melon years, however, and this year about 200 baskets was the largest day's shipment.

"This year was not a good one for the tomato crop. A bad slump in the market occurred and growers will average only about 60 to 75 cents per basket. This is, of course, not a bad price, but had the market held, the average would have been much higher. One man will average over a dollar for his crop because he was fortunate in being able to bring in as many as 60 or 70 baskets per day when tomatoes were selling for two dollars per basket.

One of the biggest things achieved by the association this year was to firm the market and prevent the wild glutting of Toronto market that normally takes place when consignment shipping is allowed free rein. The directors determined to avoid consigning as much as possible and believed that by so doing they could protect the dealer in Toronto and themselves as well. They have amply proven that they were right by what happened this year. Except for a little flurry, when, in almost no time, the price went down to 35 or 40 cents, the supply was so well distributed between the various markets that no glut occurred. In spite of this sudden drop, caused by fear of the crop from the Niagara District coming in too heavily at that time, Leamington growers, through their association were able to reassure the dealers and the price gradually rose to a dollar a basket where it remained for a week until the close of the season. The dealers are now satisfied that the growers will and can protect them if consignment selling is eliminated in favor of f. o. b. sales, and the growers have progressed a step in the distribution of their produce. Wise action of this kind is worthy of emulation by other associations whose best interests can always be served by an even distribution.

There is still a big future for the Erie Co-operative Company. The supply business which we have barely mentioned is capable of large expansion and 180 members find it necessary to buy surprising amounts of equipment and supplies in the course of a year. There is opportunity for enlargement, too, in the disposal of surplus products such as would be desirable for a canning factory, etc. Much could be done in the way of catering to the retail trade, along which line little has been attempted. Organizations of this sort, properly managed as this one is, are worth untold money to their members and it is only to be regretted that they are so few in number when the field for them is so large.

POULTRY.

Mangels are relished during the winter by the birds, largely on account of their succulency.

The growing of green food (sprouted grains) is becoming popular for winter feeding, but except for little chicks it is doubtful if it pays.

Animal food should not be withheld from the flock, especially Leghorns. They rapidly take to eating feathers, and some of the birds may be killed.

The value of different grains for poultry feeding varies with their chemical and physical analysis. Fibre material is only slightly digestible by fow!.

Generally speaking, the most economical returns are secured from flocks of about one hundred birds, but the highest egg yields are secured from smaller flocks.

Crates for fattening chickens are usually made 7 feet 6 inches long, 18 inches to 20 inches high and 18 inches wide. Such a crate can be divided into 3 compartments, each holding four or five birds, according to size.

It Pays to Finish Poultry.

Even with the present high price of feed no one can afford to sell birds and especially cockerels, in a thin condition. The good prices received for poultry meat more than pay for the extra feed, and if there ever was a time when birds should be finished, it is now.

As a war measure the marketing of thin chickens should be prohibited. The most expensive part of the bird to produce, and that which is of the least value for food, is the frame. The cheapest weight for the feed fed is the flesh, as it is all edible; the necessity of putting this flesh on is evident.

The most profitable weight at which to finish contrarals

The weight of the finished chicks was 340 lbs., having gained 60 lbs. in the 10 days feeding. The value per lb. was increased because of the quality of the flesh to fifty cents per lb., making the total value of the birds \$170.00.

This meant a revenue of \$54.00 for the care of 152 birds for less than two weeks. It also showed that for every pound increase on the birds it took 3 lbs. of mash and 4 lbs. of milk, or an average cost of 14 cents per lb. of gain.—Experimental Farms Note.

Fall Care and Feeding of Pullets.

BY F. N. MARCELLUS, O. A. C., GUELPH.

The returns from the poultry this coming winter will depend, to a considerable extent, upon the care which the birds receive during the fall months. The date of hatching the pullets and the stock from which they are bred are important factors, but as the time is long past when anything could be done to influence either, every effort should be made to bring what is



Pullets in Winter Quarters.

available at this season of the year, to the highest state of efficiency. The greatest profits are derived from those birds which begin laying in the fall and continue throughout the winter and, while some of the pullets, and perhaps all, are late hatched and immature at this date, they may, if well fed and cared for, be brought into laying condition before extreme cold weather. It requires about six months for pullets of the bred-to-lay strain to reach maturity, but the time required is influenced by the individual, the feeding, and the general care she receives.

It is important that the pullets be placed in their winter quarters before they begin to lay. Move them after dark as it is more easily done and is less likely to seriously disturb the birds. Whether the change to permanent winter quarters is made before or after laying begins, gentle handling and good treatment will go a long way towards offsetting the unfavorable effects of moving pullets. Rough handling may retard egg production for weeks or months and a little exra time and care at this time may be the difference between a profit and loss. The pullets should be culled as they go into the pen and any birds which are in any way deformed or are weak, sick, or anæmic in appearance are discarded and eaten or sold on the market. Those also, which are noticeably undersized are rejected and marketed.



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to six square feet of floor space per bird is necessary, the amount depending upon the size of the pen. The smaller the pen the more floor space required per bird.

The common practice of mixing birds of all ages is not to be recommended. Pullets are more active than old hens and require a more abundant supply of feed if they are going to produce to their maximum. The result of mixing pullets and hens is that where the pullets are fed so as to make them produce heavily the hens become lazy, over-fat, and in a month or six weeks they are found dead under the roosts in the morning. Upon examination no disease is evident but the body is extremely fat. Cause of death, too high living and not enough to do.

Feeding the Pullets.

The close confinement of pullets made necessary in order to accustom birds to their new quarters, requires the closest attention on the part of the feeder. It will be important for him to supply fairly abundantly those feeds which the pullets were accustomed to while on range; green feed to take the place of green forage in the fields and insect life from the same source. These are seldom considered with the birds on the farm and perhaps it is due to this fact as much as any other that the fall production is not as high as it should be.

Green feed in the form of cabbage, roots, second growth clover or alfalfa, sprouted oats, or in fact any other green vegetable matter available should be given the pullets every day they are confined. Of the materiials mentioned above sprouted oats is perhaps the best, not so much on account of its higher feeding value, as the more suitable form in which to feed the grain. Liberal use of any green feed makes it possible to feed grains more heavily, to promote egg production, and yet keep the birds in the best of physical condition. This is especially important where the birds are brought in from the range and confined to the pen. Green, succulent feed, however, is necessary in the ration at all times if one would have the birds lay heavily.

Perhaps the most frequently neglected constituent in the ration of the laying bird, or one about to begin laying, is animal food. Any kind of animal matter which is fresh, free from taint or salt, will answer. Buttermilk or sour milk is more satisfactory than any form of meat scrap and is available on most farms and at less cost than the other materials. The milk may be given as drink, in which case it is not absolutely necessary to supply other drinking material. In case birds are late hatched and immature, the liberal use of animal food of some kind or other will hasten development.

A good ration for fall feeding is one composed of the following: Grain or scratch feed—2 parts cracked corn, 1 part barley, 1 part feed wheat, 1 part heavy oats; mash—3 parts cornmeal or corn chop, 1 part wheat bran, 1 part wheat middlings or shorts, 1 part ground oats; green feed—cabbage, sprouted oats, or any available green food; animal food—sour skim-milk or butter-

Preparing the Ration.

In feeding the above mixtures, the grain is fed in the litter on the floor of the pen, morning and night. Only such amounts of grain are given as are cleaned up from the litter daily. The mash is placed in a box or hopper to which the pullets have free access. In case it is not possible to get sour milk, it then becomes necessary to use some of the commercial meat foods. These may be used with the mash, using one part of the meat food with the other ingredients mentioned. Where it is desirable to force development and production, and also utilize kitchen waste, the mash mixture may be moistened, mixed with the kitchen waste, and fed

about noon in conjunction with the dry mash in the hopper. This moist mash should only contain sufficient moisture to render it slightly crumbly and not wet. This practice increases the consumption of mash and lowers the consumption of grains.

If one desires a less complex ration, rolled or crushed oats may be used as a dry mash. They are not as suitable for a wet mash as is the mixture mentioned above. In regard to the grain mixture, larger quan-

is when they weigh about 4 pounds, but even earlier birds may be fed with profit, as several experiments conducted at the Experimental Farm this summer go to prove.

Poultry meat of all kinds has been a good price. Hens have been selling as high as roasters and broilers have paid well. Leghorn cockerels were sold at about 2 pounds each, and because of being specially finished on milk, brought good returns and paid well for extra feed. Four different lots marketed in August, 152 birds, weighed 280 pounds, they were fed for about ten days, during which time they gained 60 pounds, weighing at the end of the feeding period 340 pounds. They consumed 180 pounds of mash and 24 gallons of buttermilk. The mash was composed of 2 parts cornmeal, 1 part middlings, and 1 part buckwheat screenings. The cost of feed was 180 lbs. at 4 cents per lb.,

The cost of feed was 180 lbs. at 4 cents per lb., equals \$7.20, and 24 gallons milk at 5 cents per gallon equals \$1.20, making a total of \$8.40 for feed and milk. Add to this the value of the birds at the start, 280 lbs. of thin chickens that would bring 35c. per lb. \$98.00, and it makes a total cost for thin chickens and feed of \$116.40.

Sprouted Oats for Green Feed. The green shoots are from three-quarters to one and a-half inches in length.

Provide Comfortable Quarters And Do Not Overcrowd.

The fall season is undoubtedly the worst for disease in the flock. This is especially so if the house accommodation is poor or inadequate. Open, draughty pens will invariably result in colds which rapidly spread throughout the entire flock. Production is thereby decreased and there may also be a few birds die where the attacks become acute. Keep the pens dry and sanitary by using plenty of litter on the floor. Close up all openings which would cause a draught, even to small cracks, knot-holes and large nail holes, especially if located near the roosts. Be careful to avoid floor draughts. Provide plenty of roost space, allowing eight to twelve inches per bird, depending on whether of the light or heavy weight breeds. Avoid overcrowding of the pens as this always results in decreased production. Four grain mixture, larger quantities of cracked corn, oats, and barley may be used. The amount of wheat used is limited by the Food Board to twenty per cent. of the entire mixture and must be

only such wheat as is unfit for milling purposes.

Do not delay getting the birds into winter quarters. Be sure that their pens are clean and comfortable. Supply a variety of good, clean, wholesome feed and, if the pullets are well matured and of a laying strain, there will be no occasion to worry over the price of feed, as the response from the flock will be most gratifying.

In poultry, as for all other kinds of live stock, no one br ed is best for every set of conditions. Some are good layers, some excel in meat production, others can stand a great deal of cold. Some breeds are good rustlers, and can gather much of their own food during the summer. Study your own conditions and the different breed characteristics; then choose.