

The Poultry Yard.

PROFITABLE POULTRY RAISING.

(Continued from last week.)

Animal Feeds.

Animal feeds are used principally for the protein and ash which they supply. Protein may also be supplied from a vegetable source. Cotton-seed meal and linseed meal are the most commonly used feeds of this class and are largely used in feeding cattle, but they are not as well suited to poultry feeding as the animal feeds. They are not as well liked by the fowls and do not contain as much ash as is commonly found in the animal feeds used for poultry feeding.

Commercial beef scrap is perhaps more commonly used for poultry feeding than any other animal product. Good brands of this contain about 55 per cent protein, 12 per cent fat and 15 per cent ash.

Meat meal varies in composition and value, some commercial forms containing 60 per cent protein, while others may run as high as 85 per cent. The ash content is usually much lower in this product than in beef scrap.

Raw bone should contain about 25 per cent protein, and 22 per cent phosphoric acid. This is used in the form of meal and granulated bone, the former in the mash and the latter in a hopper for the fowls to eat as they wish. Meat meals that are deficient in ash can be improved by the addition of raw bone meal.

Green cut bone is used to advantage where a supply of it can be secured regularly without too much expense in getting and preparing it for the fowls.

On account of its nature it spoils quickly in warm weather, especially after being cut. This necessitates the getting of it frequently, and unless this can be combined with other business the expense of a special trip for the bone alone makes its cost high.

A mill is also necessary in preparing it for the fowls. For a small flock this adds considerable to the cost of equipment. For a large flock the labor in preparing it is considerable unless power is available.

The dairyman who is delivering regularly and who has power for his dairy work is in the best position to make use of this feed. Skim milk and butter milk can also be used to advantage in feeding poultry. They are equally good for growing chicks and laying hens.

It has been demonstrated that for summer feeding at any rate skim milk is one of the very best feeds that we have for egg production.

Methods of Feeding.

The best method of feeding will vary with conditions. What might be the most economical for a man keeping only a few fowls on a town lot might be altogether out of the question for a farmer keeping one hundred or more hens on the farm.

It has been found that hens do better when fed a ration consisting of grains and of a mash made of ground grains and their by-products, and at times some animal food.

Formerly the common practice was to feed mash once a day and grain once or twice, according to the conditions. In this way the mash was moistened with water or milk and fed in troughs, giving as much as the hens would eat clean in a short time. The objection to this plan is the labor involved. The mixing of the wet mash required considerable time each day in preparation and in feeding. If the feeder were not experienced the fowls would be apt to get too much; in which case the portion

left over would have to be gathered up or be wasted. If too little were fed the egg yield would suffer.

Of late years many have adopted hopper feeding, in some cases the mash only being fed in this way and in others the entire ration.

The feeding from hoppers reduces the labor of feeding and thus allows the keeping of more poultry than could be looked after under the wet mash system feeding.

The plan in use on many farms of feeding the hens grain once or twice a day will not give the best results, especially where the bulk of the grain fed is corn. Under this treatment we find eggs scarce in winter and plentiful during spring and summer, when they are low priced.

The supplying of a mash containing some animal food would in most cases greatly increase the egg yield and would give the increase at a time when eggs bring the highest price.

In the work of the Station we have tried to keep the rations as simple as possible and at the same time work out a system of feeding that would give good results without too much expense for labor.

The system that has been used with good results for the last year or two is as follows: Feed the fowls on a dry mash from a feed box or hopper which is open at all times. The grain is fed once a day and during the winter is scattered in litter for the hens to scratch out. During the hot weather the litter is removed from the pens and grain fed on the ground.

The grain is fed late in the afternoon at the time the eggs are gathered. Feeding at this time saves an extra trip which would be necessary if the feeding were done at another time. By delaying the feeding of grain till evening, the hens also eat more mash than they would if fed grain earlier in the day, or if it were fed twice a day. It was found that the hens that only ate a small amount of mash did not do as well as those that ate approximately fifty per cent of the total ration as mash.

When there is extra good range for the stock it may be possible to get good results by feeding the entire ration from hoppers, but in most cases the hand-feeding of the grain will give more satisfactory results, and if done as suggested above there will be very little extra time needed.

The feeding for egg-production might properly be considered under two heads, the production of eggs for market and of eggs for hatching. Rations which are quite satisfactory for the former are sometimes quite unsatisfactory when eggs are wanted to produce a good percentage of strong, vigorous chicks. It is generally thought that rations containing considerable animal food, while quite satisfactory as to the number of eggs produced, do not give the best results for breeding purposes.

Results obtained at this Station and published in Bulletin No. 211 show that skim milk fed in combination with corn and wheat and a mash of equal parts of corn meal and wheat bran, gave the best returns in egg production, but were closely followed by a ration in which meat meal and bone meal were fed in the mash in place of skim milk. A ration composed wholly of corn and corn meal with all the skim milk the fowls would drink also gave good results.

For the past year or two a portion of the Station stock has been fed on grain which was not marketable. The corn used was that shattered in the husking and shredding. The wheat was screenings. The corn was bought of the Station Farm at thir-

ty-five cents per bushel, which was just half the price of good corn at the time. The wheat screenings were bought from mills in the neighborhood at a cost of \$1.50 per 100 pounds.

Two parts of corn and one part of wheat constitute the grain ration and the fowls were given all they would scratch for each evening. The mash was made of 4 parts corn meal, 4 parts wheat bran, 2 parts meat meal and 2 parts bone meal. The mash was fed from feed boxes which were open to the hens at all times.

One pen each of Barred Plymouth Rocks and of S. C. Rhode Island Reds were fed this ration. At the beginning of the experiment there were ten hens and a male in each pen. One Plymouth Rock hen died and two hens and the male were disposed of from the Rhode Island Reds about June 1. The eggs laid, food eaten, cost per dozen of eggs, and profit per hen for the six months are shown in the accompanying table. Eggs are figured at two cents each, which is a fair average in the local market.

Hatching Chicks.

On the farms of the State most of the chicks are still hatched by hens, and where only a few chicks are wanted this method will be found as satisfactory as any. Most people will raise better chicks with hens than by artificial means simply because they divide the responsibility with the hen. Experienced poultrymen do very well with the incubator, but chicks hatched in this way need constant care and attention.

For hatching for the early market and for large quantities of chicks for any purpose, the incubator is practically a necessity. For hatching the breeding stock the hen is preferred. If hens are to be set, a separate place should be provided where they will not be disturbed by the other hens.

Those that become broody and are to be set should be moved at night and handled carefully or many of them will refuse to keep the nest after moving.

If several hens are to be set at the same time the nests should be so arranged that the hens can be confined to them. A nest open to the front is preferred to one open on top, as there is less danger of the eggs being broken when the hen walks into the nest from the level of the floor than where she is obliged to get up on the top of the nest and then jump down on the eggs.

When the nests are arranged and the hens become broody they are moved quietly after dark to the nests. A nest egg is given each and they are covered loosely with sacks to keep the nests rather dark. About noon the next day feed and water are supplied and all the hens are removed from the nests. They are allowed to do as they please for an hour or two, and those that go back are given the eggs they are to hatch. Those which do not return of their own accord are removed from the pen and broken up as soon as possible.

Those hens that are to be set are given a thorough dusting with insect powder and some is also sprinkled about the nest.

In our work pyrethrum powder has been found the most satisfactory. It costs more than most of the powders put up specially for the poultry use, but is more effective and there is less danger to the hen and chicks from its use. A second dusting should be given about the sixth or seventh day and a third on the eighteenth day. Do not leave the last dusting till the eggs are chipping or the hatch is apt to be injured by disturbing the hen and also by the insect powder injuring the chicks as they break the shell. It may seem to some that three

dustings require a lot of work and are unnecessary, but experience has shown that the time and powder used in this way pay good dividends in more and better chicks.

If the nest is to be used a second time, it should be thoroughly cleaned out and the nesting material burned. The nest box should be thoroughly gone over with some good insecticide. A 5 per cent solution of one of the coal-tar disinfectants or ten per cent kerosene emulsion will give the desired result if thoroughly applied. Care should be taken to see that every part of the box is well soaked, both inside and outside, special attention being given to the cracks and corners.

If a number of hens are set at the same time, the eggs should be tested for fertility at the end of the first week and the infertile ones removed. If there are many infertile, those that are good may be given to some of the hens and the balance given a new lot of eggs.

Do not bother the hen at hatching time. The chicks are better left alone with the hen till they are twenty-four hours old.

It is difficult to give rules for operating incubators that will give good results with all makes. Differences in construction make necessary different methods of operation, and the place where the thermometer is kept will determine the degree of heat

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