noble and Pearl Sts., rear Southern Theatre. We do lots of Agricultural printing. Write for prices.

THE PFEIFER SHOW PRINT CO.
COLUMBUS, OHIO

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

Our Collegiate Advertisers

Fellow Students, let us show our appreciation not only by giving these firms our trade, but by boosting them to our friends. A thousand students here in school ought to be a class that any firm would be glad to get their goods before. Look over this list of advertisers and do your business with them, at the same time mentioning your connection with "The Student."

Varsity Barber Shop

The Best and Most Convenient Barber Shop for "Ohio State Students."



The same old stand refitted and remodeled.

Citizens Phone 7085 Bell, Main 5966
 NEW STORE NEW GOODS
 NEW MANAGEMENT
THE COLUMBUS SPORTING GOODS CO.
 ATHLETIC AND SPORTSMEN'S
 SUPPLIES
 16 EAST CHESTNUT STREET.

The McDonald Hardware Co.

1204 NORTH HIGH STREET

We are always pleased to do business with O. S. U. boys.

BLACKWOOD, GREEN & CO. Hardware

Stoves and House Furnishing Goods
 Slate and Metal Roofing
 624 NORTH HIGH STREET
 COLUMBUS, OHIO

TWO PROMINENT INSTITUTIONS of learning: O. S. U. for training and developing the mind; Howald's for training and developing an artistic taste in beautifying the home.

We cordially invite you in and look over our line of Furniture, Rugs and Draperies.



HOWALD'S

34-36-38 N. High St.

We Clothe the Extreme

HATS, . . . \$2.00

SHOES, . . . \$3.00

GLOVES, \$1.25 to \$2.00

TOP AND BOTTOM SHOPPE

CONNOR & EGAN
 65 S. High St., Opp. State House

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

MARZETTI

Restaurant

1548 N. HIGH ST.

Headquarters for "Ohio State" Boys.

STRICTLY HOME COOKING.
FAMOUS PORK SANDWICH.
POOL.

Things You Ought to Know!

We are located at Cor. Eighth and High, Columbus, Ohio.

Our Telephones: Citz. 4253; Bell, N. 1223.

Our goods are the best and always fresh.

Our prices? You can't beat them, quality considered.

We are never in dispute with customer about their accounts.

"Honesty brings Confidence."

"Confidence brings Business."

"Business brings Appreciation."

Thank you,

AARON HIGGINS.

FRATERNITIES AND BOARDING CLUBS

Always Find Our

Meats and Groceries

STRICTLY FIRST CLASS

ABERNATHY BROS.

1609 HIGHLAND STREET

Citz. Phone 16504

Bell, North 857

Groff's Pharmacy

DRUGS,
CHEMICALS, STATIONERY
... and ...
TOILET ARTICLES.

2091 North High Strete.

New Era Restaurant

Just What You Are Looking For:

A place for Students to get good board at low prices.

A \$3.00 Commutation Book for \$2.75

Give Us a Trial—Sure to Please.

1591-93 NORTH HIGH STREET

(Formerly Turner's Restaurant.)

C. L. VOLK'S

is the place to buy

Groceries, Meats and Fruits

Citz. Phone 6623; Bell Phone N. 608

1553 NORTH HIGH ST.

Clark's Bakery

FINE LINE
BREAD
CAKES
& PIES

Special Attention given to Clubs and Fraternities

—GO TO—

MILLER'S

—FOR—

Kodaks, Drugs, College Supplies, etc.

COR. HIGH and TENTH AVE.



SEASON 1911-1912.

To Those Who Neglected to Learn to Dance

**Prof. W. J. Rader's
Academies of Dancing**

will organize beginners' classes as follows:

HIGH ST. ACADEMY,

199½ S. High St. Phones: Auto 3456; Bell 5877.

Will organize a beginners' class Wednesday evening, June 12, 7:30 o'clock.

NEIL AVE. ACADEMY,

647 Neil Ave. Phones: Auto 4431; Bell 6189.

Will organize a beginners' class Friday evening, June 14th, 7:30 o'clock.

OAK ST. ACADEMY,

827 Oak St. Phones: Auto 4431; Bell 6189.

The Academy has been rearranged for functions of all sizes and is complete in every respect.

TUITION

Gentlemen, per term of 10 lessons.....	\$4 00
Ladies, per term of 10 lessons.....	3 00
Private lessons, \$1.00 per lesson; six lessons.....	5 00
Private lessons can be had afternoons or evenings	
Tuition can be paid \$1.00 per week until paid. The Waltz, Two-Step, Three-Step, Colum- bus Minuet and Rye Waltz taught in one term.	

WINTER PAVILION—Located on Neil Ave., between Goodale St. and Poplar Ave. Open Tuesday, Friday and Saturday evenings. Operated on Summer plan.

**ACADEMIES AND PAVILION CAN BE SECURED FOR PRIVATE PARTIES,
CLUB DANCES, FRATERNITY HOPS, ETC.**

The Randall Orchestra

“Ball-Room Experts”

35 CHITTENDEN AVE.

Director, H. Kurtz Randall.

Bell Phone, North 1487

L. B. Carruthers, Mgr. Citizens Phone 15.

THE ELMONT

GROVEPORT, O.

**SPECIAL ATTENTION TO
STUDENT PARTIES**

Only 5 minutes' walk from both the Scioto
Valley and Hocking Railroads.

NO BETTER CLOTHES THAN MENDEL'S

— AT ANY PRICE —

We will make you a better fitting, better wearing and better looking Suit or Overcoat for \$20.00 than others will at \$25.00. Fit guaranteed.

MENDEL, THE TAILOR, 545 N. High St.
Few Doors South of Goodale St.

STUDENTS WILL RECEIVE A CORDIAL WELCOME AT

Kiler's Drug Store

COR. 8th AVE. AND HIGH

HEADQUARTERS FOR A. D. S. REMEDIES

Please mention THE AGRICULTURAL STUDENT when writing advertisers.

Special Senior Offer

THE NEW STUDENT FOLDER, \$3.50 PER DOZEN

(Regular Price, \$10.00 per Doz.)

An exclusive style of our own, finished only in our usual way, THE BEST. We have never offered anything so good as this at so reasonable price to Ohio State Students before. Secure ticket through our Special Representative, JAMES H. ERWIN, 32 E. Sixteenth Ave., Bell Phone, North 2694; Citizens 14211.

Baker Art Gallery
COLUMBUS, O.

THE OLD RELIABLE, STATE & HIGH STS.

We Can Fit You No Matter How You're Built

WE are specialists in fitting the hard to fit. We handle each customer in a different way and cater to his individual measure. Likewise, we suit his individual taste. If you have had trouble in getting fitted probably, you're the man we're looking for. As for the style and price—well, these will be as pleasing to you as the fit.

The "So-Different" Tailory

WE DO PRESSING.

High St. at Tenth Ave.

Citizens Phone 5396

COLLEGE INN

COR. TENTH AVE. and HIGH ST.

Six Bowling Alleys, Eight Pool Tables, Fine Line of Cigars, Tobacco, Cigarettes, Candies, Soft Drinks, Hot Lunch, Barber Shop.

National Indoor Games

"For the Student."

LINE YOUR BUILDING WITH THE NEW WALL MATERIAL
BEAVER BOARD

Takes the Place of Lath, Plaster and Wall Paper. Cover your Roofs with the Ready to Lay

TRYOID RUBBER ROOFING

The best for service and price. For sale by Hardware and Lumber Dealers everywhere.

THE CENTRAL OHIO PAPER CO.

COLUMBUS, OHIO

ORR-KIEFER



Orr-Kiefer Studio Co.

199-201 SOUTH HIGH STREET

Artistic Photography

"Just a little better than the best"
SPECIAL RATES TO STUDENTS

COLUMBUS, O.

We Frame Pictures of all kinds — RIGHT

**SUPERIOR
GRAIN DRILLS**

"The Name
Tells a True
Story."

Superior Drills are used
in every grain growing country
on earth wherever grain is grown."

"The Superior
feed sows
every seed."

Superior Drills are made
in every style and in all
sizes, from one horse up.

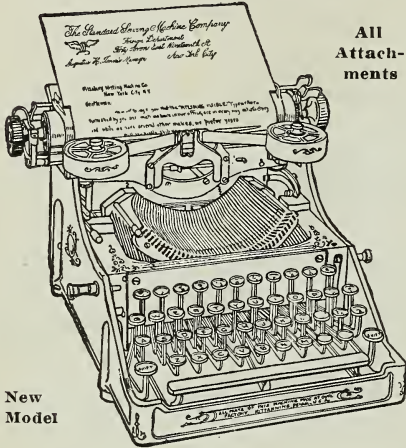
It makes no difference what your seeding conditions are, you can rely on the Superior to do that work as it should be done. Superior Drills are sold under a warranty that absolutely protects the purchaser. Send for the Superior Catalogue. Read it carefully and then go to your local dealer and insist on seeing the Superior Drill.

THE AMERICAN SEEDING MACHINE CO. INCORPORATED
SPRINGFIELD, OHIO, U. S. A.

SPECIAL To Teachers, Students, Ministers, Etc.
On the Late Model Standard

Pittsburg Visible Typewriter

AN HONEST TYPEWRITER AT AN HONEST PRICE.



All
Attach-
ments

\$65.00

TERMS: \$10.00 down and small payment monthly.

Fully guaranteed.

Two-color ribbon—universal keyboard—back spacer—line lock—ball-bearing carriage.

Mention this magazine, and address

**Pittsburg Visible
Typewriter Co.**

Union Bank Building, Pittsburgh, Pa.

Dairymen Who Ship Their Cream

to us will tell you that they receive greater benefits and more advantageous arrangements than elsewhere. Why not try us and prove it. A postal brings Booklet. ∴

The West Jefferson Creamery Co.
COLUMBUS, OHIO

The College Book Store

Agricultural Books, New and Second Hand

Maddox & Kilgore

AGRICULTURAL DRAWING INSTRUMENTS AND MATERIALS
HIGH ST., OPP. ELEVENTH AVE

When in need of Surgical or Veterinary Instruments or Hospital Supplies, etc., do not forget we carry a full and complete up-to-date line. Catalogs sent FREE, POSTPAID, UPON REQUEST.

SHARP & SMITH

Manufacturers and Importers of

High Grade Surgical and Veterinary
Instruments and Hospital Supplies

103 NORTH WABASH AVE., CHICAGO, ILL.

2 Doors North of Washington St.

Established 1844.

Incorporated 1904.

THE M. HAMM CO.

Manufacturers of

High-Grade Commercial Fertilizer
Acid Phosphate

12, 14, 16 and 18 Per Cent.

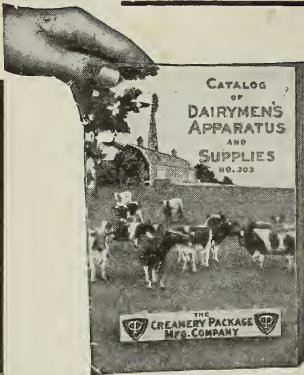
Washington C. H., Ohio

HOOSIER GRAIN DRILLS

*"The Hoosier is still
the best grain drill."*

Ask the farmer who bought a Hoosier Drill 25 or 30 years ago and who has recently purchased a new Hoosier and he will not hesitate to tell you there is no better grain drill on earth. The Hoosier was up-to-date 50 years ago and it is up-to-date now. Every size. All styles. You can always get what you want in the Hoosier line. Send for the Hoosier Catalogue. Call on your dealer and insist on having a Hoosier Drill.

THE AMERICAN SEEDING MACHINE CO. INCORPORATED
RICHMOND INDIANA, U. S. A.



Everything for your Dairy

OUR New Catalog of Dairymen's Supplies should be in the hands of every owner of a cow. It is filled from cover to cover—contains 87 pages—with valuable information about modern dairy apparatus and utensils.

WRITE FOR THIS FREE BOOK

It will show you the latest models in butter churns and workers, milk testers and testing supplies, tinware, stable fittings and supplies, engines, boilers, and everything in use on the modern dairy farm at the lowest prices.

Up-to-Date Equipment Adds to Dairy Profits

We can help you in many ways to bigger dairy profits. Our organization covers the entire country and is in close touch with the latest and best methods of dairying everywhere. Write us freely on any subject connected with dairy equipment and methods.

We manufacture equipment for every kind or size of dairy plant and equip more modern plants than all other concerns combined.

The catalog is free to everyone who asks for it. In writing, please state what machines or line of dairying you are most interested in. Address

The Creamery Package Mfg. Company

Dept. 29.

61 W. KINZIE ST., CHICAGO, ILL.

The "SIMPLEX" Link Blade Cream Separator

IMPROVED DESIGN



LIGHTEST RUNNING.

LARGEST CAPACITIES.

CLOSEST SKIMMING.

The Only Practical Large Capacity Separator

500 lbs. . . . \$75.00 900 lbs. . . . \$ 90.00

700 lbs. . . . 80.00 1100 lbs. . . . 100.00

D. H. BURRELL & CO.

LITTLE FALLS, N. Y.

Manufacturers of Creamery, Cheese Factory
and Dairy Apparatus and Supplies.

Also, B-L-K COW MILKING MACHINES.

NICKEL SILVER SKIMMING SECTIONS—ABSOLUTELY NON-RUSTING
ROTARY SECTION WASHER—BOWL CLEANED WITH ¼ THE WORK
ONE HALF THE BOWL DIAMETER—DOUBLE THE CAPACITY—
50% DECREASE IN REQUIRED POWER

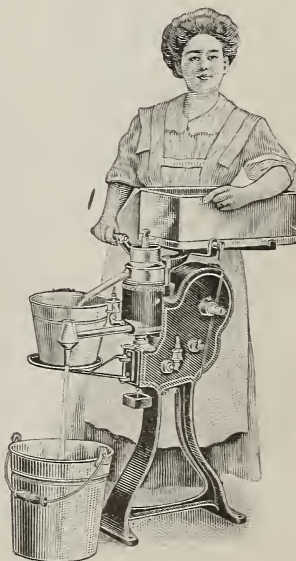
These are three exclusive features of the

INTERLOCKING U. S. CREAM SEPARATOR

Nickel silver is made especially for us by one of the most celebrated metallurgists in the country and is ideal in its sanitary qualities. It's non-corrosive. Milk and casein do not adhere so tenaciously to it as to other metals and alloys.

Our Rotary Section Washer makes the Interlocking Bowl easier to clean than ever. Its skimming device catches hold of the rinsing water and drives it forcibly through the channels, cleaning every part of the skimmer.

The Interlocking U. S. Separator is operated with about half the power of older models. Because its skimmer has practically double the skimming area and does about twice the work of older models. Because its bowl diameter has accordingly been reduced to about one-half that of older models.



There is every reason why **YOU** should use Interlocking United States Cream Separator. None why you should not.

VERMONT FARM MACHINE CO.
BELLOWS FALLS, VT.

Distributing Warehouses in every dairy section of the country.

DE LAVAL CREAM SEPARATORS

Are In a Class by Themselves



They cost but a little more than the cheapest, while they save twice as much and last five times as long as other separators.

They save their cost every six months over gravity setting systems and every year over other separators, while they may be bought for cash or on such liberal terms that they will actually pay for themselves.

Every assertion thus briefly made is subject to demonstrative proof to your own satisfaction by the nearest DE LAVAL local agent, or by your writing to the Company direct.

Why, then, in the name of simple common sense, should anyone who has use for a Cream Separator go without one, buy other than a DE LAVAL, or continue the use of an inferior separator?

THE DE LAVAL SEPARATOR CO.

NEW YORK

CHICAGO

SAN FRANCISCO

SEATTLE

Reilly

