

for seed corn of poorer germination or that germinated weak.

By testing 150 ears at a time, seed sufficient for 12 to 15 acres may be tested at once if seed is good. By having more boxes, larger amounts may be tested quickly. After testing and throwing out all poor ears, remove the tops and butts of the ears, and plant the remainder.

The only way to be sure you have good seed corn is to test it. As a rule, replanted corn amounts to very little. You cannot afford to have to replant it, especially this year, as the spring is backward, and the season likely to be shortened.

Soil Bacteria and Evaporation.

Until recently, the question of evaporation of moisture from the soil has been considered largely a physical problem. Recently, however, investigations made by Prof. Hoffmann, of Wisconsin University, indicate that bacterial activity in the soil may so change the nature of substances in solution in the soil water as to exert a direct influence upon surface tension, and therefore upon evaporation. Conditions which permit of rapid multiplication of soil organisms increase capillarity, and thus permit of a material increase in rate of evaporation.

THE DAIRY.

Crops for the Dairy Farm.

Different branches of farming require the growing of different crops. The grain farmer grows those grains which give the highest yields on his soil, and which are most in demand on the market. The stock farmer grows crops suited to beef, mutton or pork production, and the dairy farmer produces those crops intended to stimulate the milk flow. The crops, then, for the dairy farm are essentially somewhat different from those required for other methods of farming. To keep the milk flow from falling off, an abundance of easily-digested nitrogenous feed, both concentrate and roughage material, must be on hand winter and summer.

During the early summer, pasture-grass forms the greater portion of the cow's ration, but, as the summer progresses, and the heat and drouth become intensified, it is necessary that the pasture be supplemented by other fodder and more grain. Very little grain is required when grass is plentiful, but many find a little profitable during the greater part of the year.

Perhaps the most important roughage crop on the dairy farm is corn. Fodder corn can be used for fall feed, fed as a soiling crop, and is invaluable during the winter as silage. Corn seems to be the most reliable of the hood crops, does not taint the milk, is succulent, easily digested, relished by the cows, keeping their digestive tracts in good condition, and stimulating the flow of milk. There are few, if any other crops which will give as much actual feed per acre as corn. It is the stand-by of many dairy farms, and silage can be profitably used for summer feeding during the early or midsummer months, before the season's crop is ready for silage.

Mangels or beets are perhaps the best root crop for the dairy. They give large yields per acre, but, on account of the amount of labor required, are not as much in favor as the corn crop. Turnips are all right for the young stock, but because they taint the milk, are not extensively used in feeding cows in milk. They are also an expensive crop to produce.

Of the clovers and grasses, alfalfa, as a feed, stands at the head of the list. It can be cut several times during a season, so is a good soiling crop. It also makes the best of cattle hay. It is the most nitrogenous of all these crops, and is in high favor, being a very heavy yielder.

Red clover, the best known and most widely-grown clover crop, makes the best of pasture and hay for the dairy farm. Cows relish it at any time, and give good results from it.

For spring sowing for silage, a mixture of peas and oats is often used. This crop, sown at intervals of two or three weeks in the spring, insures green feed for summer where no other crop has been supplied for this purpose.

The grain crops most widely grown consist largely of barley and oats. Peas, owing to the fact that they have been rather an uncertain crop during the past few years, and on account of the ravages of the weevil, are not so extensively grown as formerly. Peas make a valuable portion of a mixed-grain ration for the milk cows. Wheat is not in great favor with the dairy farmer. The grains grown on the farm can be well supplemented by adding bran or some of the recognized valuable by-products or specially prepared dairy foods.

The question then arises, what is the best rotation on a dairy farm. A three-year rotation seems to suit conditions admirably. Of course, the alfalfa field cannot be worked into this, but the land devoted to this crop yields good returns and keeps in good condition, so it can be left down for years, with no evil results. The remainder of the land can be sown to corn and roots, followed by the cereal grains, seeded to clover, giving the clover crop the third year, the corn to follow the clover. For the horses, a portion of the clover seeding could be mixed with timothy, and this portion left for two years, the second cutting being used for the horses. In this way a very suitable rotation could be followed, and the cows would be always well fed. A portion of the hood-crop land could easily be devoted to silage crops, and not interfere with the rotation. Such a rotation, together with returning the manure made, could not fail to keep the land in good tilth, and good crops of hay, corn and grain would be almost certain. Few well-managed dairy farms do not yield profitable crops; in fact, most dairy farms are the heaviest croppers in the country.

Remedy for Punctured Teat.

From time to time I see inquiries in "The Farmer's Advocate" regarding a cure for hole in cow's teat. Having had some experience with this trouble, I may say, for the benefit of readers, that I found ordinary shoemaker's or harness-maker's wax a sure cure. Warm the wax just enough that it will drop—that is, until it is quite soft—press the hole full of this material and allow to cool. The wax hardens and closes the opening, and the cow can be milked without further trouble. I used this same treatment for a cow which had her udder punctured, leaving a hole about the size of a fork-tine right into the milk duct, and the injury healed, giving no further trouble. Care must be taken that the wax is not so hot as to burn the cow, and also that it is sufficiently warm to be soft and pliable. The fact that the cow can be milked all the time adds to the value of the remedy. It is simple and easy to apply, and can be used with perfect safety.

Middlesex Co., Ont.

R. J. TEMPLE.

POULTRY.

Geese on the Farm.

The goose requires plenty of free range and water. Many raise geese without natural running water on the place, but, for best success, it is necessary. There are many farms which have spaces more or less worthless for cultivation that could be profitably utilized for the raising of geese. Any low or springy places traversed by streams or filled with bubbling springs are ideal places for the goose. The care and attention necessary in the raising of geese, when such a place is provided, are very trifling, and the cost of food is practically nothing, because geese on free range will pick up most of their food from grasses, insects and material found in wet places. The housing required costs very little. Small, inexpensive shelters, provided they are kept clean, are all that is necessary. Geese are comparatively long-lived birds, but ganders should not be kept after three years of age. Goose feathers find ready sale on any market, and are recognized to be the best feathers for household uses. There is nothing difficult about managing geese. A gander is usually mated with two geese. The geese lay in the early spring. Nests should be provided. They are usually allowed to hatch their own eggs; some however, place the eggs under hens. The goslings require a dry place, with access to plenty of fresh water and young grass. They will thrive on grass and insects alone, but grain can well be given in form of mash to the very young birds. For fattening, corn, peas or other grain is good, and a supply of pulped roots will be found very beneficial in keeping down expense of feeding. Geese will bring anywhere from one to two dollars and a half when ready for sale. Counting the cost, they would be found profitable on many farms.

Winter Eggs.

Editor "The Farmer's Advocate":

I am going to give my experience of winter-egg production. I keep 65 hens, four kinds: Barred Rocks, White Leghorns, White Wyandottes and Black Minorcas. Since the second week in December, 1911, to the end of March, I have sold 133 dozens eggs, and they have laid the year round, with the exception of a few days. I feed them at noon and evening. I give them a bucket of buckwheat or oats at noon, and a mash of potatoes and provender in the evening; also, all the gravel they can eat, and milk and water. I mix the buckwheat in the straw, so as to make the birds work. If any farmer's wife wants eggs, she must attend to the feeding of her hens herself.

Stamford Co., Ont.

(MRS.) J. S.

Rules for Rearing Incubator Chicks.

New Mexico Agricultural College gives the following rules for rearing incubator chicks:

1. Start the brooder a day or so before the incubator hatches, so as to regulate and thoroughly warm all parts.

2. Remove the chicks from the incubator when they are about 12 to 24 hours old, or when dry and sprightly. Put them in a box containing some fine chaff, and cover with a cloth until they are about 36 hours old.

3. Kill all the crippled chicks or those that are so weak that you believe they will not live. The growing period is so short that it is not worth while to attempt to raise them.

4. Put all the healthy chicks in the brooder when they are about 36 hours old. Do not put too many in the brooder so as to crowd them. Usually, a brooder which is rated to hold 100 chicks will give much better results with about 60.

5. After they have been in the brooder a little while, to get accustomed to it, give them their first feed. This may be done by putting it on a paper in the front part of the brooder.

The first feed should consist of either the yolks of hard-boiled eggs, or old dry bread soaked in milk, and allowed to drain before feeding. The infertile eggs or those that had weak germs, and which were taken from the machine during the first half of incubation may be used.

7. Do not feed much at first, but feed every three hours during the first week. This would bring the feeds about as follows: 6 a. m., 9 a. m., 12 a. m., 3 p. m., 6 p. m.

8. After the second day, ground grain or rolled oats may be gradually substituted for eggs and soaked bread. A mixture similar to the following may be used: Ground wheat, 2 parts; ground corn, 1 part; ground oats or beans, 1 part; beef scraps, $\frac{1}{4}$ to $\frac{1}{2}$ part.

9. Keep clean, fresh water before them at all times.

10. Generally speaking, the temperature of the brooder should be kept at about 90 to 95 degrees the first three or four days, then may be lowered to 82 to 90 for the next week and one-half. After this, it will not be necessary to burn the lamp, except at night, unless the day is cold.

11. However, watchfulness and good judgment are usually better than a thermometer. When chicks are warm and comfortable, they will be scattered around under the hover; if cold, they will huddle and crowd in the corners; and if too hot, they will hunt the openings, spread their wings, and are liable to contract diseases from being in drafts.

12. Be very careful not to leave the lamp turned too high, as it always crawls up after burning a little. See that it has plenty of air, as carelessness here may result in fire.

13. If any water is spilled on the floor, put in some more litter, as wet floors cause disease.

14. If the weather is cold, the chicks can be kept in the brooder the first two days, then allowed to run out through the small openings, and, after the third or fourth day the large opening may be used. If the weather is warm, allow them to be out from the first day.

15. Keep fine grits, oyster-shell or gravel so they can have access to it at all times.

16. Clean the brooder thoroughly every week, and spray with some disinfectant.

17. When the chicks are six or seven weeks old, remove the brooder and put low roosts in the brooder house.

18. Feed meat scrap, ground green bone, or any other form of animal food, together with green vegetables, at least three times a week, and a little every day is better.

19. Always see that the chicks are comfortable and contented. They are usually fairly quiet if they are.

20. It is very essential that you give careful attention to the small things, as young chicks are very delicate, and carelessness will mean failure.

Value of Poultry Manure.

Fresh poultry manure is, according to values of commercial fertilizers, worth 60 cents per 100 pounds. Figures from different experiment stations give the product of 25 hens for the winter season of six months as 375 pounds from the roost droppings only.

Poultry manure is especially adapted as a top-dressing for grass, because of its high content of nitrogen in the form of ammonia compounds which are nearly as quick in their effect as nitrate of soda. A ton of the manure, preserved with sawdust and chemicals, would be sufficient for an acre, when compared with a chemical formula for top-dressing.

On the same basis of comparison, 100 fowls running at large on an acre should in a summer season of six months have added to its fertility the equivalent of at least 200 pounds of sulphate