

the bees stop bringing in dark honey change the combs. Sometimes when the brood chamber is badly crowded when the sections are put on the bees will carry up some of the dark honey. To prevent this have as much as possible of this honey converted into brood or take out some of the full frames and give them to colonies that need them. Sometimes parts of the comb will contain dark honey and part light. Now, when extracting one can uncap the light honey and extract it, then uncap the dark and do likewise, and thus keep them separate. When it is somewhat mixed in comb sections the best way is to sell it locally for what can be got for it.

In the production of extracted honey, what is the best method of increasing the number of drawn-out combs?

Mr. Fleming, of Michigan, considered that during the fall flow is the best time to have combs drawn out. In the spring the old combs are easier to handle and the best for extracting. It is not well to allow weak colonies to build combs. Make the strong ones build for the others from starters or foundations. It is supposed by some that combs filled with buckwheat honey will tend to color the white honey the following spring, but if the bees are allowed to clean out the dark combs thoroughly after being extracted, the light honey extracted from them the following season will be all right.

POULTRY.

A New Poultry Manager at Guelph.

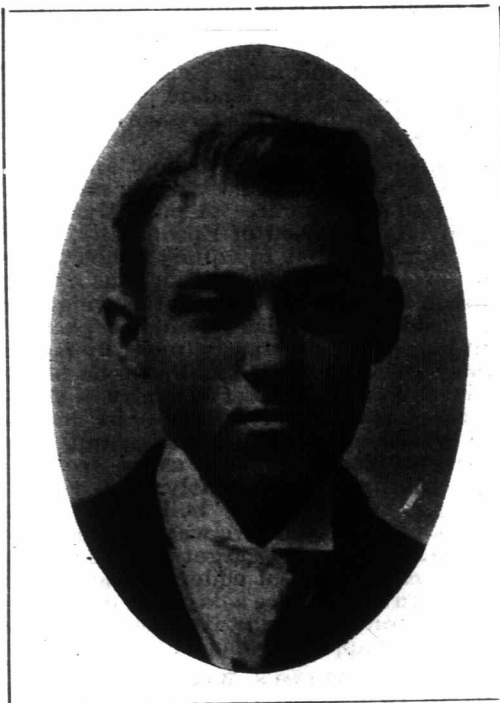
Since the poultry department was introduced in connection with the Ontario Agricultural College it has been managed by Mr. L. G. Jarvis, the noted judge of pure-bred fowls. Recently his resignation has been accepted, and Mr. W. R. Graham, B. S. A., has been appointed to succeed him. Mr. Graham is no stranger to our readers, as eminently practical matter from his pen has frequently been published in our columns. He is a graduate of 1894 class of the Ontario Agricultural College, and has since then been engaged in extensive poultry-raising, a taste for which showed itself in his early years, when he preferred engaging himself among the chickens to any other pleasure. After his graduation Mr. Graham worked a few months on his farm near Belleville and then spent a year on one of the largest and best-conducted duck farms in America, that of Mr. James Rankin, in Massachusetts, where 10,000 ducks are raised annually, besides large numbers of eggs sold for hatching. Light Brahma and Barred Plymouth Rock fowls are also kept, and used for broilers and winter eggs for the Boston market. Since Mr. Graham returned to his farm from Mr. Rankin's he has given his time largely to poultry farming, hatching some 1,500 chickens and a few hundred ducks in a season. Mr. Graham is eminently practical and full of energy, and we predict for him success in his new departure. We might add that he is a brother to Mr. R. J. Graham, Belleville, who was for years the successful secretary of the Ontario Creamery Association.

Turkeys.

TESTING THE EGGS—FOOD FOR POULTS—ENEMIES.

As a rule turkey eggs are strongly fertile, and it is no uncommon occurrence to have the entire nestful of eggs transformed into lively young turks. In a great many yards, last year proved an exception to this rule. Some did not succeed in getting a single bird, others only a very small percentage. We had out of two hundred or more eggs only about sixty young turkeys. I am not prepared to give the different causes, nor to suggest an unfailing remedy, nor shall I set it down as "bad luck." Some breeders succeeded in getting the usual large hatches. Some of those who conduct large poultry plants, and who write about it, maintain that all infertile eggs should be removed by testing on the sixth and fourteenth days. I sometimes think we have better hatches when we let the hen manage her own affairs and leave the eggs undisturbed, but when it is a difficult matter to get hens to sit we can economize time and hens by testing the eggs. The manufacturers of incubators, etc., usually sell egg testers separately, and these are very convenient. There are many homemade egg testers. They are all manufactured so as to give a strong light, usually from a lamp, shining through the egg. The egg must be surrounded by some opaque material. Even a board with a knot hole in it set up before a bright light will answer the purpose. On the egg being placed before the hole it will show, if fertile, a small dark spot with red veins branching from it. If infertile no spot is seen and the egg is clear like a new laid egg. I would recommend when testing gentle handling and no exposure to drafts, and as quickly return as possible to the nest. Very often there will be enough tested out so that one or two hens will cover the remainder. The eggs that have been removed will be found quite good and are perfectly fit for food, though sometimes one does not like the idea of eating an egg that a hen has covered for six days. I usually save them and make a custard

for the young turkeys. I have no special recipe for this custard, excepting that I use eggs and milk only and cook them together. I never use spices, as pepper, ginger, etc., for poultry. I sometimes add some chopped onion tops. A variety of food is all the poultry require in the way of spice. This year I intend to try rolled oats for a beginning, as I have had excellent success raising chickens, their principal diet for several days consisting of rolled oats, raw and dry, and for drink, skim milk. If I find the turkeys like rolled oats I shall notify you. The Scotchman is supposed to gain size and muscle on oatmeal and milk. Why should not this food be good to promote growth and muscle—and that is what we are after—in turkeys? But to prevent them becoming tired of one food we shall vary it by giving the custard, and as they get older a porridge made with half corn meal and half bran, or probably of pea and oat chop. I find they will eat almost any kind of porridge. I simply pour boiling water on the meal and stir it, using only water enough to scald the meal. I do not want it sloppy, preferring it crumbly. I tried some crushed beans in the porridge one year, but they would always discard the beans, so I concluded beans would not be good for them. One of my neighbors succeeds in raising nearly all turkeys hatched, and I understand she feeds shorts moistened with cold water as the principal food. I believe it is not so much what we feed, but how, when and where that helps us to make a success with turkey raising. In my last I spoke of the rooky coop and pen. This pen should surround them for a week or until they begin to jump out, when it may be removed; but I find it best at this season of the year to keep the turkey confined in the coop until the young ones are at least three weeks old, moving it every day, and longer if there is clover or grain fields near. Had she only the short grass of a fenced orchard they might be allowed to wander at will after the first three days; but if allowed to roam



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through wheat and heavy clover, the largest and strongest may reach maturity, but the smaller ones will die from starvation, chill, or exhaustion. Last year I made the mistake of allowing them to enter a field of very heavy clover, with the above result. Had I kept the turkey mothers in coops the young would have gone only short distances into the clover.

It is recommended to give all food in shallow pans, these to be gathered up and washed after each meal. I find it less work to let them eat directly from my hands. I sit in the middle of the pen and they all come, and I stay till I see each one has had some food, when I go to the next pen. Some turkey raisers warn us about the danger from over-feeding. They say, "Feed often and but a little at a time. Over-feeding induces bowel disease, etc." I find turkeys are very light eaters, and they will take only a little at a time, when they start off on a hunt for flies. However, if I find they show signs of greediness I shall consider it my duty to inform them that they have had enough for one meal. As a special treat I sometimes give them curd made from sour milk and occasionally a little sour milk or buttermilk to drink. Much of the latter will be found too relaxing. All the coals they will eat is the best tonic and disease preventive.

A special chapter on the subject of lice might be written, for of all the deaths in turkeydom it would be under rather than over the average to say that nine out of every ten are caused originally by lice. Someone has said: "Eternal vigilance is the price of liberty!" Eternal vigilance may keep the turkeys free from parasites. In this, as in all things, "prevention is better than cure," and by a thorough dusting of the old birds with insect powder, a liberal supply of dust for the bath—some recommend mixing insect powder with the dust, and the coops at some distance from the poultry runs—the young turkeys may never know

the pest. I have raised some flocks which were entirely free from lice, but with all this care one cannot make a mistake in examining the young birds every few days—on the heads, between the flight feathers of the wings, around the vent and tail, and by the sides of the crop. If any lice are found the whole flock may be attended to. I use insect powder wherever the lice are to be seen. Some claim it is too strong for turkeys, and use butter instead, and some rub them all over with a brush oiled with coal oil. Any of these will kill the lice. But always bear in mind that it is a very easy matter for them to get a fresh start, and this treatment will have to be repeated. After the feathers on the backs of young turkeys appear they can generally fight the lice, the dampness, and disease, though I have heard of large numbers of turkeys dying when pretty well grown from no apparent cause, though in some cases the cause was found to be very large lice. One of ours began to droop last fall. No attention was paid to it for some time, until the others grew so much larger. It was always hungry, but could not always get enough to eat, as all the flock usually dislike the weakling. However, it got so thin and weak that it became necessary to kill or cure. I did not think of lice on a grown-up turkey, but it was really covered with them. I hung it up, head down, and powdered every part of it, even to the outermost feathers on the legs. The lice appeared to travel ahead of the duster, for there were always scores of them in sight. However, I put it away from the flock and gave it food and water. It never required another application of powder, and though it remained small and weak for a long time, it now presents a very creditable appearance. I am at a loss to understand why one or two in a flock should be attacked and the others escape, but there are still a few things to learn.

Rats, too, are a constant danger until the turkeys are old enough to roost in trees. While they are young it is best to shut them in rat-proof coops every night, though it is seldom they are disturbed if some distance from buildings or if under the old turkey in the open air, but this plan is objectionable on account of the danger from wandering in the wet grass early in the morning, and where hawks and foxes are plentiful the early bird is in danger of being caught. I have enumerated most of the difficulties and stumbling blocks ahead of the would-be turkey raiser, and yet they are all crowded into the short space of five or six weeks. After that time all the care required is to throw them a little food when they come home to roost, and if you are an early bird you may be out in time to give them a little more before they start out in the morning.

A large flock running together with two or three old females and a male bird is the best protection from hawks. All late turkeys should be allowed to run with their mothers; they are sure to do well. We have now young hens weighing over ten pounds. The eggs from which they were hatched were laid in wheat shocks. The turkeys received no attention until they joined the other flocks, when they were fed in the common poultry yard. It is a great saving of labor to have the poultry trained to come when called. While they are still penned I begin calling them every time I go with food. They soon learn to answer and to come as far as possible to meet me. Then when they are allowed their liberty, in the early evening I call them and soon hear their answering calls, when I feed them and coop them for the night.

Middlesex Co., Ont.

GYRA.

Care of Ducklings for Early Market.

Ducks' eggs take 28 days to hatch, and may be set in the same manner as hens' eggs. They should be given to a hen, as it is wasting time to let a duck sit before she begins to molt. She is easily cured of broodiness if shut off the nest. Ducklings, when hatched, do best on oatmeal sprinkled with water. Hard-boiled egg and bread crumbs may also be used. After three days they may have any sort of meal. Biscuit meal is a very good food for getting them on. Feed them well about four times a day until they are four weeks old, and if the weather is fine they may have their liberty. (Ducklings must not be allowed to get wet.) After that time shut them up, and feed them liberally three times a day on barley meal, with fat or meat mixed in it. They must have a good supply of green food, and grit must not be forgotten. Give them water at their meals, but do not let them have an unlimited supply by them. Never let them go into a pond.

The ducklings must not be kept after they are ten weeks old. The forward ones should be ready to kill at eight weeks. They begin to molt at eleven weeks old, when they lose condition, and cannot be got ready for market until they are about eighteen weeks old, which means a loss of time and money to the breeder.

Ducks are very careless about their eggs, and drop them anywhere, often in water. They usually lay early, and should be shut up after their morning meal until they have laid. It is wise not to allow more than three ducks to a drake, especially if there is no pond. It is only possible in a short paper to sketch out the general lines of duck-keeping. The foregoing is the manner in which the writer has kept ducks most successfully for a long time, and if these simple rules are carried out ducks may be kept most profitably, with a very small amount of trouble and expense.—Mary Borton.