

# PRACTICAL TALKS BY GOVERNMENT FARM EXPERTS

No. VII.—Profitable Dairy-  
ing—Girls' Poultry Club.  
Guinea Pig as Food.



(Official News Summary of Up to Date  
Matters Compiled by the United  
States Department of Agriculture.)

**A** RECENT report of a cow census originally begun as a private enterprise by ex-Governor W. D. Hoard of Wisconsin and compiled under the direction of B. H. Rawl, chief of the dairy division, United States department of agriculture, shows that cows in the western and central states which were the most profitable were of a good dairy type, were comfortably stabled and received silage as a part of their ration. The owners of these cows were readers of dairy papers and farmers' bulletins.

The investigation was undertaken because of the small profit on many dairy farms. The men who collected the data went into the dairy districts of thirteen states. The facts were collected from 2,163 herds, containing 28,447 cows in all, and covered a period of ten years.

The records show that cows of a good dairy type returned to their owners an average of \$17.38 per cow above the cost of feed as compared with \$2.03 returned by the cows of a poor dairy type.

The cows which were comfortably stabled made an annual average profit of \$14.12, whereas those kept in uncomfortable stables made a profit of only 23 cents above the cost of feed.

Those cows which received silage as a part of the ration returned an average of 19 cents more for every dollar's worth of feed than did the cows which were given no silage. The cows whose owners read good dairy literature produced an average annual profit of \$14.54 per cow over and above the cost of feed. The owners who read neither dairy papers nor farmers' bulletins on dairying made only \$1.85 per cow. Of these nonreaders 48 per cent actually lost money in the dairy business.

Concerning the results of this cow census ex-Governor Hoard says, "The one great and paramount conclusion, overtopping all others, is that loss of profit in dairying is occasioned in nine cases out of ten by a lack of sound dairy intelligence on the part of the farmer who is behind the cow."

**The Guinea Pig as Food.**  
It is difficult to account for the somewhat prevalent notion that no rodents are fit for human food, states the agricultural department's bulletin on the guinea pig. Because of such prejudice some people will not eat rabbits or squirrels. Probably many others are kept from eating such excellent game as muskrats and prairie dogs. While guinea pigs are seldom eaten in the United States, their near relationship to rabbits and the fact that they are wholly vegetarian in habits should reassure any one who may entertain doubts about their fitness for the table. All the wild species of the guinea pig are accounted good game in South America. Rock cavies especially are much hunted in parts of Brazil. While the small size of the domestic species is probably the chief cause for its neglect as a food animal, yet we have other highly esteemed game animals that furnish less meat than a guinea pig.

That there is widespread interest in the guinea pig in the United States is evident from the large number of inquiries that the department of agriculture is receiving in connection with the proper methods of raising this little animal. The bureau of animal industry has been experimenting on different methods of raising the pig and finds that it costs from 50 to 60 cents per animal to raise. This cost could be substantially reduced by private breeders. While there is at present little demand for the guinea pig other than for laboratory purposes, the market price ranges from \$1 to \$1.50 apiece. Those favorably located near cities or institutions requiring large numbers of guinea pigs should be able to establish a profitable business in supplying them.

The Peruvian method of dressing the guinea pig for cooking is the one generally adopted wherever it is eaten. The animal is killed by dislocating its neck, after which it goes through about the same process as a sucking pig in preparation for cooking. Its throat is cut. It is hung up for a few minutes to bleed and is then scalded in hot water. The hair is removed, the skin scraped with a knife, the viscera taken out and the carcass washed in tepid water. It is then ready for the cook. The Peruvians usually

roast the animals, but they state that they are excellent eating when cooked in any of the ways commonly applied to small game.

**Girls' Poultry Clubs.**  
The Girls' Poultry club, a unique organization started by the United States department of agriculture for the purpose of encouraging the poultry industry of the country, is making good headway, particularly in the west and middle west. Large organizations have been established in Indiana, Illinois, Iowa, Nebraska, Utah and Idaho. Clubs have also been organized in Virginia, West Virginia, Mississippi, North Carolina and South Carolina.

The first poultry club was organized in Virginia and is flourishing under J. W. Kinghorn, the department's instructor in the state. The object in forming the club was to give a better knowledge of the value and importance of poultry raising and the marketing of a first class uniform product and to teach better methods for the caring of poultry and eggs; also to show the increased revenue to be derived from well bred poultry where proper methods of management are pursued.

There is a four year course mapped out by the founders, starting with the setting of fifteen eggs as a unit for the year's work and concluding with a pen of fifty chickens, forty-six of which are hens and four roosters. Points are given for the number of eggs hatched, number of live chicks, number of cockerels marketed, profit on investment and equipment. Some of the state governments are offering prizes for the most proficient students of the clubs in the nature of trips to their capitals, and one is now offering a prize of a trip to Washington to see congress in session, visit the president and inspect the department of agriculture.

Throughout the year meetings are held in the states where the clubs are in existence for the purpose of discussing the different problems of poultry management. At each meeting, whenever possible, the department of agriculture will have one of its specialists from the animal husbandry division present to instruct the members on poultry raising, selection and care of stock and handling demonstrations. He will also assist in securing first class markets for the sale of the poultry and eggs.

In instructing the clubs the department says that each county club should hold an exhibition once a year, preferably in connection with the county fair, at which place a pair of the best chickens grown by each member should be placed on exhibition and entered to compete in the regular class



HOMEMADE EGG TESTER.

for premium. An exhibition of the best dozen of eggs should also be made. The department has issued the following suggestions:

To rid the poultry house of mites wash the pen, the roost and the dropping board with kerosene or crude petroleum at least once a week.

Market all cockerels except those intended for breeding purposes as soon as they attain broiler size.

**Petroleum Oil as Adulterant.**  
The department of agriculture has discovered a new adulterant that is being used in the manufacture of biscuits and wafers containing an upper and lower crust with a cream filler. This adulterant is made of petroleum oil, and seizures have already been made of products containing such ingredient.

The oil is used in connection with sugar and milk in preparation of the cream filler and substituted because it is cheaper than coconut oil or butter. The use of this substance in articles of food is regarded as adulteration and in violation of the federal food and drugs act. Petroleum oil is a lubricant rather than a product containing food value.

**Wheat, Barley and Oats Aboard.**  
The 1913 total production of wheat was 9.2 per cent more, barley 7.5 per cent more and oats 0.8 per cent more than produced in 1912 in Prussia, Belgium, Denmark, Spain, France, Great Britain and Ireland, Hungary, Italy, Luxemburg, Netherlands, Roumania, Russia in Europe, Switzerland, Canada, United States, India, Japan, Russia in Asia, Algeria and Tunisia, according to the International Institute of Agriculture, Rome.

For European Russia the preliminary figures of production this year are: All wheat, 628,000,000 bushels; barley, 550,000,000; oats, 1,101,000,000.

## A TYPICAL CASE OF DOURINE.



Photo Minn. Agricultural College.

Note the elevation of the right hind leg from the ground because of the pain resulting from the disease. This animal also showed drooping of the eyelids, swellings along the side of the body, and great loss of flesh, especially in the hind quarters. Photograph by Dr. J. P. Foster of the Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

## DOURINE IS A HIGHLY CONTAGIOUS DISEASE

Brought to Minnesota by Horses  
From Other States.

### WARNING TO STOCK BREEDERS

W. L. BOYD, Assistant Veterinarian,  
University Farm, St. Paul.

It is very probable that range mares from a large dourine infected district in Montana have been shipped into Minnesota and other states. One shipment was reported by federal authorities to our state live stock sanitary board, and the affected animals were destroyed. It is possible that other mares, showing no symptoms of the disease at the time, have also been brought in, and owners of breeding stock should be on their guard. All suspected cases should be immediately reported to the state live stock sanitary board at St. Paul, which will cooperate in controlling the disease.

Dourine is a slow going disease of breeding horses which is highly contagious and often results in death after months of suffering. It is caused by a microscopic animal which is transmitted from the stallion to the mare, or from the mare to the stallion only during service.

Stock breeders cannot afford to take chances. Owners of stallions should not allow them to serve range mares that have not been in Minnesota more than one year, and owners of mares should not patronize stallions that have come from North Dakota, South Dakota or Montana within three years, or any stallion whose breeding history is not well known.

There are three distinct stages in a typical case of dourine.

**FIRST STAGE.** In the primary stage, the first symptom noticed after breeding is a thick, sticky, odorless and colorless discharge from the sexual organs of either the male or female. These organs may also be swollen, but the swelling may easily be overlooked by the owner, unless he be a very close observer. Sexual desire on the part of the stallion may be increased or decreased. Mares urinate at short intervals and present symptoms that are characteristic of the heat period. The temperature may be elevated, although this is not always the case. Doughy swellings may be present in the testicles and along the sheath. The fore and hind limbs may also be enlarged. The appetite, as a rule, remains unchanged until the later stages, when it becomes irregular. The discharge from the genital organs of the female has a tendency to accumulate on parts below, removing the coloring matter of the skin and leaving small, hairless, white spots.

**SECOND STAGE.** In the second stage the skin and lymph glands become diseased and the animal loses flesh rapidly. It also loses control of the hind legs and becomes lame. The swellings on the body and genital organs become less sensitive and small eruptions similar to nettle rash appear, usually on the neck, shoulder and joints. The animal lies down a great deal, and has more or less trouble in getting up, on account of the increasing paralysis of the hind legs.

**THIRD STAGE.** In plain cases the third or nervous stage may find the animal unable to rise or stand unless supported. The temperature may be above normal at this time and the appetite is poor and irregular. The loss of flesh progresses rapidly, and slow, saggy-looking ulcers may become widespread over the body. Owing to intense suffering, the animal is usually destroyed.

Dourine runs its full course in from one to two years. About 80 per cent of the affected animals die, and recovery is impossible only at the beginning of the disease.

what is known to veterinarians as vesicular exanthema, which, however, appears in the acute form, affecting the genital organs without producing a constitutional disturbance. The period of incubation or the time between exposure and appearance of the symptoms is very short in vesicular exanthema. While vesicular exanthema affects the genital organs much as dourine does, it lasts only a short time and yields to treatment readily. Small, colorless, bald spots resulting from the discharge from the affected organs may also be noticed in animals affected with vesicular exanthema. Urticaria or nettle rash may at times be confused with dourine because of a similarity of eruptions occurring on various parts of the body. Urticaria, however, is of very short duration, often disappearing overnight.

Dourine may be determined by examination of the blood long before any characteristic symptoms of the disease appear. The blood test is a highly technical laboratory process. The blood is collected and sent to the laboratory where the presence of the microscopic animal which causes dourine is determined by certain changes of the blood, whether the animals are healthy or diseased.

**TREATMENT.** Drugs or medicines are of little or no value in the treatment of dourine, so it is necessary to resort to preventive measures. The following rules should be strictly adhered to:

- (1) In districts where diseased animals have appeared or where exposed animals are present, all mares should be examined before being bred. Where mares are affected with a discharge, and swelling of the external organs is present, they should be rejected, and not bred until all symptoms have disappeared.
- (2) Frequent examinations should be made of the stallion to make sure he is free from disease. If the male organ is found diseased at any time the stallion should be removed from service until the nature of the condition can be determined.
- (3) Information regarding suspected cases of diseased stallions or mares should be given readily, as it will aid in the control of the disease, which is spread only by breeding.

### TESTING CLOVER SEED.

Simple Method for Home Use Explained in Detail.

A large portion of the clover failures can be attributed to a lack of knowledge and consequent inattention to details. It is to the apparently little things that the most successful clover growers attribute their success.

In growing clover it is a matter of wisdom to sow only seed of the best grade. A germination test may be made at home, using two ordinary dinner plates and two sheets of blotting paper a little larger than the plates. Place one sheet of the blotting paper in one of the plates and moisten it thoroughly. Count out 100 of the clover seeds and distribute them evenly over the moist blotting paper. Then moisten the other sheet of blotting paper, place it over the seeds, and cover with the other plate bottom side up.

Put the tester in a warm place and keep the blotters thoroughly moist, but not too wet. It is always well to make the test in duplicate or triplicate. At the end of five or six days remove the covering and count the seeds that have germinated. In clover quite a number of the heaviest, best appearing seeds may fail to germinate. These are called hard seeds. When the seed coat of these seeds is scratched so that they can take up moisture they germinate readily. It is very probable that many of these hard seeds that fail to germinate when a test is made do germinate when sown under field conditions.

Tests for germination and purity of all agricultural seeds are made free of charge for residents of Minnesota at the Seed Laboratory, University Farm, St. Paul, Minn. A new seed law went into effect in Minnesota July 1, 1913. All those who wish to sell seed should acquaint themselves with this law. A copy of the law with interpretations may be obtained by addressing the Seed Laboratory, University Farm, St. Paul.

## The Church: Her Glory and Walk

By REV. WILLIAM EVANS, D. D.  
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TEXT—Ephesians (whole Epistle).



The great theme of the Epistle to the Ephesians is the Church—its heavenly calling and earthly life. After the greeting and salutation, the Epistle sets before us its two great divisions: the glorious calling of the Church, chapters 1-3; and the earthly life of the Church, chapters 4-6.

Under the first main division presented to us, the conception of the Church in the mind of God, as an invisible organism which only God can see; in the second main division, the Church as a visible organization, such as the world can see. The bringing together of these two thoughts is the sum total of the message of this book.

Under the conception of the Church we have presented to use first from the divine side, the Church as it was in the mind of God, just as the plans and specifications of a building are in the mind of the architect before a single stone is laid (1:2-14). Second, from the human side: The conception of the Church as it should be in the mind of the Church itself (1:15-23). This division takes the form of a prayer to the Father that the Church man consciously realize and appreciate this divine conception. The object of the prayer is threefold: That believers may know what is the hope of their calling; what the riches of the glory of God's inheritance in his saints; and what the exceeding greatness of his power in those who believe, which power is illustrated in the resurrection and exaltation of Jesus Christ.

Having briefly considered the conception of the Church, let us now glance for a moment at its construction, the account of which we find in chapter 2:1-22. Note here the description of the material out of which the Church is formed, and how this material is described (2:1-12); dead in sin; children of wrath, ruled by Satan, fulfilling the desires of the flesh, without Christ and hopeless, afar off without God, and strangers to the covenant of promise.

The Church is now conceived of as a spiritual structure (2:20-22). Jesus Christ, the apostles and prophets are its chief corner-stone and foundation. Each believer is a living stone in the living temple; each aggregation of believers also constitutes a dwelling place of the Spirit.

The next great point to be considered is the Constituency of the Church which is set forth in chapter 3:1-21. In this chapter are set forth the personal relations existing between the writer and his readers. In the same connection is declared the kind of people out of which the Church is constructed, not, however, as to the individual, as in chapter 2, but with regard to the two great divisions of mankind: Jew and Gentile.

The second division of the book, namely, the earthly walk of the Church (chapters 4-6), is presented to us in the following fourfold way:

First—There is the walk of the Church, which should be a united walk (4:1-16).

The graces that maintain unity are described as meekness, lowliness, long suffering, forbearance, love (4:1-3). Then those fundamental unities on which the unity is based are described: one body, one Spirit, one calling, one Lord, one faith, one baptism, one God who is over all, through all, in all (4:4-6). The fact is further emphasized that the unity which should characterize the Church is not monotonous, but consists in a diversity of gifts (4:7-11). Here are described the various gifts and offices in the possession of the membership of the Church, all of which are bestowed by the Divine Spirit. The end and aim of these gifts is set forth in 4:12-16—they are all to be used for the building up of the body of Christ.

Second—God would have the world see not only a united Church, but also an unblameable membership (4:17-5:21), so he portrays to us vividly the life of the individual believer, which should be characterized by purity, and consistent with his profession as Christ. The old life is described; then the new life, first in general, second then in detail is set before us in glowing terms.

Third—God would have the world see an ideal family life (5:22-6:9). The walk of the Christian family should be one of reciprocal love and willing service for each other. Here are set before us the relation of husband and wife; parents and children; masters and servants.

Fourth—The dynamic power for the realization of these ideals is described in 6:10-18. The Christian must put on the whole armor of God, which is necessary to stand against the wiles of the devil, the prince of the air, and the evil spirits of the world, and to stand firm against the day of wrath.

## POULTRY FACTS



### SUCCESS IN RAISING DUCKS

One of First Essentials is to Have  
Quarters Dry and Clean—Keep  
Old and Young Separate.

(By ANNA GALIGHER.)

Ducks always sleep on the floor or on the ground, therefore all such places should be as clean and dry as possible. Keep the floors covered with clean litter or straw, and change it every day, or as often as necessary.

If a large number are housed together, once a day is none too often. Keep old and young separate, and don't keep ducklings of different sizes together. The larger ones will abuse the smaller ones, especially at feeding time.

It is best to keep not more than 35 in a flock, as they grow faster than when a large number are kept together.

Pekin ducks that have been well fed and cared for through the winter will usually begin laying very early in the spring; sometimes before the cold weather is over. Ours used to begin about the last week in February. But it is difficult to keep the eggs from getting chilled, when they begin to lay so early, and besides, the first few eggs a Pekin lays each season will not hatch.

If the weather is not too cold, March is about the proper time to begin saving the eggs. Remember they will not keep in hatchable condition very long.

Wrap each egg in paper and keep in a cool place (50 to 60 degrees is about right) and turn every day until placed for hatching. These directions should be observed in caring for other eggs.

If incubators are used, the ducklings will be very thirsty after they are hatched. Open the outside door



A Good Arrangement for a Duck House.

and look through the glass once in a while. If they are too warm they will be panting with their mouths open.

They should be removed at once and given a drink of tepid water. If the air is cold they should be placed in a brooder as soon as taken from the incubator.

Be sure to have the brooder properly regulated. The temperature should be about 80 at first. Keep the ventilators in operation all the time, and lower the temperature as the ducklings get older.

When two weeks old 75 degrees will be warm enough. When four weeks old they need not be kept in a brooder at night if they have a comfortable house to sleep in.

Don't overcrowd or overheat incubators. The first feed for the ducklings is dry bread soaked in sweet skim milk or water. Don't let it soak too long, or it will get gummy, and that is what ducks do not like.

They cannot or will not eat sticky feed; they simply shake it out of their mouths, and then it is wasted. Old ducks do the same thing. Place some clean water beside the feed each time. Cold water will do when the ducklings grow older.

Some coarse, clean sand should be placed in the water each time or in some shallow vessel near the feed or water. They need both grit and water while eating.

But do not add sand or any other grit to the feed. Don't confine ducks to one kind of feed. They like a variety. Never give young ducks milk to drink. They will smear their heads with it and become very messy.

Corn bread is very good for young ducks, but it is very fattening. We never feed raw mixtures to newly hatched ducks. They will eat raw food, of course, but it will sometimes cause bowel trouble.

Too much milk will sometimes cause it, also. Green food is essential from the start. If there is plenty of grass in the yard that will do, although they like it best when it is added to their grain food.

We use green clover, green rye, cabbage, dandelions, onion-tops, etc. Green oats are also good for this purpose. All should be cut small enough for growing ducks to eat with ease.

We do not often begin feeding raw mixtures until the ducks are several weeks old, although some green stuff is added once or twice a day.

The Pekin ducks should be fed four or five times a day from the time they are hatched until ready for market. The best time to sell ducks is when from 10 to 14 weeks old. At this age they should weigh anywhere from four to seven pounds each.

**Eggs for Hatching.**  
In getting eggs for hatching purposes, try to select those from the strongest birds.