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GOVERNMENT OF THE PROVINCE
OF SASKATCHEWAN

DEPARTMENT OF AGRICULTURE

POULTRY MANAGEMENT;

AND

THE PRESERVATION OF EGGS

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LAND MANAGEMENT

THE PRESERVATION OF WOODS

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FEEDING HENS IN WINTER

The aim when feeding poultry during the winter months is to provide a sufficient variety so that a bird will be able to supply itself with all the different classes of foods which it could gather for itself when on free range in summer.

On a good range during the summer months fowls eat (1) a variety of grains and seeds; (2) a large amount of grasses and vegetable matter; (3) a smaller quantity of meat food (in the form of bugs, snails, grasshoppers, etc.), (4) some mineral substances (in the form of gravel) containing principally lime and phosphates; (5) they also drink a lot of water.

In the summer a hen gets practically all of these things for herself and in doing so is compelled to exercise from daylight to dark. This exercise in the open air keeps her muscles and digestive apparatus in such excellent trim that she is able to digest a great deal more food than is required to sustain her. The surplus is either stored up as fat or is used in the production of eggs.

In order to get hens to lay in winter we must not only provide the kinds of food which they would be able to get on good range in summer, but we must feed in such a way that the birds, while getting a crop full will be required to exercise almost as much as they do in summer.

Any of the common grains, namely: wheat, plump oats, or barley, make good poultry food. A mixture of all three would be better, or the grains might be fed alternately. Wheat is the best single grain food for poultry and frosted wheat, say No. 4 or No. 5, if not heated or mouldy, make more economical feed than No. 1.

Whole grain is best for the early morning feed. It should be scattered in a litter of clean straw (which should cover the hen house floor to a depth of four or five inches), allowing about a gallon and a half or say (12 pounds), for each hundred hens. The birds will be kept busy till noon scratching among the litter for the grain. A

pan of clean water (placed on a shelf about 20 inches square and fastened to the wall of the house at a height of two feet from the ground), completes the morning care of the birds.

Just after noon meat may be fed one day, and vegetable food of some kind the next. If ground meat or green cut bone are fed allow about one ounce per bird or $6\frac{1}{4}$ pounds per one hundred birds.

For vegetable food cut beets, mangels or turnips may be given, as much as the birds will clean up in about three or four minutes, or sprouted oats may be fed allowing a chunk about an inch square for each bird. If any sign of looseness of the bowels appears feed less vegetables. Directly after the feed of meat or vegetables the water pans should be refilled and another feed of whole grain should be scattered over the litter.

The quantity of grain to be fed in the afternoon depends on whether, on turning over the litter we find any kernels left from the morning feed. Usually about a gallon and a half of grain for one hundred hens may be given. If one feeds too heavily some grain will be left in the straw. If not enough has been given, no grain will remain in the litter and some of the birds when they go to roost will not have full crops. Feel the birds sometimes after they have gone to roost to be sure they have had enough to eat.

Where table scraps of meat, vegetables and bread can be obtained they may be mixed with vegetable peelings and cooked, after which enough chopped grains may be mixed in to make a crumbly (not wet nor sloppy) mash, which may be fed as soon as cool enough.

If a moist mash is fed it should not be given till an hour before the birds go to roost. If fed in the morning the birds fill their crops in a few minutes and sit round on the roosts till next meal time. Because they do not have to exercise they are not in condition to produce eggs.

A hopper with three or more compartments should be provided in each pen, in which a supply of grit, oyster-shell and charcoal should be kept.

If it is not convenient to feed a moist mash, a "dry mash" may be provided in one compartment of the hopper. A fairly satisfactory dry mash might be made from

200 lbs. ground wheat
100 lbs. ground oats
100 lbs. ground barley
20 lbs. good quality beef scrap

If dry mash is provided the hopper should be kept closed till about 2 p.m. then left open till the fowls go to roost.

Eggs should be gathered whenever convenient. The oftener the better in cold weather.

Just at dusk a final round should be made to see that all birds are on the roosts, and to let down the curtains in front of the roosting quarters. On very cold nights the curtains may come down to within two inches of the droppings board. On warmer nights leave them up higher. If the air behind the curtain is damp and stuffy raise the curtain a little from the bottom or provide some outlets between the rafters at the roof.

Fowls need sunlight. When no wind will blow in, the central window in each house may be opened from ten a.m. till 2.30 p.m. even in the coldest weather. Where fowls have four square feet each of floor space to scratch over, once a week should be often enough to clean the house.

Take a fork and throw out all the coarsest straw then scrape droppings board and floor with a shovel and finally sweep all small loose particles out clean with a broom. Then put in fresh straw to a depth of four or five inches on the floor and sprinkle a little over the droppings board to prevent manure freezing on the boards.

If the hens are of a good laying strain and are not too fat, they will soon respond to a little extra care such as has been outlined above.

RULES FOR FEEDING AND MANAGEMENT OF FOWLS

Morning

1. Feed whole grain, and only as much as hens will eat eagerly. To know how much to give is the fine art of feeding. It can be learned only after much practise and careful observation.
2. Scatter the grain evenly over the entire floor Space.
3. Keep straw loose and well towards the front of the house. Rake straw to the front once daily.
4. If hens are not hungry enough to work for a living they are being fed too much.
5. If litter is not piled up in heaps and full of holes down to the floor, the hens are not working enough.

Noon

1. Open feed hoppers or put dry mash (just a little), in hoppers when no provision for closing hopper has been made.
2. Feed meat or cut bone or vegetables.

Evening

1. Feed all whole grain that hens will clean up, scatter same in straw. Birds should go to roost with full crops. If a little grain remains in straw till morning, it will be better than that birds should go to roost hungry.
2. Wash all water pans and leave them empty till morning.
3. See that all hoppers have grit, shell and dry mash sufficient for 24 hours' use. Let down curtains in winter.
4. Feed male birds in coops three times daily.

Watering

1. Rinse and empty all pans before refilling. (Throw waste water in pail provided). Fill all pans full in morning and again after noon. In very hot weather pans may have to be filled three times. See that cups in coops are kept full.

Cleaning

1. Clean droppings boards every second or third day. Visitors may have dirty henhouses, but they'll talk about us if *we* have.
2. Clean floors when necessary. In winter when pens are full to capacity, twice a week would not be too often. In summer when birds can run out, and straw is expensive, once in two weeks may be often enough.

(a) Throw out straw with a fork. (b) Scrape floor clean with a square mouthed shovel. (c) Take a broom and sweep floor as clean as possible. Then put in enough clean straw to cover the floor to a depth of four or five inches.

3. Sweep down walls and cotton curtains.
4. Clean glazed windows three or four times a year so *some* sunlight can get in. Make the glass so you can see out.
5. Return all shovels, forks, brooms, etc., to their proper place in the feed room.

Trap Nesting

1. Examine and work all nests each morning.
2. Release hen from trap by letting her walk into your hands.
3. Handle hen carefully and stand her gently on her feet on the floor when letting her go.
4. See that all leg bands are securely fastened.
5. Look twice to make sure you have read the number correctly. The leg band should be right side up so as to be easily read when the hen is standing on her feet.
6. Mark the egg exactly on the big end, making clear distinct figures. Give hen number first, pen number next. Then draw a line and below this write date of the month, e.g. $\frac{89-7}{30}$
7. Put the egg in pail or basket and credit on the record sheet in the space for that hen's legband number on the date gathered.
8. When eggs are found on floor or in nest from which the hen has escaped, mark F on end of egg and enter in column of record for found eggs.
9. When broody hens are found mark B in space on record and put hen in swinging slatted coop.
10. Take eggs to storage room, the temperature of which should be between 40° and 55° F.

Remember: The slighting of any detail, however unimportant it may seem will have an injurious effect on results. It is results we are after. We, ourselves, are on trial every day—we are known by what we accomplish. It has been aptly stated that "Trifles make perfection and perfection is no trifle."

Note—Some of the above is adapted from Cornell University's "Instructions to Student operators."

LIME WATER FOR THE PRESERVATION OF EGGS

A series of experiments in egg preservation was carried on by Professor Shutt of the Central Experimental Farm, Ottawa. This work, extending over a period of seven years and involving as it did the trial of 25 different preparations, has shown conclusively the superiority of lime water over all the preservations tested.

The Preparation of Lime Water

Concerning the preparation of lime water Professor Shutt says:—

"The solubility of lime at ordinary temperatures is one part in 700 parts of water. Such a solution would be termed "saturated lime-water." Translated into pounds and gallons this means one lb. of lime is sufficient to saturate 70 gallons of water. However, owing to the impurities in commercial lime it is well to use more than is called for in this statement. If freshly burnt quick lime can be obtained, one pound to five gallons (50 lbs.) of water will be ample and the resulting lime water will be thoroughly saturated." The method of preparation is simply to slake the lime with a small quantity of water and then stir the "milk of lime" so formed into five gallons of water. After the mixture has been kept well stirred for a few hours it is allowed to settle. The clear liquid above which is now "saturated lime-water" is drawn off and poured over the eggs which have previously been placed in a crock, butter tub, candy pail or other suitable container.

As exposure to air tends to precipitate the lime (as carbonate) and thus to weaken the solution the vessel containing the eggs should be kept covered. The air may be excluded by a covering of sweet oil, or by sacking upon which a paste of lime is spread. If after a time, there is any noticeable precipitation of the lime, the water should be drawn or syphoned off and replaced with a further quantity newly prepared.

If many eggs are to be preserved, a large quantity of lime-water may be prepared at one time in a tub or barrel and used as required provided it be not kept exposed for too long a period. Since lime is very cheap and there is no danger of making the lime-water too strong one could safely use twice or three times as much lime as is indicated above, if there is any question as to its strength or freshness.

The Use of "Water Glass"

Water glass, or silicate of soda gives very satisfactory results as a preservative for eggs, the only drawback being its cost. It is usually sold by druggists at 25 cents per pound tin, which quantity is sufficient to preserve from 10 to 15 dozen eggs. If many eggs are to be put down your local druggist could probably arrange to get silicate of soda for you by the gallon at about half the usual retail price per pound.

A FEW GENERAL RULES

1. Use only perfectly fresh eggs. (On the farm it is well to put each day's eggs in lime-water as gathered. In a store the freshness of the eggs should be determined by candling).

2. Do not put in any cracked or thin shelled eggs—one broken egg in a crock may in time spoil 12 or 15 dozen.

3. Do not have containers too large—crock (3 to 5 gallons), are convenient. Butter-tubs or candy pails will serve well enough, particularly if they have previously been coated on the inside with hot paraffine wax. Aside from the greater convenience of small container, there is less risk of a broken egg spoiling a large number of sound eggs.

4. Be sure to keep eggs completely covered by the lime-water during the whole period of preservation. It is well to have an inch of liquid above the tops of the eggs.

5. It is best to store the crocks of eggs in an airy cellar or basement. A room in which the temperature does not go above 45° nor below 35°, is most suitable. If allowed to freeze the shells crack and the eggs are useless.

If the above instructions are carried out there will be no trouble in preserving eggs in good condition for six or eight months. At the college we have just finished using (April 15), some eggs put in lime-water last August.

During the first week of April, 1914, at a number of country points, eggs were sold at 12½ cents per dozen. Next winter, these same eggs or what is left of them will be sold out of cold storage at from 35 cents to 45 cents.

Two or three crocks and ten cents worth of lime will take care of all the eggs most families require during the winter. Try it once and see how you like using first quality eggs at 15 cents a dozen in January.