

mash they will eat. They will eat quite a hearty meal of this after they have fed to a surfeit on grain, and will make growth proportionate to the quantity of food eaten.

PREPARING FOR NEXT WINTER'S EGGS.—II.

The first point in getting plenty of eggs next winter has been attended to already, viz., hatching eggs which come from a good hardy strain. The second point is in the making right now. That is to say, don't let the growth of the chicks be checked, even for a day. It cannot be made up later on. Keep them growing until they are mature pullets in the early fall. By this, I do not mean to feed them highly so as to get flesh or fat. It is better to pay chief attention to getting a healthy, hardy constitution, which is the result of plenty of exercise and of natural feeding, which they will obtain in an orchard run, supplemented by all the grain they want. After the crops are harvested in the fall, the fences separating the orchard from the garden or root fields can be taken down (it is a good plan to have them portable), and the pullets will find the conditions exactly right for bringing them to maturity. The cockerels can be separated and placed in another run as soon as sex becomes distinguishable, and fed for rapid fleshing.

Pullets hatched around May 1st should be well on towards maturity by the time cool weather begins in the fall. The house in which they are to spend winter quarters should now be made ready, so that they may become accustomed to new surroundings by the time they have arrived at the stage to lay. This should be some time in October or early November, as, if they reach the season of real winter in an unproductive condition, egg-laying may be postponed until early spring.

The processes of a successful chicken man generally develop gradually, one improvement leading to another. This is particularly the case in the matter of housing. The simpler the accommodation, however, the better it works. The keynote should be to get as near the conditions prevailing in the natural egg season as possible; and this is approached most nearly by a combination composed of fresh air, without drafts, sunshine, and plenty of exercise. To meet these requirements, different people have very different ideas and methods, but I have come to the conclusion that the following is hard to beat: The house should face the south, and the southern wall should comprise at least one-third window and one-third muslin (or factory cloth). This combination will render it bright, warm, airy and dry. The roosting compartment should be enclosed, so as to avoid drafts, the floor of the same being represented by the dropping-board, placed high enough above the ground so as to allow room for nests, and yet give all the floor-space to the hens. The nests should be attached to, but detachable from, the dropping-board, so as to admit of easy cleaning; they should face the back wall of the roosting compartment, so as to be dark and quiet, and should have an opening towards the back, from which the eggs are readily obtainable. On very cold nights, a burlap curtain, from the top of the roosting-room to just below the edge of the dropping-board, will give all the warmth, additional to the animal heat of the birds' bodies, which is required. On the floor of the house, formed preferably of clean sand, at the beginning of fall, I place as much litter, in the shape of dead leaves, straw, etc., as I can lay hands on, and into this I throw their grain, which consists mainly of wheat, but varied with corn, buckwheat, barley, etc. Searching for the kernels of grain, the birds will keep themselves busy and warm, and in best condition for egg-laying. I need scarcely say that the greatest possible cleanliness should be observed, an occasional coat of whitewash over the walls and everything in the room being a detail which it pays to observe. In the winter, also, I place in the house a box or old tub about three-quarters full of coal ashes or dry sand, in which the birds can take a dust-bath.

I will now give my actual results during the past winter. They are not offered with any idea that they are phenomenal. In fact, I am pretty sure they would have been better had I always had time to do exactly the right thing at exactly the right moment. Probably, too, the record of eggs would have been comparatively better with fewer birds. It is claimed that each chicken requires six square feet of floor-space. My thirty Barred Rock pullets had more than that, but 10 square feet is probably better. In the previous year (winter of 1906-07), when I only had twenty pullets, my egg record was nearly as large as it was this year, with thirty. Anyhow, I will give this past winter's results just as I find them in my daily notebook. The birds started laying about the middle of October, and laid: 1907—October, 17; November, 186; December, 345. 1908—January, 397; February, 369; March, 457. It will be noted that there was a gradual increase from the start, and that by December, when prices for eggs are usually at their highest, the produc-

tion had already become fairly large. The thing to do is to get a large number of pullets in good laying condition before that month, which can only be done by treating them so that their development, from incubator to nest, shall go on without check or setback. W. P. F. York Co., Ont.

A WINTER'S EGG-RECORD.

Editor "The Farmer's Advocate":

I have been interested reading the records of some of the poultrykeepers, and think, perhaps, I have a pretty good record to report. I commenced the winter with 26 Barred Rock hens, 16 of them pullets.

In December they laid	117 eggs
In January "	309 "
In February "	349 "
In March "	448 "
In April "	484 "
	1,707

At the end of April I had three hens with chickens, and others getting broody. Peel Co., Ont. (MRS.) A. G. SIBBALD.

APIARY.

SPRING SESSION MIDDLESEX BEEKEEPERS.

In spite of the somewhat unpropitious weather on Saturday, May 2nd, there was an excellent turn-out of beekeepers at the City Hall, London. Pres. F. J. Miller called upon Geo. Kimball for an address. Mr. Kimball advocated a winter repository, made above ground, in preference to outside wintering. His bee-house was made with 4-inch hollow wall, then 12 inches sawdust, and outside of this 8 inches of a hollow wall. There was six inches of sawdust packing above. He also had a 6-inch-square pipe bringing fresh air into the cellar, and another taking the foul air from the cellar; both pipes went up in the air, like a chimney. Unlike most beekeepers, Mr. Kimball did not consider the variations of temperature, as a result of being above ground, injurious.

John McEwen, in an excellent address, advocated outside wintering, but wanted the apiary sheltered from strong wind. His apiary was east of his house. His loss for years had been in a place angling across the rows where the west and south-west winds could strike. He had planted a spruce hedge, and, until high enough, was using lumber to break the wind, and this year he had no loss. R. F. Holtermann gave a similar instance, confirming Mr. McEwen's statement.

For spring management, Mr. McEwen, who winters his bees packed on their summer stands, as soon as weather in spring will permit, fills combs with syrup made in the proportion of two of granulated sugar to one of water. The two combs next the hive walls are taken out, and the combs with syrup put in. This syrup can be used by the bees for brood-rearing, and gives them a great stimulus. When the combs are put in the hive, the entrance is contracted from four inches to one-half. The bees show a little excitement the day the feeding is done, but none after the entrance is enlarged to its normal size.

Secretary E. Barnard began winter preparation in the preceding July, when old queens in the apiary were displaced by young. He found that, where there was no fall flow and a young queen, the queen would lay eggs, but the bees destroyed them, not being willing to feed the larvae. If there was an old queen, and he stimulated the colony, the old queen would not lay; so he wanted a young queen, and to stimulate to produce young bees to go into winter quarters.

Robt. Wallace was a strong advocate of feeding bees water with salt, having it convenient in the apiary at all times. Jas. Armstrong endorsed Mr. Wallace's statement. He considered an excellent plan was to build a trough 6 feet long, half-filling it with sawdust, and then soaking this with water. Mr. McEwen used wooden boxes, about a foot square, with floats; he put a tablespoonful of salt to a gallon of water. His two boxes hold 25 pounds of water, and on Friday, May 1st he found it necessary to fill these feeders three times, so fast did the bees take the water.

W. A. Hill, St. Thomas, gave a talk on the development of the extracted-honey trade. The greatest difficulty beekeepers had had to contend with was the thought that the honey, when granulated, was sugar. He made a display many years ago of 800 pounds of granulated honey in glass at the Southern Counties Fair. It surprised people.

The advisability of packing colonies with flax chaff or forest leaves was discussed. F. A. Gemmell preferred leaves; Messrs. D. Anguish and Pres. Miller preferred the flax.

Foul-brood matters received considerable attention. It was thought that a larger Government grant and more inspectors would be needed to stamp out the disease, and the following resolution was passed: "That the Middlesex Beekeep-

ers' Association would earnestly point out the need of a larger Government grant and more inspectors to stamp out the disease known as foul brood."

In the discussion, some thought it would be well to have an inspector residing in the county.

A pleasant event in connection with the meeting was the election of Mr. R. F. Holtermann to honorary membership in the association, in consideration of services rendered from time to time.

INCREASING THE YIELD PER COLONY.

The recent convention of the beekeepers of Simcoe County, Ont., was unusually enthusiastic. The convention was held in Barrie, and presided over by the president, C. H. Wilson, Hawkestone, Ont. The secretary, Mr. Dennis Nolan, received the reports of winter losses. Bees had wintered well, probably not more than ten per cent. being the loss. The cause of loss appeared to be largely due to improper and insufficient winter stores. The safety of giving a heavy feed of sugar-syrup stores in the fall was felt by several present. Almost everyone present reported that bees had consumed an unusual amount of stores during the past winter, and it was felt that a note of warning should go out to beekeepers to prevent heavy losses during the present backward spring.

Arrangements had been made to have R. F. Holtermann, of Brantford, present. The subject with which he dealt was, "How to Increase the Average Yield of Honey per Colony." He stated that the average beekeeper did not give enough stores for winter. The hive should be contracted so the bees would cover the combs. Shelter during spring was very desirable; with high winds, especially during such springs as the present and that of 1907, was a bad thing for bees. Wherever possible, the apiary should be sheltered from wind, and especially the prevailing wind. Mr. Holtermann advocated large hives, shade and ventilation, to prevent the desire for swarming. Large colonies, other things being equal, gave the best yields, more by preventing the breaking up of colonies, the beekeeper had more uniform colonies for winter, and they would winter better. Too little attention was paid to blood in bees. A good strain of Italian bees, mixed with Carniolan, was what Mr. Holtermann aimed at in his own bees, the only objection to pure Carniolan bees being the tendency to swarm, and, in running out-apiaries this was a serious objection. If he ran one apiary, remaining with the bees all the time, he was not sure that he would not have pure Carniolan blood.

MOVING BEES A SHORT DISTANCE.

A question was asked as to the best time to move bees a short distance. It was advised, if the distance was less than a mile, to move them directly after the first cleansing fly; otherwise, after the bees had begun to work on blossoms they might return to their old location and be lost. If the distance was greater, and the bees were packed, it was advised to move them when the colonies required supers, and to leave them with their spring protection as long as possible.

GARDEN & ORCHARD

CHEESE-CLOTH SCREENING FOR CABBAGE PLANTS.

The growth of cabbage plants for late setting has been a very uncertain venture in parts of New York State for several years. Maggot-flies and flea-beetles have become so plentiful in cabbage sections that only small fractions of the seed sown give plants worth setting; so that many growers have had to import large numbers of plants from other States, with greatly increased expense and liability of introducing disease. A simple, and, so far as tested, a feasible and cheap method for controlling insects on seed beds, was tested (not originated) by the Geneva Experiment Station last year, and the details of the experiment are given in Bulletin No. 301. A small bed was covered with cheese-cloth screening and the plants completely protected from maggots. From 1,800 square feet of bed 50,000 sets were taken, while from a check plot, intended to set 40 acres, only plants enough for a little over four acres were secured. By taking off the cover for a week before setting, the plants were "hardened" so that there was no more wilting than with plants grown in the open air. The screening method is very inexpensive, and is apparently more promising than any spraying or soaking of the soil with insecticides.

ROT IN COLD-STORED FRUIT.

Cold storage of fruits has its problems, as do other phases of the fruit industry. To one of these problems, that of the susceptibility of stored fruit to various rots, Bulletin No. 297, of the New York Agricultural Experiment Station, Geneva, contributes valuable data. The experiments show that certain rots are perfectly controlled at temperatures ordinarily used in cold storage, but that blue mold is still active at or just above the freezing point. A method of destroying the germs of the fruit-rot fungi is also given. Both storage warehouse men and fruit growers should know the facts shown by this report.