

## POULTRY.

## An Incubator, and How to Run It.

By A. G. Gilbert, Manager Poultry Dept., Central Experimental Farm, Ottawa.

## DIFFERENT KINDS OF INCUBATORS AND THEIR CAPACITY.

The majority of incubators on the market to-day are heated by means of hot air. In some cases hot water, distributed through pipes, is used. Both hot air and the hot water pipe systems have been found to give good results. If I were asked which I had a preference for, I would say hot air. Why? Because I think it is more controllable.

The incubator should embrace all the latest improvements, for in this rapidly developing age every year has its point of superiority over a previous one in all kinds of machinery. The principle may be the same, but the means of applying it will be found more simple and effective.

## OF WHAT CAPACITY SHOULD THE INCUBATOR BE?

Experience of many years has shown that where 150 chickens are required at one and the same time, a machine of 200 or 220 egg capacity is the most suitable. Where a lesser number of chickens is desired a smaller size will answer. In certain cases two small machines have been found convenient, because one or both may be operated as occasion necessitates. For instance, early in the season (say beginning of March), when germs are not likely to be strong, both small incubators may be filled, and after testing the eggs only enough strongly-fertilized eggs may be left to fill one incubator. The other is reset or not, at pleasure. Much will depend upon number of fowls kept, strength of germs, etc. It is to be remembered that we have previously recommended farmers to fill their incubators in second week of April, so as to have the chickens hatched out about the first week in May. At the time of filling the incubator (early April) the germs of eggs from farm fowls are likely to be strong, and give a satisfactory percentage of chickens; hence a machine of 220-egg capacity is likely to be most convenient.

## PLACING THE INCUBATOR.

Having secured one or two first-class machines, our first duty will be to carefully unpack and set it or them up. With every incubator will come, if such have not been previously sent by letter, the following:

1. Instructions how to unpack and put together the different parts.
2. A list of articles sent with the machine.
3. Full instructions how to successfully operate the incubator.

The incubator should be placed perfectly level in a room or well-ventilated and well-lighted cellar, with a fairly uniform temperature, and as free from vibration as possible.

## LEARN THE INSTRUCTIONS THOROUGHLY.

Having placed the incubator, the instructions how to operate it should be completely mastered. Be one thoroughly versed in the why or wherefore of all the different working parts. If you are in earnest you will find how interesting is artificial incubation. If you are not dead in earnest, let some one who is operate the incubator.

Before putting in the eggs for hatching, the incubator should be operated for two or three days, so as to permit of a thorough acquaintance with it. Every machine with finely adjusted parts seems to have certain "eccentricities" peculiar to it. Engineers of locomotives will tell you that, although built on the same pattern, no two are exactly alike in operation. One steams easily, works smoothly, and is of amiable disposition. Another, a twin engine from the same shops, is one apparently of moods, working well to-day and seemingly in an ugly temper to-morrow. While not nearly so pronounced in its phases, still it is best to become on the very best and kindest terms with your incubator. Find out its strong and weak points, and, above all things, be patient and good natured. A fussy, impatient, crabbed individual will hardly make a successful operator. Oh! this entails a lot of hard work. Not at all. On the contrary, to the right party, the managing of the incubator will be most interesting and attractive. It opens up a new world of possibilities.

## THE REASON WHY FOR SEVERAL POINTERS.

Usually one lamp is sent with the incubator. It is well to procure a second, in case of accident to the one in use. Keep the spare one always ready. The morning is the best time to change lamps. The instructions will likely say to turn and cool the eggs morning and afternoon. Many persons prefer to do so in the evening, but the earlier period is preferable, for the incubator is better to be left undisturbed in the evening, with the temperature at 102½ or 103 degrees, which will be shown by the thermometer in the egg chamber. When turning the eggs or handling the trays the operator should be careful to have his or her hands free from coal oil.

None but the very best coal oil should be put in the lamps. For one reason the lamp will burn better. A well-constructed machine should require no looking after from evening till next morning, if it has been placed in a suitable location. If it requires any watching or pumping during the night, or, indeed, at any

other time, you have not got a good one. The mission of the incubator is to be useful, not to make life a burden.

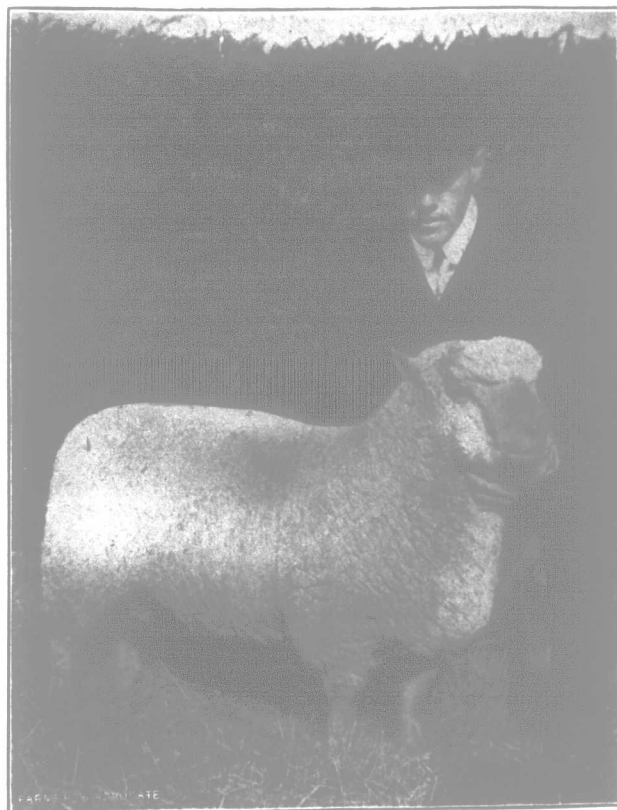
Will there be any great variations in temperature? Certainly not, if thermostat and regulator are working correctly. When the eggs are being cooled, or the egg chamber aired—if the latter is according to instructions—there will be a drop, but the regulation temperature will gradually be resumed on the closing of the glass door or doors. The writer has had a 220-egg capacity incubator in charge, which showed only one degree and a half of variation either way in three weeks. Another was almost as regular.

Correctly placed and running smoothly, the incubator requires a good deal of "letting alone." Stand by the instructions. If any defects show themselves, at once make them known to the agent or manufacturer. There should be no defects in a carefully-finished, up-to-date machine, and no other kind should be purchased.

## THE MAN BEHIND THE GUN.

We have rather briefly sketched the incubator and its responsibilities. Now for the man who manages: The greatest drawback to successful early artificial hatching and rearing is weak germs. Neither incubator nor hen will hatch out a strong chicken from a weak germ. A successful hatch is dependent upon "the man behind the gun"; the man who knows how to house and handle his laying stock so that the germs in the eggs laid by his hens are strong, the result of healthy and robust breeding stock. Many an incubator has been consigned to ignominy, when the fault was really in the eggs laid by fowls very much out of condition. Much information as to weak germs and their cause will be found in Experimental Farm reports for 1902 and 1903. These reports will be sent free of cost to those who may wish to have them.

As a means of having eggs in winter and the strong germs in spring, the poultry-house with scratching-shed



Champion Junior Lamb and Reserve Grand Champion Southdown Ram.

At World's Fair, St. Louis. Owned and exhibited by Telfer Bros., Paris, Ont.

attachment is becoming popular. Fortunately, the fowls on many farms have opportunity during winter to run in barn, stable or shed. In such cases there should be no difficulty in having eggs early in the season with the requisite strong germ. It is astonishing what variations of temperature eggs with strong germs will stand and yet hatch well.

## THE MOST SUITABLE EGGS FOR HATCHING.

Eggs cannot be put into the incubator too fresh. Where eggs are in good supply, ten days should be the age limit. Where not so plentiful, 14 days. It is a grievous mistake to suppose that any kind of old thing in the shape of an egg is good enough for the incubator.

Abnormally large eggs, which generally contain double yolks, or those wrinkled or out of shape, which are usually laid by hens in an over-fat condition, should be discarded in choosing eggs for hatching.

If success does not crown a first attempt at hatching by incubator, find out where mistakes may possibly have been made, and try again.

Dear Sirs,—I beg to acknowledge, with thanks, your premium watch. I am very much pleased with it. Was very much surprised when I received it. Will always be on the lookout for new subscriptions for the "Farmer's Advocate and Home Magazine." It is the best farmer's paper I ever read. THOS. EDMISTON. Oxford Co., Ont.

## White Leghorns as Winter Layers.

I have tried a few breeds of poultry, such as Blue Andalusians, Barred Plymouth Rocks, White Wyandottes, Black Minorcas and White Leghorns, and I find the Leghorns the most profitable, as they are the lightest feeders and the best egg machines. I do not claim that all Leghorns are profitable. There are poor strains as well as good, and probably there are good strains in all breeds. And I would say to anyone going to start in poultry, get a good strain, one that has a record, and not one with feathers only. Here are a few figures as to what my Leghorns have done. In January, 1905, from eleven one-year-old hens and nineteen pullets hatched in May and June, and raised with ordinary farm care, I have gathered 350 eggs; sold at 26c. per dozen, equals \$7.78; and the feed would not cost over one-third that amount, consisting of one quart wheat, two quarts oats, three quarts bran mash per day, with two quarts cut bones and one small cabbage twice a week, and plenty of pure water. Do hens pay? GEO. E. EASTON, JR. Nipissing, Ont.

## APIARY.

## How to Learn Beekeeping.

By Morley Pettit.

A correspondent in New Brunswick writes for information about starting in beekeeping. He says he has a small farm, and wants to keep bees, but, unfortunately, does not know a single thing about them, never having taken any interest in them. He has no nervous feelings whatever about bee stings, but has never been in a position to get information about this branch of farming.

My advice to him will be of interest to many readers of this journal. Beekeeping is one of the most pleasant and remunerative branches of agriculture IF PROPERLY CONDUCTED, but is not to be gone into lightly, and without forethought and preparation. The editor of one of the leading bee journals says he spent six years reading up beekeeping before getting any bees of his own. The present writer spent his summers, from his earliest recollection, in what has been termed a model apiary, working under the guidance of one of the most thoughtful and successful beekeepers this continent has seen, until he took full charge and began to "spread out" about five years ago, yet he has much to learn about the nature and management of bees. By far the best way to learn beekeeping is to spend a season or two working with a man of experience and success. There is no other way of learning beekeeping to be compared with this, for you learn to do things by doing them, and you breathe, as it were, the atmosphere of the profitable apiary. Experience forms the major part of the beekeeper's investment, and in no way can it be so easily and cheaply obtained.

Next to learning by experience comes learning by reading and talking bees, both at conventions and in private. A good bee book or two, and one or more bee journals, are indispensable. Names of these will be sent to any who write for them. Conventions and private conversations are quite helpful, but one needs experience by which to discern between wheat and chaff. In beginning without experience, invest money cautiously. Buy two or three hives, then make them pay for all further investment. MORLEY PETTIT.

## THE FARM BULLETIN

The Standard Oil Company has reduced the price on all grades of refined oil one cent per gallon.

"Hard work alone will not consummate success. It takes brains with industry to make farming profitable." [Goodall's Farmer.

Mr. S. B. McCready, B. A., Science Master in the London, Ont., Collegiate Institute, has been appointed instructor in nature study at the Macdonald Institute, O. A. C., Guelph, as successor to the late Dr. W. H. Muldrew.

Matters vitally affecting the interests of the agricultural societies of the Province will be discussed at the annual convention of the Fairs and Exhibitions Association, which will be held in Toronto, Ont., Feb. 14th to 16th.

"Food, comfort and contentment are the prime factors in successful dairying, and it is not too much to say that comfort is the prime factor. To feed well but disregard the bodily comfort of a cow is to court and insure disappointment. A cow will fail to elaborate a fullness of milk if she is wet or shivering."—[Farm Stock Journal.

New Brunswick Dairy School.—The Provincial Dairy School for New Brunswick announces that the creamery course will begin on Tuesday, Feb. 28th, and close March 10th. The cheese course will begin March 13th and close March 23rd. Further information will be supplied by the Superintendent of the Dairy School, Sussex, N. B.

We are in receipt of the fourteenth biennial report