

by feeding it to their hens and turning it into eggs.

Ontario should have her farms stocked with more pure-bred poultry. Each and every farmer who has not got pure-bred fowl should secure them this fall. One will never regret the change from mongrels to pure-breds.

Use your best judgment this fall, and cull your flock closely. Keep no culls; send them to the block. Procure better stock, by introducing a new male to your best hens; good results will follow.

Let everyone keep strict accounts in his poultry department, and I am confident if proper care and attention be exercised that the ledger will balance on the right side. Try it and see.

Farmers who raise poultry and want to learn more in regard to housing, feeding, etc., would do well to write to the Ontario Agricultural College, Guelph, Ont., for poultry bulletins. They contain a valuable lot of information.

Roosts should be about 2 1/2 inches wide, about 3 ft. off the floor, and if the nests are arranged under the dropping board it will make things handy, and save time in a great many ways. High roosts and round roosts are now almost a thing of the past.

Young chicks well cared for and properly housed will grow almost to your surprise. But they are delicate little things the first week or ten days; after that, with reasonable care, they will thrive and grow rapidly.

Poultry-raising is good work for the women folks, and most women know how to look after the little chicks properly. Give your wives or daughters the profit they derive from raising poultry; it will encourage them and help you as well.

Onion tops, lettuce leaves and cabbage are all excellent to feed chicks as green food; also clover leaves. Provide your young chicks with a dust bath. They enjoy scratching and dusting themselves, and it helps keep the lice away.

Incubators should be carefully stored away in a dry place when they are not needed for hatching. The glass should be well protected in order to avoid breaking.

Never neglect to look after the small details. They are what necessitate your attention; they crown your efforts with success. Little by little makes great things. The poultry-raiser has a great many small tedious details, but not one should be overlooked. They are the makings of the business.

Try to keep your poultry and poultry premises free from that little enemy the louse. They will creep in and establish a permanent abode if you are not diligent and active. Close observation will tell the condition of your flock. Keep fowl, but don't keep lice as their partners.

Every day the poultryman in active service learns something he did not know before—some new methods to save time or bring better results are popping up. On the other hand, you will learn to know why you failed at certain things last year. Close observation and practical poultry service counts for a whole lot of success.

Rely on your own experience, and do not let theories persuade you.

Start to give your poultry better care. See if you can't give them a better house, a more proper food, and I know your biddies will be thankful.

J. W. DORAN.

Renfrew Co., Ont.

Determining Fertility of Eggs Before Hatching.

Some time ago the following questions submitted to "The Farmer's Advocate" were referred to me:

No. 1.—Is it possible, before setting the eggs, to ascertain whether they are fertilized or not?

No. 2.—By breaking an egg (that has not been set, of course) can one, with the aid of microscope or other instrument or means, make sure that the germ is fertilized?

Que.

My answers were as follows:

No. 1.—There is no examination to which the unbroken egg can be subjected that will furnish the information.

No. 2.—Yes, by an embryologist or one who has skill in the use of the microscope. While the aid of the microscope is necessary, a very high power is not required.

Subsequent to writing the above I thought it well to obtain the opinion of those at certain of our large universities who are engaged in embryological investigations. A has kindly furnished me with the following answers:

No. 1.—I regard it as impossible to distinguish between a fertilized and an unfertilized egg before incubation.

No. 2.—It is quite easy for an embryologist to determine whether an egg is fertilized or not after it is broken.

Authority B wrote me as follows:

No. 1.—I know of no means to that end.

No. 2.—The diagnosis is simple enough. The blastoderm is clearly distinguishable, especially if

a low-power magnifier is used. There is no blastoderm visible if the egg has not been fertilized.

It will be observed that in these answers there is an absolute agreement, and, consequently, that your correspondent may accept them as correct.

FRANK T. SHUTT,
Chemist, Experimental Farms.

GARDEN & ORCHARD

Seeking Outlets for Ontario Small Fruits.

There is more concern than formerly among fruit-growers this season as to the possibilities of marketing the crop satisfactorily. The outlook for a big crop of all kinds of fruit is very bright. If the yield is anything like what present conditions indicate, there will be some difficulty in finding a market for it at satisfactory prices. Especially is this true of the more perishable fruits, such as berries and cherries. The strawberry crop is likely to be exceptionally large. This crop is all marketed in Ontario, and during the past couple of years at satisfactory prices. This year it looks as if an outlet will have to be found outside of the Province, if fair prices are to be obtained.

No attempt has been made yet to ship strawberries to the West. For the past couple of years some Ontario cherries have been shipped to Winnipeg, and have realized good prices. The cherry season is on about the time of the Winnipeg Exhibition, and as the Ontario Government makes an exhibit of fruit at that exhibition, there has been someone on hand to look after the shipments of cherries as they arrive. For a couple of years past P. W. Hodgetts, Director of the Fruit Branch, Toronto, has had charge of Ontario's fruit exhibit at Winnipeg, and has looked after the shipments of cherries sent out by growers. These shipments have sold at satisfactory prices, and the intention is to make much larger shipments this season, in view of the prospects for a big crop.

With strawberries it is different. This crop is marketed before the Winnipeg Exhibition takes place. To make shipments to the West it would be necessary to send someone along to look after them when they arrive. This would add greatly to the expense. It would be useless to send shipments without some interested parties at the other end to receive them and place them before buyers in the West in proper shape. For this reason it is not likely that any shipments of strawberries will be made this summer, though it would greatly improve market conditions at this end if some other outlet than the local market were found for this crop when the yield is likely to be very large.

A beginning has, however, to be made some time, and if it is desirable to develop a market in the West for berries and other tender fruits, it would be worth while for the Government to send someone to Winnipeg to look after initial shipments and place the fruit before the trade there in proper shape. In developing a market in the West for Ontario small fruits the business must be handled in the best way. The fruit sent must be of the best to begin with; then it must be forwarded under conditions that will permit of its arrival in marketable condition. If this is done there is no doubt that profitable prices can be obtained for a considerable amount of the product.

CHRONICLE.

Thinning Fruit on Trees.

Editor "The Farmer's Advocate":

Ladders, step-ladders and intelligent men are all that are required in thinning fruit on the tree. As a general rule, it is well to take off all small and deformed apples. It is inadvisable to leave more than two apples together, and, if the tree be heavily laden, thin to one.

On July 7th, last year, I commenced to thin Greenings, and continued on Holland Pippins, Alexanders and Baldwins. When the fall apples are about the size of walnuts, they may be thinned. Thinning Spies before last of July is not recommended, but afterwards it may be proceeded with until harvest.

In 1908, this work, on my entire orchard of Greenings, Baldwins, Kings, Golden Russets, Spies, and a few other varieties, effected a uniformity of size in the ripened crop that facilitated packing in boxes, a method certain of adoption in the near future, for it is only thus that we will be enabled to receive the highest market price, and prove our boxed apples equal to those of British Columbia and Oregon.

By thinning, the buds for the following year

are benefited by the nourishment which has not been uselessly absorbed by unsalable fruit. Proper modes of fertilizing, thinning, spraying, cultivating and pruning cannot but produce apples fine enough for the world's competition.

In thinning ordinary-sized trees, which are about two-thirds loaded, a man could thin from ten to fifteen trees per day. In case of an unusually large tree being overloaded, a man would need to spend about one-half day in removing the small and deformed apples.

In breaking the stem, one may use the same method as in picking in the fall, and avoid injury to the fruit buds for the succeeding year. There is very little danger of injuring the fruit buds in thinning, the only danger being in the placing of ladders, and a person moving about in the tree, when he is liable to break the fruit-spurs.

Although I found the expense of thinning in 1908 averaged 5 cents per barrel of fruit harvested, the cost of picking and packing was reduced, in not having to pay for the handling of small and inferior fruit.

A large, overloaded tree, if not thinned, would probably produce about four barrels of firsts, but if thinned, would very likely yield eight or more, thus almost doubling the profit, after paying a man 75 cents for thinning it. My entire crop of eight hundred and eighty barrels were picked and packed for 20 cents per barrel, and, including the cost of thinning, was handled much cheaper than in the previous year.

From this method, adopted for the first in 1908, I reached results otherwise unobtainable. Only 7 per cent. were graded seconds, while 98 per cent. ranked as firsts.

Therefore, in conclusion, my advice to the fruit-growers of Ontario is to thin apples, peaches, and, in fact, all fruit where trees or vines are overloaded.

J. J. GILBERTSON.

Norfolk Co., Ont.

More Spraying of Orchards this Year.

Though the Ontario Legislature last winter did not pass the legislation asked for by fruit-growers in regard to spraying of fruit trees, orchardists are taking up spraying more vigorously than ever this season. The co-operative associations are exerting themselves, and more spraying is being done this season than in the past. Heretofore it has been confined largely to the San Jose scale area; but now spraying mixtures are being applied in districts where there is no scale, and in sections where the codling moth was most destructive last year.

Many farmers have purchased spraying outfits and are doing the work under the supervision of the inspectors employed by the Government. The sprayers used have the capacity of power sprayers, but are operated by hand. This enables orchardists to do the work quickly and at the proper time. In Western Ontario spraying is being systematically done in many districts in the more northerly counties, and in Eastern Ontario in the apple-growing centers bordering on Lake Ontario. This spraying is being done chiefly to combat the codling moth, and the ravages of this pest are not likely to be so apparent in this season's crop as was the case last year. If the spraying is properly done, and the crop of apples much improved thereby, it will be an incentive to continue and extend the work in future.

W. J. W.

English Fruit Crop Prospects.

The acting Trade Commissioner at Leeds, Eng., writing to Trade and Commerce Weekly Report, under date of May 8th, says:

There is every prospect of an excellent fruit crop in England this year, providing no frosts are experienced during the next few days. Information received from various parts of the country shows that the outlook is very promising. From the principal fruit-growing districts come reports of a gratifying show of blossom on the apple and pear trees. Berries are also looking well, especially gooseberries and strawberries, but, unfortunately, in the case of plums, the bloom has been much affected, and the fruit looks like being a failure. The hard winter, from all accounts, has done no damage to the young trees; indeed, according to one expert, hard-winter fruit invariably turns out well.

The month of May is, of course, a most critical time of year for fruit-growers, as, if there should be any severe or continuous night frosts during this month, considerable damage is always done to the trees just as they are beginning to bloom. Although it is rather early to speak definitely, it can be said, with a fair degree of certainty, that, should nothing untoward happen during this month, there will be more than an average yield of apples and other fruit in England this year, with the exception of plums.