

## An Experience of One Year with Artificial Incubation

(Continued from Page 8.)

nearly half. The machine is then reopened and the tray replaced.

### Cooling the Eggs.

Our cellar was not furnace heated and was fairly cool. Hence for the first week the cooling of the eggs during their two turnings at intervals of twelve hours was deemed sufficient. From the eighth to the eighteenth day the egg trays were left on the table until they felt cool to the lips. The time varied with the temperature and humidity of the atmosphere. This, too, is important. Did you ever notice that "Biddy" when left to herself, leaves the nest for quite an interval each day? Be sure the table top is tight and that no part of the tray projects over it, as then the cooling will be uneven. The manufacturers provide slides for the trays on top of the incubators, but we found that, while the incubator top was all right for a small machine and a light tray, it was altogether too heavy a lid when the tray contained 200 eggs. We built a table for the purpose of just the right height that the trays could be drawn out directly on to it. After the eighteenth day, the machine is closed up and the eggs left alone until the hatch is complete.

### Moisture Control.

Moisture is an essential factor in successful incubation. Our incubator has sand trays under the egg trays. The sand, from first to last, is kept saturated with water. When water is added to the trays, have it the same temperature as the egg chamber, 102 or 103 degrees, or it will cool the whole chamber. To insure a still greater supply of moisture, we sprinkled the cement floor once daily. Even then I doubt if the air in the machine was as humid as the air is under the hen. There are some machines, I believe, which do not call for any moisture in the machine. I should be inclined to set trays of water in these, for artificial incubation is successful just in proportion as natural conditions are imitated. Just before the hatch commences, the sand trays are removed, the brooder trays set in, and the machine closed as quickly as possible.

### Testing the Eggs.

The eggs should be candled twice during the incubating period. White-shelled eggs are much easier to candle than brown, and these may be candled on the fifth day. Brown-shelled eggs cannot be distinguished until the eighth day. All doubtful eggs, and there will be many in the case of beginners like ourselves, should be left in the incubator for the second test, which comes on the fifteenth day.

The fertile eggs show a live germ which, with the tiny threads radiating out from it, resembles a spider. Infertile eggs are clear when candled. Blood rings indicate a dead germ. The infertile eggs removed at the first testing are still food, and usually are kept for chicken feed. At the second testing, all dead germs are removed. If left in the machine, the heat would soon convert them into the worst kind of rotten eggs.

We can quite understand the expectancy, perhaps anxiety, with which the beginner will wait for the first peep from inside the incubator; especially from inside the incubator, because the temperature has been dangerously high at any time during the three-weeks period. It is desirable that the chick, once out of the shell, lie quietly in his nest for a time. This it will not do if it can see light in any direction. We covered the glass front with a heavy blanket while the chickens were hatching. The lamp flame, too, was kept very low at this time. When the "peeps" indicated that a goodly number of chickens were out, we opened the ventilating slide about

one-third. When all the chickens were out, we opened the door slightly. The regulation of ventilation is easy if one watches the chickens. The minute we noticed a chick with its wings open, panting for air, we gave more ventilation. If too much air is given the chicks will retreat to the back of the incubator. In warm weather, as we found in the case of our second hatch, the door may need to be opened so wide that the chickens can come out. Stuff the opening with extolator. This will keep the chicks in and allow of perfect ventilation. We kept both our batches of chickens in the incubator for 48 hours after the hatch was complete. Then they were removed to the brooders and fed. But a detailed account of our experience with brooding and feeding must wait for another time, as this account is already too lengthy. And now for our success. Our first run was with 350 eggs of the O.A.C. bred-to-day strain of Barred Plymouth Rocks secured from a very successful farm poultrywoman of Dundas Co., Ont.—Mrs. R. Rainey, of Morewood. In due time we took off 265 fine healthy chickens—a hatch of 75 per cent. Our next run consisted of 385 Leghorn eggs from the farm of Lewis N. Clark, at Port Hope, Ont. We hatched 305 chickens, only one of which was not perfectly formed and healthy—a hatch of over 80 per cent. We were well pleased with our results in both cases, as our hatches averaged much higher than the results secured from the same breeds on any of our experimental farms or agricultural colleges. Our success is attributable to following carefully the methods that we have attempted to give in detail in this article.

The pronoun "we" has been used advisedly. Poultry as an extensive side line on the farm is most easily possible when the farmer has the hearty support and cooperation of his wife. Mrs. Ellis had almost exclusive charge of the incubator during the first run, and during the busy days of the spring, when general farm work was pressing, was the mainstay of our poultry business.

### The 1916 Harvest Returns

THE yields of cereal crops in Canada for 1916, as compared with those of 1915, show large decreases. They are as follows:

Crops.	1915.	1916.
Wheat	426,769,000	220,367,000
Oats	523,694,400	351,174,000
Barley	60,699,100	41,318,600
Rye	.....	2,896,400
		7,122,300

Offsetting the low yields and grades is the increase in the average prices of grain received by farmers in 1916, which work out as follows: Fall wheat, \$1.53 against 91 cents in 1915; spring wheat, \$1.29 against \$2; oats, 53 cents against 34; barley, 32 against 49; rye, \$1.11 against 79; flaxseed, 32.05 against \$1.50; peas, \$2.22 against \$1.66; beans, \$6.40 against \$3.05; buckwheat, \$1.07 against 75; mixed grains, 90 against 57; and corn for husking, \$1.07 against 71 cents.

The total value of the field crops of Canada in 1916 is now estimated by the Census and Statistics Branch at \$808,054,000, as compared with \$841,297,500, the revised estimate of 1915. The totals compared with \$611,789,900 in 1915; potatoes and sugar beets, \$50,094,000, compared with \$26,739,500; and fodder crops, \$199,787,600, compared with \$192,765,100. The total of \$908,054,000 for 1916 is higher than in any previous year with the exception of 1915.

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