

POULTRY

Soft-shelled Eggs.

Editor "The Farmer's Advocate":

1. Hens have been laying since early in January. Lately, many of the eggs have soft shells; some so much so that they break; have lost a great many that way. Keep lime and coarse sand, also oyster-shells before them. They are fed a mixture of barley, wheat, corn, oats, alfalfa and clover, steamed one day; boiled potatoes, with a little chop, next day. Also have mangels hung up around pen; plenty of fresh water, also chilled buttermilk, to drink, once a day. Is there anything I could give them to prevent eggs being so? Do not feed heavy.

2. Also, a number seem to get powerless, seem dumpy, cannot get on roost, sit around for a few days, then get better and go off again. J. B.

Ans.—1. In absence of information as to variety of fowls and their age, I surmise that they are one of the utility class. If so, the cause of the eggs with soft shells is an overfat condition of the fowls which laid them. The remedy is to reduce the rations, dropping the corn altogether. The weather is becoming too springlike for corn, which should be very sparingly used, if at all, in the case of heavy breeds. Give plenty of green food by itself, with a little at noon thrown on the litter on the floor, to incite to exercise, which may have been too little indulged in. The steamed alfalfa will do splendidly, if hens will eat it; if not, give mangels. The hens have been too well treated.

2. The trouble was due to inflammation of the lower intestines, due to a long-continued feeding of the same diet, without change, and mayhap the too generous feeding of the same. Change diet, and, if possible, let the hens run outside. It is quite possible that when the rations are reduced, the fowls may stop laying. However, they may as well do so as lay eggs with soft shells.

A. G. G.

Prof. Graham's New Poultry House

Illustrated on this page is the style of poultry house recommended by Prof. W. R. Graham, of the Ontario Agricultural College.

This house is 20 feet square, 4½ feet high at the north side, and 3½ feet at the south, and about 7 feet high in the center. It is built of rough lumber, and the cracks are battened. The south side is open, there being a wire netting 2 feet wide the entire length of the building (Fig. 1). A window, 4 x 5 feet, is placed in the west end (Fig. 2), and the door is in the center of the east end (Fig. 3). The roosts are scantling, and consist of three parallel rows running along the north side, about two feet from the ground (Fig. 4). Litter, consisting of straw and shavings, is kept on the ground for the hens to scratch in. There has been a flock of 100 hens of mixed breeding, such as is found on the average farm in Ontario, in this house all winter. These hens have rarely shown any signs of discomfort, and have given results which compared very favorably with those obtained from other pens. The lowest temperature recorded on the outside of the pen was 15 degrees below zero, while it fell to 3 degrees below inside the pen, and the hens seemed to mind it very little. Prof. Graham said that only on some three or four days did they seem at all too cold. For such extreme days, he thought it might be well to have a curtain which could be dropped over the front; but if this was not well looked after, the house would be much better without it. The cost of the house completed is about \$60. The house is remarkably free from drafts, which are so disastrous to poultry.

The following is the number of eggs produced by the hens, and also the amount of food consumed by them:

Month.	No. of eggs laid.	—Amount food consumed—			
		Grit.	Corn.	Mash or oyster-shell.	Beneta.
		Lbs.	Lbs.	Lbs.	Lbs.
Nov.	175	19	460	115	106
Dec.	786	16	600	180	
Jan.	774	21	545	204	100
Feb.	835	30	300	295	

The hens were given buttermilk to drink, instead of water. Fresh air is abundant in the house, and these hens have been very healthy and lively all winter. One strong point in favor of this house is that the sun shines into it during the greater part of the day; and if the sun is shining, it is never too cold in it, no matter how cold the day is. Hens do not seem to require more food in this house than in the warmer houses.

WADE TOOLE.

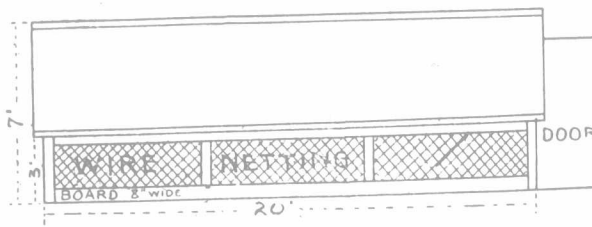


Fig. 1.—Front—South Side.

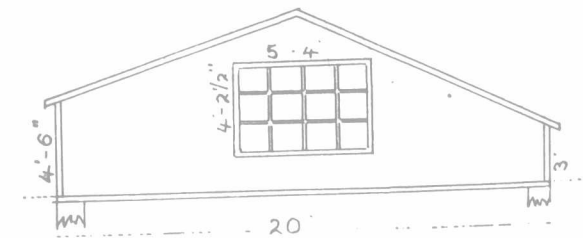


Fig. 2.—West End.

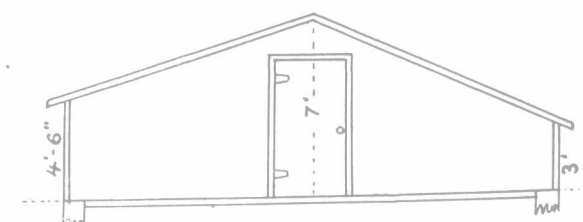


Fig. 3.—East End. This cut should have been reversed. It shows the lowest side north instead of south. Otherwise it is all right.

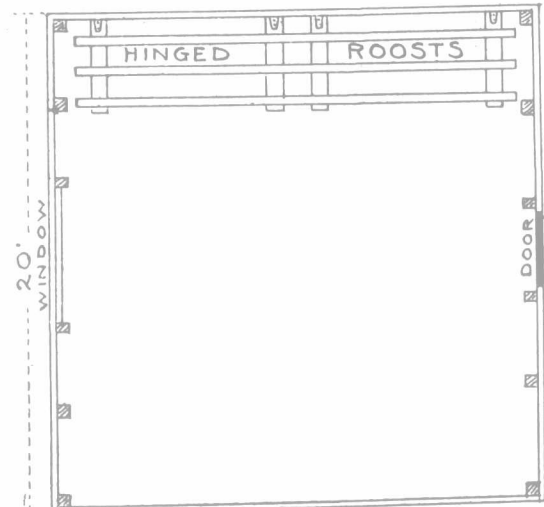


Fig. 4.—Ground Plan—South Side.



Pair of Toulouse Geese—Prizewinners.

This improved race of the old Gray goose is the most popular of all domestic geese, on account of its general usefulness. As handled on most farms, it lays the largest number of fertile eggs of any goose equalling them in size. A good adult gander weighs 28 lbs., and a goose 20 to 22 lbs.

GARDEN & ORCHARD.

Onion-growing, Scotland, Ont.

The village of Scotland is a few miles southwest of Brantford, Ont., and is the center of one of the chief, if not the chief, of the districts in the Dominion devoted to the growing of marketable onions for household use. A description of the methods of culture that are followed there may be of benefit to others who are engaged in the same line of gardening.

The Scotland onion-growers are not gardeners, however, as that name is generally understood, but are farmers who grow onions as one of their farm crops. Many of them have five acres in this crop, though a greater acreage than that on one farm is seldom seen. The income from onions in many cases equals what is received from the sale of all other products of the farm.

The ground is plowed in the fall, and if there is manure on hand, it has been found the best practice to spread it on the surface of the plowed

ground and work it in with the cultivator or disk harrow. If there is no manure available in the fall, it is applied in the spring, and, if fine enough, is surface-worked in; but if too strawy for that, is plowed under as shallow as possible. From fifteen to twenty two-horse loads per acre are applied. Scarcely anything has been done as yet with artificial fertilizers.

Before sowing, which is done as early as the ground is dry enough to work well, by means of cultivator, disk and harrow, the surface is brought to a very fine tilth, and then levelled and smoothed with a plank float.

Seed is sown at the rate of four pounds per acre. The depth aimed at is one inch, and the rows are thirteen or fourteen inches apart.

In three days or less after sowing the wire weeder is started. This implement can be best described by saying that it almost exactly resembles an ordinary Breed weeder, except that the teeth are of wire, about No. 9 thickness, placed an inch apart. Some use a wire weeder eight or ten feet in width, hauled by a horse, but more particular growers have them but four feet wide, attached to the handles of a wheeled hoe, and propelled by hand. This implement is used every few days until the plants are about four inches high. Its use is discontinued by some for a few days after the loops of the little plants appear above the ground, until they straighten out. The weeder is run chiefly across the rows, but it is also run anglewise, lengthwise, and, indeed, "any old way." The teeth being so fine, scarcely any damage is done to the plants, and the labor of weeding is lessened by 50 per cent.

The wheeled hoe, or the cultivator, as the Scotland men call it, is next started. The double-wheeled style, straddling the row, is preferred for the first two or three cultivatings; afterwards, a single-wheel implement, working between rows, is used. At the first cultivating, the knives are set only three-fourths of an inch apart, if the rows are straight and the man careful, thus leaving very little weeding to be done by hand. The more thoroughgoing farmers like to have the onions hand weeded three times. Such men also practice thinning to a distance of two to two and a half inches apart. Thinning is done at the time of the first weeding, the plants not being pulled out, but cut out deeply with the weeding knife. Wheel hoeing between rows is continued until the tops interfere and the ground becomes filled with roots. The most of the onion fields are kept beautifully clean.

When the crop begins to ripen, if ripening is uneven, an empty barrel is rolled over the field, breaking down the tops of two rows at a time.

Harvesting, which comes next, is begun by another use of the two-wheel cultivator, but with the double knives taken off, and a single strong knife put in, instead. This knife is curved so as to go deepest under the center of the row of onions, and to rise out of the ground a few inches on either side of it. This leaves the onions apparently undisturbed, or, at most, tipped over, but the roots are cut and bulbs loosened, so that drying off begins at once. After a few days, six, eight or even twelve rows are raked into a wind-row, an ordinary wooden rake, with extra teeth inserted, being used.

Topping is sometimes done in the field before the onions are gathered up, but more generally, perhaps, they are taken into the barn as soon as dry, and topped when convenient. So far, this operation has been done by hand, the top being either pulled off or cut off with a knife. A power topper, driven by a gasoline engine, the whole being mounted on a wagon, so that it can be driven between the windrows, has been tried, but so far has proved a failure.

In the Scotland district it is the practice to grow onions on the same field year after year. Reference was made to fields on which they had been grown for twenty years in succession, a full coat of manure being applied each year, of course. A feeling is growing, however, that that practice has been overdone. Fred Smith, one of the most expert growers, believes that there should be at least two fields, used alternately. He cited an instance of a crop being attacked by smut, which he believed was due to onions having been grown exclusively for too great a length of time.

There has been a good deal of trouble with onion seed being of poor quality. In the past it has been procured principally from seed merchants in our own cities, though a good deal has been imported of late years from Ohio. The talk now is of growers raising their own seed. What little has been done in this line gives great encouragement to go further. Home-grown seed, on being tested, showed 99 per cent. that germinated, while purchased seed has gone as low as 30 per cent. in some instances. The year 1911 will show a large increase in home-grown seed.

The ravages of the onion maggot were especially severe in 1909 on the low ground, half of the crop being destroyed; but this is unusual, as there is seldom even 25 per cent. of a loss from maggot. In 1910 the maggot did no damage to speak of. Some growers try to tempt the maggots away from the onions by sowing radishes along with them, but this practice does not find