

Efficient Farming

FEEDING FOR WINTER EGG PRODUCTION

While a good laying strain is the primary factor in winter egg production, suitable feeds and feeding methods are almost as important. If better feeding methods were adopted the winter egg production on the average farm could probably be increased by at least twenty per cent. Inasmuch as the profits on eggs produced during the winter months are far greater than on those laid at any other time of the year, this is a subject which merits serious attention.

Rations for winter feeding should be chosen with three factors in mind—their nutritive value, palatability and variety. Laying hens in most parts of Canada are necessarily kept confined during the entire winter; therefore care must be taken to supply those food elements (or substitutes) which the birds would otherwise procure for themselves outdoors.

Grains, such as wheat, corn, oats and barley, both whole and ground, are included in most poultry rations. The whole grains are given as scratch feed and when ground, enter into the composition of the dry mash.

Scratch Grain—Several excellent commercial scratch grain mixtures are available, but a most satisfactory home-mixed scratch grain may be composed of equal parts by weight of wheat, cracked corn and oats. There is an old saying that a busy hen is a laying hen, and consequently scratch grains should always be fed in a deep litter to induce exercise. This is an added reason for making this part of the ration as varied as possible.

It is impossible to give definite rules as to the exact amount of scratch grain which should be fed. A very light feed may be given early in the morning and at noon, to keep the birds busy, with a good feed at night so that their crops will be full when they go to roost, without an undue amount of grain being left on the floor.

Dry Mash—Dry mash is an essential for winter egg production, and the birds should consume as much as possible. Commercial mash may be used, but a series of nine experiments conducted upon the Dominion Experimental Farms recently have shown that for total production and profits, a home-mixed mash consisting of equal parts by weight of bran, shorts, corn-meal and oat chop, with twenty per cent of beef-meal, is more economical than any of the commercial mashes which have been tried.

This mash should be kept continually before the birds in a hopper, and a very small quantity moistened either with milk or table scraps, may be fed at noon. No more of this latter should be given than the birds can eat in fifteen minutes.

Green Feed—While grains are essential, there are also other feeds which must not be omitted. Foremost among these is green feed, which apart from its nutritive value, serves to keep the birds in good health. This is the part of the ration of the average farm flock which is most often neglected. Either cabbages, dried clover leaves, sprouted oats or mangels may be used and the birds should get as much as they will eat.

Milk, Water, Etc.—Drink is also an important factor in winter egg production, and milk, skim-milk or buttermilk, is practically essential. This serves both as a drink and as a source of animal protein and should be kept continually before the birds together with a supply of clean fresh water. If no milk is available, beef scrap should be given in a hopper, or some other animal food such as horse flesh should be provided. In many districts, particularly in Quebec, community bone-cutters have been installed, by means of which farmers can procure chopped horseflesh for poultry feeding, at nominal prices.

Grit, oyster shells, and charcoal in hoppers, should also be available for the birds at all times.

Details of various experiments dealing with this subject are contained in the Annual Reports of the Dominion Poultry Husbandman for 1922 and 1923, copies of which may be obtained free of charge from the Poultry Division, Experimental Farm, Ottawa.

WINTERING YOUNG LIVESTOCK

Prices for feeding beef and dairy cattle are low, therefore young cattle must be raised economically. The results obtained at the Dominion Experimental Station at Fredericton show that young cattle can be raised on a ration consisting largely of good roughage more economically than on a ration containing a heavy allowance of concentrates.

Senior yearling and two-year-old heifers not in milk may be fed a ration consisting mostly of silage, roots and hay or straw with scarcely any concentrates, until two months before freshening. They should then be fed three to five pounds of concentrates per day in order to have them fresh in good condition. Heifers fed roughage will not be as fat as heifers fed a heavy grain allowance, but they will make satisfactory growth and will develop the roamy digestive tracts wanted in a dairy cow, and costs will be considerably lower. In a twenty-eight day feeding period in 1923 a group of seven heifers fed clover hay and corn silage made average daily gains of 2.34 pounds per day. Another group of seven heifers fed a ration in which half the hay was re-

placed by straw made average daily gains of 1.02 pounds in the same period. Equally satisfactory gains have been made when corn silage was replaced by roots.

It should be borne in mind, however, that the roughage must be of good quality, and the hay should be largely clover. Otherwise it is necessary to feed considerable concentrates to make a satisfactory growing ration. When heifers have been allowed to fall away in flesh before being stabled they should be fed at least two pounds of concentrates per day. Otherwise they may become stunted. The grain mixture used at this Station consists of: bran, 2 parts; crushed oats, 1 part; brewers' grain, 1 part, and oil cake, 1 part, and it gives very satisfactory results.

As the most economical growth is made when heifers are young, junior and senior calves should be fed a liberal grain ration in order to have them well grown at an early age. Satisfactory results have been obtained at this Station from a grain mixture consisting of: bran, 3 parts, crushed oats, 2 parts; oil cake, 1 part, and brewers' grain, 1 part. The calves are fed a handful as soon as they will eat it. This is gradually increased until they are being fed three pounds when six months of age. The roughage fed consists of clover hay and either roots or silage.

Briefly, the feeder should aim to grow young stock rapidly during the first year as it is the period of most economical growth, after which he should rely largely on good quality roughage and aim to develop size rather than an undue amount of fat.

ICE.

A supply of ice on every farm where milk is produced would aid very much in raising the standard of the dairy product of the province. One and a half tons per cow will keep the milk temperature at a point to prevent loss and waste. Prepare for the ice supply now, by clearing out the existing pond or building a dam to create a pond of sufficient area to supply the desired amount of ice.

Success in ice storage depends upon fulfilling the following conditions:

1. That the ice be cut from a body of clean water.
2. The cakes should all be of the same size and not less than ten inches thick.
3. The ice should be stored on a cold, dry day.
4. The blocks of ice should be packed together as closely as possible without any filler, excepting finely broken ice is such is needed.
5. Dry sawdust filling at least twelve inches thick should be placed between the ice and the walls of the building. A covering of equal thickness should be used. The ice should rest on a firm bed of sawdust where drainage can be provided.
6. Air circulation should be provided over the stored ice.
7. The ice should be kept well covered during the entire period when ice is being used.

Greater Value of Dehorned Steers.

A striking substantiation of the wisdom of dehorning steers is furnished by the Superintendent of the Dominion Experimental Station at Charlottetown, P.E.I. In his report for 1923 he says: "Comparing horned steers tied with dehorned steers fed loose in box stalls, both of the pens of dehorned steers when fed in box stalls made greater gains than the corresponding pens of horned steers that were tied in stalls. The average gain of the dehorned steers was 40 pounds per pen in the 111 days of experiment. When steers are dehorned they can be fed in a more cheaply constructed shed. They can be fed in less time. If given sufficient bedding they will tramp down large quantities of waste material into the manure, making it more valuable; also a greater quantity is secured than when steers are tied in stalls. Dehorned steers are more contented, feed better, and usually command a higher price."

"Wyandotte King" Wins.

Hon. John S. Martin, minister of agriculture for Ontario, swept the boards with his poultry at the Maryland State Fair. He won first, second, third, fourth and fifth with hens, cockerels and pullets; first and second in pens, both young and old, besides high honors in Ohio, Illinois and Indiana.

Three varieties of fruits and two of plants were accepted for recording at the recent meeting of the Plant Registration Committee of the Canadian Horticultural Council. The fruits were the Sangster peach, the Golden Delicious apple, and the Newman strawberry. The George C. Creelman lily and the Lady Atholstan fern were the new varieties of plants.

One reason why meat spoils is because the salt used in curing does not penetrate to all parts of the meat. Sometimes this is due to taking the meat out of cure too soon, but quite often it is due to the use of a poor grade of salt that does not dissolve thoroughly. Or maybe the salt is too weak to do the work. Get good salt and be sure it dissolves. If the salt penetrates rapidly, there is better color to the meat, and salt-peter is not needed.

Poultry

A little time spent now in marking the pullets so as to indicate when each started laying will be a great help in culling the flock next summer. The only equipment needed is a catching crate and a supply of colored celluloid leg bands.

Once in three or four weeks is often enough to go over the flock. Bands of a different color should be used each time, and a record kept of what each color means in the way of egg production.

For example, a blue band may be placed on each pullet that begins to lay before reaching six months of age, a red band for each pullet that starts at between six and seven months, and a yellow band for those that start at between seven and eight months.

The value of this record next summer will be obvious. A pullet that starts to lay early and continues to lay until late in the fall is a most desirable bird. One that starts producing early and quits early is a better hen than one that starts late and quits early.

By putting these bands on the left leg every time it will be possible to make use of the same colors in reverse order, on the right leg, to indicate the time these same birds stop laying next fall. Of course the record is not equal to that made by a trap-nest, but it is a very satisfactory and thoroughly practical substitute.

Spring Wheat Varieties Dockage for Seed.

Uncleaned and ungraded samples of spring wheat were collected by the Cereal Division of the Dominion Experimental Farms from most of the branch farms in 1923, and subjected to a uniform system of cleaning and grading, with a view to determining, from the standpoint of the seed grower, the percentage of small grains which have to be removed in order to produce a first class sample of seed. In the report of the Dominion Cerealist, Mr. L. H. Newman, for the year referred to, a table is given of the results achieved from samples sent in by seven Farms and Stations in the West. Then varieties were subject to the test. As Marquis Ottawa 15 is the variety most popularly used, the per cent. dockage of that variety at each Farm or Station is here given: Brandon, 35.3; Indian Head, 55.3; Rosthern, 6.7; Scott, 14.9; Swift Current, 7.5; Lacombe, 7.9; Lethbridge, 8.9. The other varieties used were Early Triumph, Garnet Ottawa 652, Kitchener, Kota, Red Bobs, Red Fife 928, Reward Ottawa 928, Ruby Ottawa 623, and Supreme. Results from all of these are detailed in the report, and the percentage of dockage from Brandon samples being generally high, Mr. Newman explains that this was due chiefly to the effects of the epidemic of wheat stem rust, which reduced not only the total yield, but size of kernel materially in most cases. The variety Reward-Ottawa 928 ranked relatively high at all the Stations as regards the percentage of good plump grain obtained. This variety and Kota, which is relatively resistant to rust, exhibited the same percentage at Brandon, namely 27.5, but Reward was much the superior in strength of straw.

Controlling Fermentation in Butter-Making.

The keeping quality of butter depends very largely upon the fermentations that take place not only during the ripening of the cream but in the butter afterwards. Milk and cream are subject to many types of fermenting agencies and if allowed to take their natural course, develop all manner of flavors in the finished product. By pasteurization the molds, yeasts and bacteria contained in dairy products are brought under control. In order to make a study of this question the Dairy Branch of the Department of Agriculture, during the past summer, carried on research, using samples of butter collected from factories in several of the provinces of Canada. Many of these samples showed almost numberless bacteria, hundreds of molds and thousands of yeasts to the cubic centimetre. These came from creameries where pasteurization had not been practiced. On the other hand, samples were received that contained exceedingly small counts of these agencies, indicating excellent workmanship and very satisfactory sanitary conditions.

By treating the cream to pasteurization for ten minutes at 180 deg. F., all of these molds and practically all of the bacteria are made dormant. Following this process care has to be taken to see that the vats, churns, pipes, and pumps with which the cream comes in contact, are kept in a thoroughly sanitary condition. Even parchment paper liners are able to carry infection to the butter unless they are properly treated in formalin and boiled. The making of good butter that has long keeping qualities, it was found, depended upon thorough pasteurization of the cream and thorough scouring and cleansing of vats, churns and other equipment with which the butter or cream comes in contact.

Where the fowl's age can not be told by the legs, there is often a dull look under the eyes of an old bird, which an experienced poultryman can tell at a glance. But in all up-to-date poultry yards the birds are banded, and records are kept of their ages, so there can be no mistake.

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A STAR PARTY

Everyone who cherishes the spirit of Christmas and who enjoys a party will find something pleasing in a Christmas star party.

Send star-shaped invitations written in red ink on green cardboard or in white ink on red cardboard. In the centre of the star paste a Christmas seal and on the back write a verse, such as the following:
Star light, star bright,
May you find a star to-night
I bid you to my party gay.
Come prepared some part to play—
To praise the star that hung alight
Over the Christ that holy night.

A pretty way to distribute the invitations is to suspend them from ribbons and hang them on the doors of the houses that you visit.

Decorate the house where the party is to be held with greens and quantities of five-pointed stars cut from green or red cardboard. Fasten a heavy cardboard star to a bare wall, cover it with evergreens and outline the edge with silver tinsel. Fasten an electric bulb in the centre or put a small bulb at each point. If it is not practical to use electric lights, use red candles, set securely in holders.

As the guests arrive pin on the back of each a slip of paper on which is written the name of a star, a planet or a comet. As the guest moves about and engages in conversation, she must guess by what is said about her what star she represents.

Have ready in a basket little stockings cut from colored paper and sewed together with bright yarn. Write the name of a guest on each. Have each player draw a stocking from the basket and then from a sheet of paper cut pictures of the things he should like to give the person whose name is on the stocking. Allow five or ten minutes for that, then have the stockings returned to their owners. In turn each will draw out his "gifts" and try to name the articles correctly.

Write yes or no on slips of paper and place them either in a dish or in a basket. Have each guest in turn wish for something she wants for a Christmas present, and then close her eyes and draw a card. This is a simple game, but it produces much fun.

Hide many tiny stars in different parts of the house. Let them be of one color and unlike those used in the decorations. Have them numbered from one to ten. When the number of the stars found by each player are added the one who has the highest total is the winner. Then arrange two lines, one of girls and one of boys, according to the number of stars found, from the highest down, and let them proceed in couples to the dining room.

The chandelier is trimmed with holly, and a huge star of wire fitted round it and covered with crepe paper will cast a rosy glow over the scene. From the star hang a red Christmas bell from the rim of which depend silver stars made of tinfoil. Stretch strands of evergreen from the chandelier to the four corners of the room and make a centrepiece for the table of ground pine or other greens. Outline a star in the centre and have strands of tinsel leading from it to each plate. Fasten each strand to the cloth with a gold or silver star that shall serve as a place card.

The centrepieces can be made of white or red crepe paper with an apple in which a white candle is placed at each corner. For the centre plan a little scene—for example, a mountain of cotton with tinsel snow and old Santa Claus approaching with his miniature sleigh and reindeer and pack of toys. A mirror laid in the middle represents a frozen lake.

Place the chairs round the walls and serve a buffet supper. Use star-shaped napkins, cut from red crepe paper. Serve sandwiches of pressed

Contents of Cobalt Ore.

To the uninitiated, ore is just ore. If it happens to contain bright specks at once the supposition is that it contains gold or silver. To the metallurgist, however, every species of ore presents its own special features, says the Natural Resources Intelligence Service of the Department of the Interior. In the case of Cobalt ores from the Cobalt district of Northern Ontario, when this field was first developed the silver was looked upon as the only content worth developing.

Cobalt ore, however, provides a number of metallic substances, each of which is very valuable in its own special field. From the ores of the Cobalt field is extracted arsenic, silver, copper, cobalt, cobalt oxide, and cobalt salts, with a small iron content. The demand for arsenic for the protection of the cotton crop of the southern states intensified the production of this insecticide. Formerly arsenic was recognized as a nuisance in any ores of which it formed a part. Cobalt oxide is used as an alloy in the manufacture of a high grade tool steel known as stellite. Cobalt itself is the ingredient of many compounds which provide the beautiful blue colors in porcelain, pottery, glass, etc., and it is especially valuable in producing that pottery so dear to the heart of the connoisseur of china, Old Sevres blue.

Comparatively Speaking.
"In this part," said the movie director, "you have to do a number of funny falls. How are you on falls?"
"I rank next to Niagara," the applicant replied confidently.

Landscape Improvement.

The surroundings of many farm houses remain bare and uninviting year after year, due largely to the lack of time for landscape improvement in April and May, the busy seeding and planting season. Trees and shrubs may be planted in November up to the time of freeze-up, just as successfully as in the spring. Large trees can be moved with greater ease and certainty of success during early December than at any other time. To move large trees or shrubs trench around and under in a manner that will leave a large ball of soil over the roots. A few cold nights will freeze this solid. When in this condition the frozen protecting soil with the tree attached may be pried or lifted out and transported to the new location, where a hole of sufficient size had been prepared before freeze-up to receive it. The planting of windbreak trees, forest trees in the woodlot, or shrubs and ornamental trees about the home, should be considered as an autumn job by the man that cannot afford the time to do this work in the spring.



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