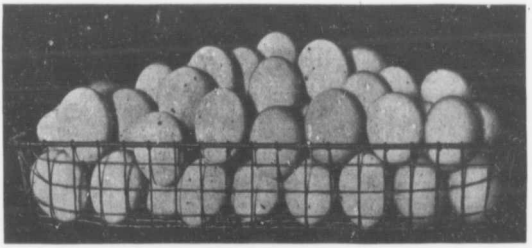
DEPARTMENT OF AGRICULTURE OF THE PROVINCE OF QUEBEC
POULTRY SERVICE

BULLETIN No. 54

Poultry Raising in Quebec In War Time

BY M. A. JULL
MANAGER AND LECTURER, POULTRY DEPARTMENT
MACDONALD COLLEGE, QUE.



Eggs, Grading as Specials

EAT MORE POULTRY AND EGGS TO SAVE MORE BEEF AND BACON

What is most needed is an improvement in the quality of stock and better methods of management.

PUBLISHED BY ORDER OF THE HON. J. ED. CARON
Minister of Agriculture of the Province of Quebec
1918

Poultry Raising in Quebec in War Time

POULTRY MEAT AND EGGS

The demand for poultry meat and eggs has been so much in excess of production within Quebec that enormous quantities have been imported annually. From this it follows that several hundred thousand dollars are expended annually in the purchase of supplies which might well be produced within the Province, for an agricultural Province like Quebec can and should produce its own requirements in poultry products, at least.

Poultry meat is very similar in composition to other kinds of meat but it is finer grained and more tender. It does not contain as much fat as other meats and as a result furnishes less energy to the body when consumed, but it does contain more building materials needed for the body. In regard to digestion, it compares well with other meats, and since it is considered more palatable, it will always be used in large amounts.

Eggs represent the only article of animal food produced in a natural package, the shell; as long as the shell is unbroken the egg cannot be adulterated. The important thing is to get the egg to the consumer as soon as possible after being laid. The cold storage has been an important factor in the increased use of eggs. With the increase in the percentage of the urban population there has been a relatively greater consumption of eggs than of meat. Of all foods, eggs are among the most palatable, easily digested and readily assimilated. There is no food which can be substituted for such a unique commodity as eggs.

In addition to the natural causes, noted above, tending toward an increased consumption of poultry meat and eggs, there are other reasons demanding more efficient production. Poultry meat and eggs should be used as substitutes for beef and bacon, so urgently required to supply the European shortage. Furthermore, every opportunity should be grasped to develop an export trade with Great Britain, the logical market for Canadian eggs.

THE POULTRY INDUSTRY

Fowls are of value in proportion to their ability to produce meat and eggs. The basis of comparison in egg production should be not only on the total number of eggs produced but also the time of production; ten eggs laid in December or January are worth twenty in April or May. In Quebec the majority of eggs are produced from March to June, which is the season of low profits. The average Quebec farm possesses about sixty hens and the average Quebec hen lays about sixty eggs per year. It takes the value of about eighty eggs to rear and keep a hen for a year. If the average number of fowls per farm were raised to one hundred and if the average egg production per bird were raised to one hundred, the value of the poultry industry would be more than doubled. Under proper care and management such averages could be obtained easily and the majority of eggs should be produced from November to March, which is the season of highest prices and greatest profits.

Although about ninety per cent of the eggs crop is produced on the farms there are many village, town and city lots where fowls would pay well. Table scraps, kitchen waste, lawn clippings and other refuse material could be utilized to good advantage in producing eggs and meat which could be used as substitutes for the staple red meats.

BREEDING FOR EGG PRODUCTION

The breeds which have proven suitable for Quebec include Plymouth Rocks, Rhode Island Reds, Wyandottes, Orpingtons and in some cases Leghorns. Every effort should be made to maintain the best developed laying strain of the breed chosen.

The ability to lay eggs is inherited and it requires careful and consistent selection to improve production. The best layers are those with bright, full eyes; combs of medium texture; bodies of good size, good width between the pelvic bones, this test being applied at different times, and a soft, velvety feeling of the skin of the abdomen as the hand is placed between the end of the keel bone and the pelvic bones. In those breeds: Plymouth Rocks, Rhode Island Reds and Wyandottes, which normally have yellow pigment in the shanks, the colour becomes much paler after a heavy laying period. Good layers show no evidence of being lazy. They usually moult late in the season.

The birds which begin laying early in life usually make the best annual layers. Production in the pullet year is nearly always greater than in subsequent years, consequently the majority of the flock should consist of pullets. A number of yearling birds should be kept as breeders.

Fig. 1

A GOOD BREEDER

Note the type and vigor possessed by this bird in contrast with the one shown in Fig. 2. This bird will produce thrifty chicks, which are so necessary with feed so expensive.

Fig. 2

A POOR BREEDER

Note the narrow head, narrow body and weak legs. Such a bird should not be used for breeding purposes.

Mate the breeders, selected from the pullets which laid best during the previous winter, with a male whose mother was a heavy winter layer. The selection of the male is very important, for the sire has more influence in the production of heavy laying pullets than has the dam and it is only by using a male bred from a good winter layer that best results can be secured.

Aside from the improvement resulting from better methods of breeding better methods of management will also give much larger production.

EGGS FOR INCUBATION

The breeding stock is the foundation of success in hatching and rearing chickens; great care should be exercised in the selection of vigorous breeders of a good winter laying strain.

It is very important that the chicks be hatched as early as possible. Above all do not hatch late in the season. Since winter egg-production is the most profitable branch of the poultry industry and since the average general purpose chicken does not commence laying before about six months after being hatched, it is obvious that hatching should be done six months prior to November, when pullets should commence to lay. Late hatched pullets are rarely profitable. *General purpose chickens should be hatched before the middle of May; Leghorns should be hatched before the first of June.*

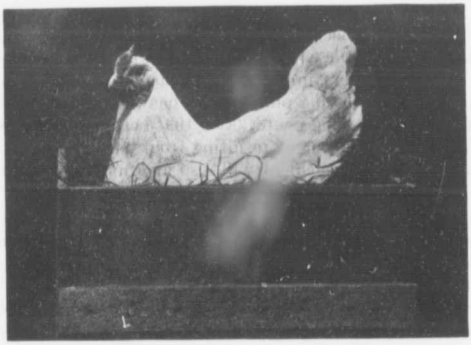
Mate one male with from ten to fifteen females. About ten days should be allowed from the time the male bird is placed in the breeding

pen before eggs for hatching are selected. At the end of the breeding season a good proportion of fertile eggs may be expected up to about seven days after the male bird has been removed from the breeding pen.

Eggs for incubation should be selected with care. The number of chickens reared to maturity in proportion to the number of eggs incubated is the best possible criterion of one's ability as a poultry raiser. Under average conditions it takes about four eggs to produce a mature chick, therefore, it takes about eight eggs to produce a mature pullet.

Good chicks can be produced from good eggs only; they should each weigh about two ounces, have a smooth surface and be oval in shape. Do not incubate small, dirty or washed eggs, nor unevenly shaped eggs, nor eggs with cracked shells. The sooner the eggs are incubated after being laid the better, but they may be held for seven days, during which time they should be kept in a temperature of from 50° to 60° F. and they should be turned occasionally.

NATURAL INCUBATION



Hatch early; the earlier the better.

Boxes eighteen inches square and eight inches high make good nesting boxes. The nests should be built carefully, preferably with earth in the bottom, having the corners well filled, covered with soft straw or leaves. If the nests are too deep the eggs may pile up and break; if they are too shallow the eggs may roll out. The nests should be placed in a secluded place and the hens should be set after dark. Set a number of hens at the

same time, if possible, and where several are sitting in the same room it is well to have the nests covered so that each hen will be confined to her own nest.

The hens should be dusted thoroughly at the time of setting and again just before the chicks hatch; take each hen by the feet, holding the head downwards, and sprinkle lice powder into the feathers and then rub it all around the joints.

Feed the hens on a variety of hard grains and keep clean water before them always.

ARTIFICIAL INCUBATION

Disinfect the incubator before and after every hatch, using a hot ten per-cent solution of a good disinfectant.

Use a well-made, double-cased machine and place it in a fairly cool room, which is well ventilated but free from draughts. Be sure that the machine is set level and run it for a few days to adjust the regulator. Use a reliable thermometer; it can be tested by a druggist. Maintain an even temperature of 103° on a level with the tops of the eggs as they lie upon the trays. The lamp should be filled with oil every morning, after the eggs have been turned, and great care should be taken in trimming rounded corners on the wick, in order to give a broad even flame. Turning the eggs, twice daily, should begin on the third day and continue until the eighteenth day. While the eggs are being turned they may also be cooled, the length of time for cooling extending from two or three minutes on the third day to ten or fifteen minutes on the eighteenth day. The ventilators of the incubator should be kept closed until the ninth day, when they are opened a little at a time until on the twenty-first day they are wide open. It is always best to supply moisture to the machine; beneath the egg-tray keep a pan, nearly the full size of the incubator, filled about one inch deep with water or with sand and water. Test the eggs on the seventh day to remove the infertile ones and on the fifteenth day to remove the dead germs. While the chicks are hatching keep the egg chamber dark by hanging a cloth or paper over the door and keep the chicks up on the tray. The chicks should be kept in the incubator for a few hours after being hatched and if they pant the door should be opened a little to provide ventilation.

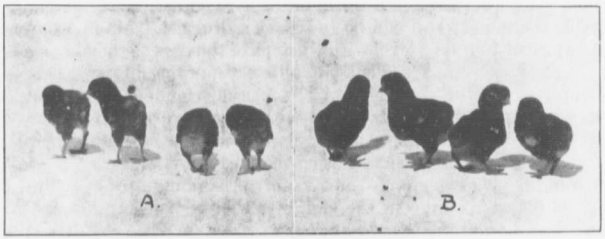
REARING

One important factor in rearing chicks successfully is keeping them free from lice. Another important rule to observe is to kill all weaklings at hatching time; it rarely pays to raise them. Always put chicks on clean

land, giving them free range, and arrange matters so that the chickens will accompany the regular crop rotation. A cultivated field providing shade, such as a corn field or cultivated orchard, makes an ideal place in which to raise chicks.

Where hens are being used to brood the chicks it is advisable to keep the hens confined in coops for the first two or three weeks. The little chicks should not be allowed too much freedom at first, nor should they be allowed out of the coop while the grass is wet with dew or rain. Make the coops as serviceable as possible.

Where chicks are raised with brooders, portable brooders, burning oil, are quite satisfactory for raising a few hundred chicks and stationary brooders, burning coal, are best for raising one thousand or more. The brooders should be placed in colony houses which can be moved from one place to another, thus providing clean soil for the chicks at all times.



Unhealthy chicks shown in A, and healthy chicks shown in B. One of the principle features of poultry raising under present conditions is to eliminate the unprofitable birds.

When the chicks are first put in the brooders the temperature should be about 100° F., and this temperature should be lowered gradually to about 85° F. when the chicks are about six weeks old. The extent to which the temperature is lowered depends upon the season.

Never brood too many chicks together because *overcrowding is most disastrous*. A colony of about fifty chicks seem best for their proper development, although under careful management they may be raised in colonies of up to one hundred and fifty.

While the chicks are quite young they should not be allowed out when the grass is damp. Throughout the growing season provide plenty of shade.

Keep the chicks separated according to age. Leghorn chicks should be separated according to sex when about eight weeks old and chicks of the general purpose breeds when a little older.

Leg bands should be used to mark the chicks so that the early hatched and most thrifty ones can be selected in the fall of the year to be kept as layers. Selection should be practised continually, culling out from time to time all unhealthy and unthrifty birds; it is only in this way that best results in winter egg production can be secured.

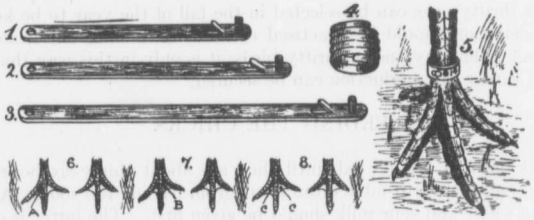
FEEDING THE CHICKS

Chicks should not be fed until they are about thirty-six hours old. Indigestion and bowel trouble often result from feeding too soon. A little grit, clean water and sour milk should be given first. The latter is one of the best poultry foods we have, and if given at all it should be given regularly. Sour milk seems to keep the digestive tract of the chick in good condition, and it does much to combat white diarrhoea.

The first grain feed given should be a moistened mash made up of some of the ground grains. A good mash is made up of four parts of bran, four parts of oatmeal-feed, two parts cornmeal, one part middlings, one part beef-scraps and one part chick grit. All these parts are by weight and the different materials are mixed thoroughly. The mixture is just slightly moistened with water or sour milk, if it can be obtained. This moistened mash is fed to the chicks three times a day, morning, noon and evening, for several days. During the same period the chicks are fed in the middle of the forenoon a mixture of four parts bread crumbs and one part of hard boiled egg, and in the middle of the afternoon they are fed oatmeal. That is, the chicks are fed five times every day and this rate of feeding is continued until the chicks are about five weeks old. The order of feeding is mash in the morning, bread and egg mixture in the middle of the forenoon, mash at noon, oatmeal in the middle of the afternoon and mash in the evening.

When the chicks are about one week old, the mash-feed at noon is changed for a feeding of finely cracked corn and wheat or a good brand of chick feed, which can be purchased on the market. When the chicks are about two weeks old, the bread and egg mixture, as well as the oatmeal feeding, is replaced by the moistened mash feeding. At the same time the mash feedings which were being given in the morning and evening are replaced by feedings of cracked corn and wheat. The cracked grain is scattered in the cut straw or chaff on the floor of the house. That is, now the chicks are getting cracked grain in the morning, mash in the middle of the morning,

cracked grain at noon, mash in the middle of the afternoon, and cracked grain in the evening. This method is continued until the chicks are about five weeks old.



Leg bands for marking poultry, which will assist in the continual selection of the good from the poor birds. 1, 2 and 3 are various sizes of sealed bands; 4 is a spiral band; 5 is a sealed band on a shank; 6, 7 and 8 show various ways of punching toes.

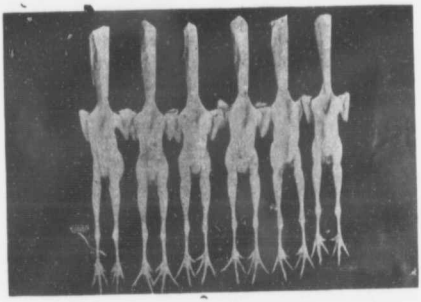
When the chicks are three or four weeks old it is well to place some mash in a dry form in a self-feeding box or hopper. A good dry mash is composed of four parts ground buckwheat screenings, two parts bran, two parts oatmeal-feed, two parts beef scraps, one part cornmeal, one part middlings, and one per cent charcoal. These parts are by weight and the materials are mixed and placed in feeding hoppers in a dry state. The hoppers are left open so that the chicks can help themselves to the mash at any time.

When the chicks are five weeks old they are fed cracked corn and whole wheat in the morning and afternoon and moistened mash at noon. This method is continued until the fall of the year when the cockerels are ready to be fattened and the pullets are ready to be taken to the laying houses.

It should be borne in mind that fresh water should be given the chicks every day. If sour skim-milk can be obtained it should be given regularly.

Also green food is very valuable. When chicks are on free range they usually get enough green food, but where they are confined in runs, or where the grass is brown, some green food, such as cut clover, lettuce or sprouted oats, should be given every day.

The chicks grows very rapidly and it requires to be fed well. Above all, it should not be fed too much at any one time and it should be induced to take plenty of exercise. Free range conditions produce healthy chicks and cut down the cost of feeding.



Roasters, Grading as Special