tables cooked or raw may be fed. Cleanliness is absolutely necessary. Give them some chaff from the barn to scratch in. Anything is good which will keep them lively and healthy. Abundant quantities of common foods, intelligently fed, and a supply of clean, pure water, is all that is really necessary. As the chicks grow, substitute ground oats for the bran, as the bran gives a less attractive color to the skin. When nearly ready for market,

PRIZEWINNING LINCOLNS

At Winnipeg Industrial Exhibition, 1900.

OWNED BY W. T. LYTLE, BEACONSFIELD, MAN.

the bulk of the food should be corn meal and scraps, with cracked corn as a hard grain. When the chickens have acquired the preferred weight, they are then ready for market, and should be given no food within 12 hours of the time of killing. Bleed them from the mouth, and pick dry before the animal heat has gone out of the body. Pick the body and neck clean; but pick the wings only to the second joint. Leave the head on, and the entrails undrawn. Cool them in cold water, and hang up by the legs until dry. Pack closely in boxes, using nothing between the bodies, unless clean brown paper. If the above has been carried out, the returns in nearly every case will prove profitable.

PERRY F. DOUPE.

Perth Co.

Practical Poultry Meetings---Mr. A. G. Gilbert in Manitoba.

Mr. A. G. Gilbert, Poultry Expert at the Experimental Farm, Ottawa, has been addressing a series of Institute meetings throughout the Province of Manitoba. As these meetings were held at a time when the farmers were busily engaged in getting the stock into winter quarters, the attendance was not as large as it otherwise would have been. One of the best meetings of the series was held in Winnipeg on the 17th of November, under the auspices of the Winnipeg Poultry Association, at which some twenty local poultry fanciers were in attendance. The president, Geo. Wood, occupied the chair. A deep interest was taken in the subject of Mr. Gilbert's address, and he was plied with questions. During the discussion many important points were threshed out. Mr. Gilbert advocated the poultry industry from the farmer's standpoint. Addressing fanciers, he urged them never to sacrifice those qualities that are required by the farmer and the farmer's market. The fancier, by careful attention, could breed birds possessing all of the essential fancy points and capable of winning prizes in the best company, and yet combining with these fancy points the qualities required by the poultry breeder on the farm.

Brief reference was made to the work of poultry specialists, showing what was being accomplished on the large poultry farms in Ontario and the Eastern States. He considered that every farmer should keep from 100 to 150 hens, and showed that a profit of at least $1.00 per hen per year should be made. The speaker then went fully into the question of egg production, treating the subject principally from the farmer's standpoint. He recommended the use of all kitchen waste, which should be cooked and then mixed with sufficient crushed grain, shorts or whatever was handy to bring the whole to the consistency of a crumbly mash; a pinch of salt and a little black pepper might be added. No salt meat should be used. This mash to be fed in long, shallow troughs for the morning meal. Great care should be taken not to overfeed, as that would make the fowls lazy, and they would not take sufficient exercise during the day. While no set rule can be given, one quart of this mixture to fifteen hens, and one quart to ten pullets, was about right. He would occasionally, on alternate days, give the mixture in the afternoon instead of the morning, as there is not as much danger of overfeeding in the afternoon just previous to the long night fast. He strongly recommended the use of cut green bone, which made an almost perfect food, but should not be used every day, as it is too stimulating. About a pound for sixteen hens, given three or four times per week, is a fair allowance, and by actual test will add considerably to the number of eggs received. At Ottawa, green bones could be purchased at half a cent per pound, but he considered them cheap poultry feed even if 2 cents a pound had to be paid. Beef heads are good. He also recommended horse flesh and bones if they could be got cheaper and more easily than beef bones. Ground bone is better than meat, as it contains phosphate of lime, which is of value in shell-making, etc. On the Ottawa Farm, the "Standard," a horizontal bone-cutter, is used, and he considers it the best. The noon ration should consist of sound whole grain, scattered about so that the fowls would have to scratch to get it, thus enforcing exercise. Whole wheat could be advantageously fed to the Plymouth Rocks and the Asiatics; whole corn may be given to the Mediterranean breeds, but is too fattening for such breeds as the Plymouth Rocks. It is well always to send the birds to roost at night with a full crop. He deprecated the use of raw meat, as having a tendency to teach hens to eat eggs. Overfeeding was undoubtedly the cause of half the diseases among poultry. He also referred to the desirability of supplying green feed during winter, than which there is nothing better than mangolds. Cabbages are good, but expensive and hard to keep. One fancier present recommended kohl-rabi, as being as cheaply grown and easily stored as turnips, and most suitable for poultry green feed. Mr. Gilbert had obtained good satisfaction from "lawn clippings," carefully dried and put away for winter, and when steamed he considered them better than clover, but it was necessary to give small quantities, as fowls were liable to become "crop-bound" if fed too much at a time.

The speaker referred briefly to the construction of the poultry house, pointing out the importance of affording proper ventilation, and cautioning against top ventilation in poultry houses.

Speaking of the egg trade, he said it was most difficult to get really sound, good-flavored eggs in the month of July, a time when eggs were most plentiful. It had been proven, he said, that eight hours' warmth under a hen would cause sufficient change to take place in a fertilized egg to cause it to spoil when that warmth was removed, and he said in crowded poultry houses eggs are frequently under a succession of laying hens, or "cluckers," for that length of time before being gathered. Greater care should be exercised in collecting all eggs promptly once or twice a day, and keeping them in a cool place, not in a cupboard alongside of the cook stove, and in keeping no males in the laying flock. It was always best to make up breeding pens with a few carefully-selected hens, mated with the best procurable male birds. He advised farmers to buy breeding stock—even a trio—rather than depend upon buying eggs for setting. He then demonstrated the importance of feeding and preparing the chickens intended for market so as to obtain the best market prices.

The discussion following the address brought out many interesting points in reference to the care of eggs in incubators, feeding rations, the winter care and management, and lack of vitality of winter eggs, etc.

Our Poultry and British Markets.

Our system of cold storage, both as regards the cold-storage firms themselves and the cold-storage cars for transportation, is making rapid strides toward perfection, and it will not be long before we have in Canada a cold-storage system equal to anything in the world. Undoubtedly, of all the comparatively undeveloped sources of agricultural wealth, none will more surely fill the bill than poultry. The demand for the superior quality on the English market is unlimited. The home market is rapidly increasing. A help to this development is the cold-storage system of the Department of Agriculture and the furnishing of instructions as to poultry culture from the Experimental Farm system and the Commissioner of Agriculture. But the most direct aid is in the shape of such large firms as the Canadian Produce Co., of Toronto, who buy the chickens from the farmers and do the fattening, packing and shipping of the birds.

It may be that when the superior quality of our product is known and appreciated on the British market, and the prices established so that we will know what it is possible to get, the time will be opportune for the individual farmer or association of farmers to fatten and ship for themselves. By that time our farmers should be well acquainted with methods of shipment to an already established market with guaranteed prices.

This year the poultry trade with Great Britain has developed as it never has before. As early as the middle of last month one firm had sent to England a shipment of Canadian chickens which was five times larger than all shipments sent before from this country in any previous entire year. Next year there will be a demand for chickens unheard of before. The farmer, for the present year, and probably for the next, should not try any direct shipment, but find out and send his chickens to the most reliable firms in this country. It may not pay the farmers to do the fattening, but it will certainly pay them to raise chickens to sell to the large firms, who will do the fattening and shipping.

A. G. GILBERT,
Manager Poultry Dept.

Ottawa, 1900.

ENTOMOLOGY.

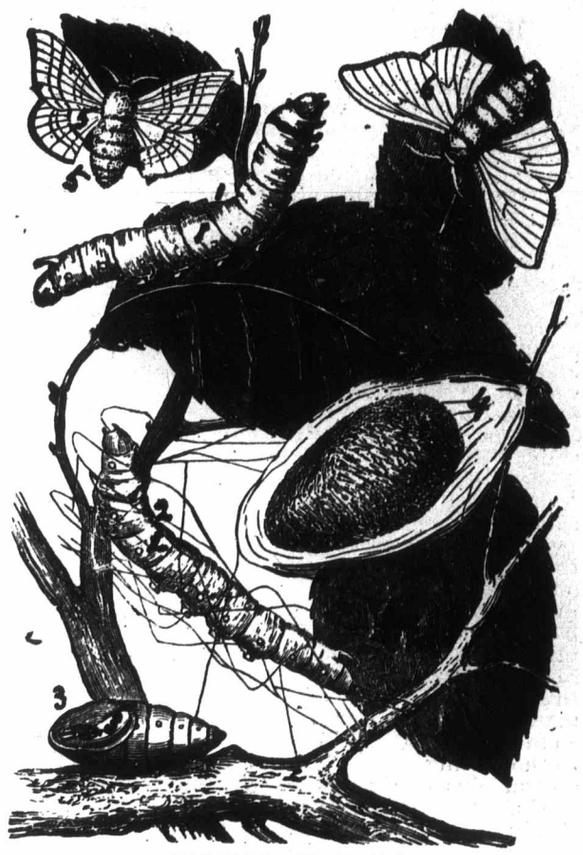
Silk Culture in Canada.

[A CHAPTER FROM PERSONAL EXPERIENCE.]

Figures Nos. 1 and 2 in the cut show the full-grown silkworm. It does not look at all beautiful, and it is likely that many of your readers would not care to touch it, but for all that it is a very nice, clean little insect. From the tip of its jaw to the end of its tail, outside and inside, it is the purest silk, and at no time and in no way in its short life is it at all offensive. It has five pairs of feet, three pairs of "hands," two spinnerets, one on each side of the head (they do not show in the cut), and a pair of what have been very busy jaws or mandibles. The little spots on the side have narrow slits in them, and serve as lungs to the insect. Its eating days are done; it has now only to spin its cocoon, come out the moth (seen in figure 6), and lay its hundreds of eggs and die.

As this is an insect probably of great future importance in Canada, it might be best, before proceeding to tell what experiments in silk culture have been made, to describe the insect itself and its mode of life, leaving the rest for a future article.

The egg of the silkworm is in size less than an ordinary pin's head. Under a glass it is seen to be speckled brown and white, though to the naked eye it appears to be a plain brown. When it first hatches out, the worm is like a little bit of black silk thread, about an eighth of an inch long. Its proper food is mulberry or osage-orange leaves, though it will thrive a little on lettuce and other leaves of the same family. It grows best when kept at a temperature of from 70 to 80 degrees F., though it makes fair progress in a wood shed or barn. The eggs should be kept over winter in a cold place (they will stand 25° below zero), and care must be taken that they be kept cold in spring, till the mulberry or osage orange is well leaved out; then, if necessary, they may be brought into a warm place. They have no eyes, and cannot go from branch to branch of the plant for food, so they need to be fed, and this is done by placing fresh leaves on a tray made of cardboard and mosquito netting and laying the netting over the worms. They will come up on the leaves and eat them. Fresh food is given them twice—better, perhaps, three or four times—a day, the leaves being occasionally dipped in clear, cool water before they are placed on the netted tray. The worm knows neither daylight nor dark, and has no need of sleep, so it eats on, night and day, and when some hundreds of them are in a place together, the sound of their eating is like the sound of rain pattering on a roof. Growing as fast as they do, it is not long till the netting is too fine for them, and cardboard-box lids, with good-sized holes punched in them, are used instead of the netting. The holes



SILKWORM AND COCOON.

(The picture is about two-thirds life size.)

1.—Worm looking for a place to spin.
2.—Spinning the fastening threads.
3.—Chrysalis stage.
4.—Cocoon cut in two.
5.—Male moth.
6.—Female moth.