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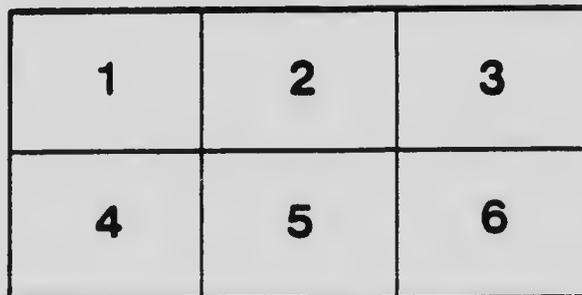
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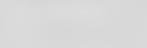
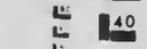
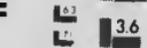
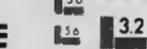
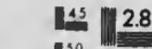
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MANITOBA DEPARTMENT OF AGRICULTURE

FEEDING FOR WINTER EGGS

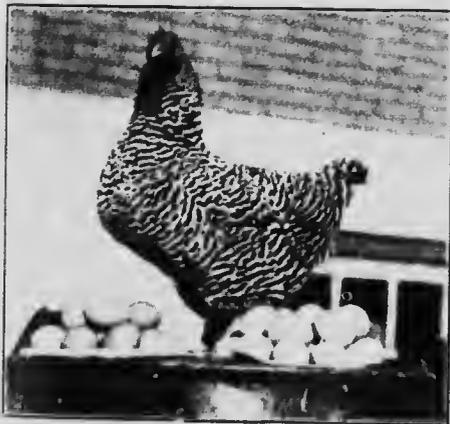
By M. C. Herner, B. S. A.
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WINNIPEG, CANADA.

WHAT to feed and how to feed it, so as to produce eggs, is one of the big questions in keeping hens. The greatest difficulty, in handling most flocks, is to obtain eggs in winter.

This is not as difficult to accomplish as many poultry keepers imagine. Even though weather conditions are severe and unfavorable, with proper feed and the right way of feeding it, a reasonable number of eggs may be secured, even in winter. Feeds and feeding, however, are not the only things that influence egg production. The age and breeding of the birds, the system of housing, and the general care, all play a part. But in

this circular we shall confine our attention very largely to the feeds and the feeding, except to state one or two important facts in connection with other factors that influence egg production to a greater or lesser extent.



A Barr'd Rock pullet on the Poultry Plant, Manitoba Agricultural College, Winnipeg. She laid 76 eggs from Sept. 14th to December 14th, 1913, an example of what can be accomplished by feeding and breeding for eggs.

THE KIND OF HEN FOR WINTER LAYING.

Pullets are better layers, as a rule, than yearling hens; and year-old hens are again better than two-year olds. When a hen has reached two years, she is usually not paying for what she eats.

Then, again, some breeds are better adapted for laying than are others, the two extremes of which we see in comparing the egg breeds with

the meat breeds.

Different strains or families of the same breeds and varieties also present a difference in laying ability; high egg production, in these cases, may be due to special selection and breeding for heavy laying. How to breed and select for heavy laying is a question that affords ample scope for a special bulletin; and, if discussed at all, it should be gone into in detail.

Heavy laying strains will naturally lay more eggs when fed right than will hens of poor laying qualities; yet a great deal can be accomplished even with what might be considered a poor laying strain by giving the right kind of feed and feeding it in the right way.

REQUIREMENTS IN WINTER FEEDING.

Most poultry breeders are but little concerned about summer egg production; they get these anyway. To secure winter eggs is the problem.

The class of food fed, and the way of feeding it must be changed to meet the season's demands. Hens pick up many insects as well as other animal food in the summer. These they cannot get in the winter. This animal food must be supplied in some form in winter feeding. Green food may also be picked up by the hens in summer, but not in the winter. They must also have this. There are always four parts to a laying feed:

- (a) The Grain;
- (b) Green Food;
- (c) Animal Food; and
- (d) Mineral Food.

Decision as to what to feed laying hens will depend somewhat on what food is available, and also upon the price.

GRAIN FEEDS.

The ordinary farm grains can be fed in such a way as to make almost an ideal ration, in so far as the cereal portion of the ration is concerned. **Wheat**, of course, is one of the best grains for laying hens, but for the time being war conditions have made its price prohibitive. **Oats** are an excellent feed, but they give best results if fed in the crushed or rolled form. By running them through a roller chopper, they can be crushed sufficiently to break or bruise them, and still have the hulls hanging to the kernels. The exposed white portion of the kernel makes an attractive feed, and the hens like it very much. These crushed oats should be fed in a hopper so that the hens may eat them whenever they wish, without wasting them. By feeding these as a dry mash, the birds eat hull and all, and nothing is wasted. The hulls seem to have a mechanical action in the digestive tract in helping to grind up the feed. **Barley** can be fed to good advantage as a scratch feed, thrown in litter or straw on the floor. Boiling will improve it considerably. **Whole oats and barley** can be fed in equal parts as a scratch feed morning and night. **Corn** is one of the best winter grains, and where grain has to be bought it is well to use this and feed it along with the oats and barley, using two parts of corn to one of each of oats and barley. Cracking the corn will make it more attractive.

All hard grain should be thrown in deep litter on the floor to make the hens work for it. This will give them exercise and help to keep them in healthy working condition. No hard and fast rules as to the amount of hard grain to feed can be laid

down. The capacity of hens varies somewhat. In a general way, a good practice is to feed one handful to two hens twice a day. With the dry mash available all the time, this amount will likely be plenty. The dry mash should always be fed in a self-feeding hopper.

If the hens are fed properly, they are not likely to fatten on this system of feeding. Care must be taken, however, with some breeds, or they will become fat and lazy.

The **crushed oats** make the best dry mash of any single grain or by-product of grain. **Bran** can be added to the oats, feeding half and half of each, but the quality of bran has been so poor that the hens are inclined to waste too much of it. The same may be said of **shorts**. A small quantity of granulated charcoal should be added, say one pound to one hundred pounds of dry mash.

If the animal food is to be fed in the form of **beef scrap**, it would be best to add about five to ten pounds of it to every hundred pounds of the dry mash.

Where hens are fed the hard grain in the litter and the dry mash in a hopper, they will eat about two pounds of the former to every pound of the latter. One hundred hens will eat about six to eight pounds of dry mash a day and from twelve to fifteen pounds of hard grain daily.

GREEN FOOD.

In the way of green food, there is nothing to equal green **cabbage** for cheapness and also as a food that hens like. **Mangels** take second place. **Turnips, carrots, or beets** can also be used. **Sprouted oats** make an ideal green food, but it costs almost too much to sprout them. At best, the sprouting of oats, so as to have a ready supply, involves an endless amount of work. Green food of any kind must be supplied in liberal quantities, but what kind to use depends very largely on what is available. Cabbage heads may be suspended from the ceiling by wire or cord high enough to make the hens jump to peck them. Mangels may be cut lengthwise and stuck on a nail or spike in the wall. **Alfalfa hay, clover leaves or shredded alfalfa** may partly take the place of green food, but they have not the succulence that the fresh green foods have. Steeping or scalding with hot water first and then mixing them in a bran mash makes an excellent soft or wet mash for laying hens. **Table scraps, boiled potato peelings, etc.**, can be mixed with this mash. It is, however, best not to feed too heavily on **boiled potatoes**. A soft mash should have only enough water to make the mash crumbly, and not sloppy. For winter feeding the soft mash is especially valuable as it always helps to stimulate laying. It can be fed morning, noon or night, but should be fed only once a day in a trough attached to the side of the pen. On the College poultry plant we feed it at noon for three reasons:

other work

First,—It fits in best with the [redacted] to do it then;

Second,—It does away with the difficulty of the hens filling up on it early in the day, and then not working for any other feed the rest of the day; and

Third.—A soft mash fed at night is scarcely substantial enough to carry the hens through the long winter nights.

One to one and a half gallons of soft mash once per day is plenty for 100 hens.

ANIMAL FOOD.

Animal food can be fed in the form of **skim milk** or **butter-milk**, which is the cheapest form in which it can be obtained. Where neither of these can be secured, some meat food should be fed. In winter cut **green bone** can usually be secured at a reasonable price. **Butchering offal** will also furnish it for a short time. **Jack rabbits**, **horse meat** or almost any kind of meat will answer the purpose. The chief objection to any of these raw meats or the green bone is that they will not keep unless the weather is cold. Care must also be taken in their feeding, as liver trouble is bound to follow their excessive use. Raw meat can be suspended from the ceiling by wire or cord to such a height that the hens have to jump to peck it. This guards against too heavy feeding and also gives more exercise. One half ounce of cut green bone per hen twice or three times a week is feeding heavily enough. This is best fed raw and given in a trough.

MINERAL FOOD.

The mineral food is furnished to some extent in the grains and other food, but, while laying, hens require a good deal more **lime** than is contained in any of the foods they get. The most convenient form in which to feed this is the **oyster shell**. Some **grit** or **coarse sand** should also be within reach. Since fowl have no teeth, we must furnish them with grit of some kind so they can grind their food and make proper use of it. Oyster shell cannot take the place of grit, nor can grit take the place of oyster shell. Both should be fed. While laying, hens will eat an enormous amount of oyster shell, the lime of which goes to form the egg shells.

MISCELLANEOUS.

In feeding for eggs, it is necessary to give as much variety as possible. Frequent changes are always good. Plenty of exercise is important. The use of **condiments** and **condition powders** should be avoided as much as possible. If a tonic is needed, give the flock a dose of **Epsom Salts** once a week for a month or so. Use it at the rate of one pound to every hundred hens. Dissolve in hot water and mix with a bran mash. The **charcoal** in the dry mash is very good as an absorber of gases in the digestive tract and in this way also acts as a tonic.

Care, discretion and good judgment must be used in feeding hens. A good deal depends on looking after the details properly. The use of good food and a well balanced ration, fed in the right way to a flock of hens, cannot fail to increase egg production. The skillful poultry man is he who can feed so that the flock is neither overfed nor underfed. The ability to follow the happy medium is an art, and is something that can be learned only by experience.

