

cluding blackberry, currant, gooseberry, and raspberry. 4. The strawberry.

Within these groups the varieties have been arranged alphabetically, as far as possible, for ease in reference. There are described in all 86 varieties of apples, 36 of cherries, 44 of peaches, 49 pears, 53 plums, 4 quinces, 37 grapes, 12 blackberries, 22 currants, 7 gooseberries, 20 raspberries, and 49 strawberries, making a total of 419 varieties described. Of these, 225 varieties are illustrated, the illustrations being confined to the fruits recommended.

The descriptions of the fruits are very full and give, in addition to the mere description of the fruit itself, its origin and history, the character of the tree, the value of the fruit for home use and market, its season, and its adaptation. An example of the first variety of apple described will show how much information may be found in the descriptions alone.

Alexander (Emperor Alexander): Origin: introduced into England from Russia in 1817. Tree: hardy, spreading, vigorous, productive: bears early. Fruit: very large size: form round, ovate conical: skin greenish yellow, russet dots, streaked or splashed with red: stem $\frac{1}{2}$ -inch long, set in a deep cavity: calyx large, nearly closed, set in a deep even basin.

Fresh: yellowish white: crisp, not very fine, moderately juicy: flavor subacid, pleasant.

Quality: dessert, fair: cooking good.

Value: Home market, first-class: can be successfully shipped to Great Britain in cold storage.

Season: September to November.

Adaptation: quite general, the tree being hardy.

At the end of the book spraying formulas are published, and information given on the best times to spray in order to control the many diseases and insect pests which affect the fruits dealt with. It is stated that there are four objects for which the "Fruits of Ontario" was prepared. These are to assist the fruit-grower:

1. In the selection of those varieties most desirable either for home or market. 2. By affording a convenient reference in the identification of varieties now grown in the Province. 3. By furnishing a reliable description of the size, color, general appearance, and real value of the varieties often incorrectly described in magazines and catalogues. 4. By giving sufficient cultural directions to enable him to make fruit-growing a success.

GRUB ATTACKING STRAWBERRY ROOTS.

Editor "The Farmer's Advocate":

I have just read in "The Farmer's Advocate" where Farmer asks for information concerning disease affecting strawberry plants. Now, will H. L. Hutt, of O. A. College, pardon me if I offer an experience I have had during the past season with strawberry plants dying. I had found plants of various kinds dying, and I made examination around the roots, and in almost every case I found a large grub, and I have been told it was the same grub that attacked potatoes, corn and garden carrots—not the ordinary dark-gray cutworm, but a whitish grub, fully one inch long, with six short legs or feelers. I found that the grub did not do the damage in one fell stroke, but rather fed upon the roots of various plants for days, or until it had completely used up the sap and vitality of the plant. The only remedy I found is, dig till you find it and destroy, and sometimes I found Mr. Grub innocently curled up fully 8 or 10 inches from the scenes of his destruction. I hope this may put "Farmer" on the clue of enemy of his berry plants.

Huron Co., Ont.

I like "The Farmer's Advocate" better every week. Many times I have found single issues worth more to me than the year's subscription.

POULTRY.

FATTENING FARM CHICKENS.

Mr. A. W. Foley, Poultry Superintendent in Alberta, in the first bulletin published by the Alberta Department of Agriculture, deals especially with the question of fattening chickens in the following words:

"A visit to almost any store or market handling poultry will demonstrate that a large amount of the dressed poultry offered for sale is poorly fleshed and equally poorly dressed. This is not because the demand for poultry is small, but through ignorance of the best method of fattening and dressing birds. The fact is that in but few cases have the birds received any particular attention in the way of preparing them for market. Of recent years it has been demonstrated that poultry should be specially fattened in much the same way as beef, mutton or pork, in order to produce the best results. It is just as reasonable to confine poultry when being fattened as the larger animals. The simplest method of doing this is by the crate-feeding system outlined below, but many a farmer can obtain improved results if the birds intended for sale were only confined in a suitable shed with a clean floor, good ventilation, and such foods as would be fed were the birds being fattened in crates. The crate system is much the better plan, however, and it is advisable to adopt it whenever possible.

During the past few years the crate feeding of chickens for market has been introduced from

England, and has made substantial progress in Canada, because it has proved to be the most satisfactory means of preparing poultry for market. The work of fattening is readily conducted in the crates. The gain in live weight made by the birds ranges from one to three pounds per chicken during the fattening period.

Crate chickens command an increased price per pound because they supply a much larger percentage of meat than when lean. The flesh is also more tender and palatable, because it is produced by the wholesome food that is of necessity fed during the fattening period. The confining of birds in crates also tends to render the muscular tissue less tough, and in properly-fattened birds there should be an almost entire absence of such tissue.

To illustrate the gains which can be obtained by crate feeding, the following figures, taken from the results obtained at the Dominion Government Breeding Station, Bowmanville, Ontario, are given:

Number of chickens fed, 434; cost of purchase, \$93.24; cost of feed, \$23.65; total cost of chickens and feed, \$116.59; amount received at 15 cts. per lb., \$235.95; profit over cost, \$119.06.

The birds fattened in this lot were of a desirable type, and the results, as will be observed, were exceptionally good, showing a profit of over 100 per cent. for three weeks of fattening. Some allowance must be made, however, for killing and dressing, as these are not included in the above statement.

As stated elsewhere in this bulletin, the type of bird that is capable of producing the best results in egg production is also the best type of bird to produce flesh in the fattening crate.

In order to have the chickens plump and well fleshed for the market when they are at the most profitable age, they should be placed in the fattening crates when they are between three and four months old. It is not meant by this that the chickens cannot be fattened profitably when they are more than four months old. Suitable market chickens will show gains in the crate at any age, but the most profitable gains are made by birds weighing $3\frac{1}{2}$ lbs. to 4 lbs.

The fattening crates are 6 feet long, 16 inches wide and 20 inches high, inside measurements. Each crate is divided by two tight wooden partitions into three compartments, and each compartment holds four birds. The frame pieces are two inches wide and $\frac{1}{4}$ -inches thick. This frame is covered with slats placed lengthwise on three sides—bottom, back and top—and perpendicular in front. The slats for the bottom are $\frac{1}{4}$ -inches wide and $\frac{1}{2}$ -inches thick; the back, top and front slats are the same width, but only $\frac{1}{4}$ of an inch thick. The space between the slats in front are two inches wide to enable the chicken to feed from the trough. The bottom slats are $1\frac{1}{2}$ inches apart, with the exception of the space at the back of the crate, which is $2\frac{1}{2}$ inches wide. The bottom slats are always placed upon the top of the cross pieces of the frame. This is done to prevent any injury to the chickens' feet should the crate be moved and placed on the ground when full of birds. The back slats are placed lengthwise $1\frac{1}{2}$ inches apart, and the top slats are also placed lengthwise 2 inches apart. Two strips should be nailed under the top slats, near the ends of each division, and hinged to the framework. When the slats are sawn above the partitions, doors are formed for putting in birds.

The crates are placed on stands 16 inches from the ground and the droppings from the chickens received on sand or other absorbent material. A light "V" shaped trough $2\frac{1}{2}$ inches inside is placed in front of each crate, and is carried on two brackets nailed to the ends of the crate. The bottom of the trough should be 4 inches above the bottom of the crate and the upper inside edge 2 inches from the crate.

In fattening for the market it is always advisable to use the fattening crate described in this bulletin. If only a small number of chickens are to be fattened packing boxes of suitable dimensions can be adapted for the purpose. The open top of the box should become the bottom of the crate, and one side should be removed for the front. Laths should be nailed up and down the front and lengthwise on the bottom to form the floor. The laths should be placed the same distance apart as recommended in the construction of the regular fattening crate. A board should be loosened in the top of the box to remove the birds, and a feed trough arranged in front.

In warm weather the crate should be placed out-doors in a sheltered place.

In unsettled weather it is advisable to construct a rough-board shelter above the crate so as to shed the rain: or the fattening should be carried on inside a shed or barn.

During cold weather the crates should be placed in a warm building. Abundant ventilation is required at all times.

Killing Lice.—Before the birds are put into crates they should be well dusted with sulphur, or any good louse-killer, to kill any lice on them. They should be treated again three days before they are killed.

Feather Plucking.—Birds that are fattening in

crates sometimes pluck the feathers from one another. This habit is caused by irritation at the roots of the feathers, and results either from overheated blood or parasites. The remedy is to remove the chickens that do the plucking and feed the others more skim milk, or add animal food and vegetable matter to the fattening ration.

If the trouble is caused by parasites, they will be found in the white powdery matter at the base of the quill. A sulphur and lard ointment should be applied to the affected parts.

Feeding.—It is necessary to feed the birds lightly the first few days they are in the crates, not feeding all they will consume. The food should be given twice a day, and after the birds have eaten what they require, the balance should be removed and the troughs turned over. Fresh water should be supplied daily, and grit two or three times a week.

Fattening Rations.—A satisfactory fattening ration is one that is palatable, and that will produce a white-colored flesh. Oats, finely ground, or with the coarser hulls sifted out, have proved the best grain for fattening, and should form the basis of all the grain mixtures. The most suitable meals for fattening are ground oats, buckwheat, barley and low-grade flour.

Satisfactory mixtures of meal:

(1). Ground oats (coarse hulls removed).
(2). Siftings from rolled oats (no hulling dust should be included).
(3). Two parts ground oats, two parts ground buckwheat, one part corn.

(4). Equal parts of ground oats, ground barley and ground buckwheat.

(5). Two parts of ground barley, two parts of low-grade flour and one part of wheat bran.

The meal should be mixed to a thin porridge with sour milk, skim milk, or buttermilk. On the average, 10 pounds of meal require from 12 to 15 pounds of milk.

When sufficient skim milk or buttermilk cannot be obtained for mixing the mash, a quantity of meat meal, blood meal or beef scraps and raw vegetables should be added to the fattening ration. A good proportion is one part of the meat meal to fifteen of oatmeal.

The birds should remain in the fattening crates for a period not exceeding 24 days. Some birds will fatten more readily than others, and should, therefore, be removed from the crate, and killed as soon as ready. During the last week, it is well to feed a little beef tallow, shaved into the trough, or melted and mixed in the mash. About one pound of tallow to 50 or 60 chickens per day is a fair allowance.

The Alberta Government Poultry-fattening Station lately marketed 1,900 pounds of dressed poultry in Calgary that fetched 20 cents per pound. In Alberta, as elsewhere, the demand for high-class table poultry is far exceeding the supply.

THE FARM BULLETIN.

AN EXPERT CONFECTIONER LIKES BOTH ONTARIO AND MANITOBA WHEAT FLOUR.

Editor "The Farmer's Advocate":

In reply to your letter, re kind of flour we use in our establishment, would say that we have to use both Manitoba and fall-wheat flour. To obtain successful results in making buns, bread, rolls, and anything that needs to be set over night with yeast, requires the strong Manitoba flour; tea biscuits and scones, and all other kind of cakes where baking powder is required, we find our fall-wheat, high-patent flour to give the best color, the best appearance, and is more palatable. Re class of flour used in the near future, would say that we think with our high-class machinery and skilled workmen we have got the flour question as near perfect as possible. As long as we can obtain Manitoba wheat, and the Ontario farmers keep up their standard of fall wheat, there is no reason we can see that in the future we should not enjoy the present state of perfection that flour has arrived at.

London, Ont.

C. J. LEACH.

THE HORN AND THE PEN.

It seems to be a difficult job for your reviewers to report Dorset sheep correctly. The horns must curve the pen. In your report of the Toronto exhibit, you omitted to mention the aged-ewe class, in which I won first and second on home-bred stuff, against imported, perhaps the only instance that such happened at Toronto this year. I also won first on pen of lambs bred by exhibitor, which you credit to H. Bartlett. In the report of the Western Fair, you credit Cooper & Nephew with winning all the firsts and seconds, except one, when my flock won three firsts, four seconds and five thirds, as well as first on pure-bred wether against all middle-wool breeds. The latter prize was reported correctly.

Middlesex Co.

R. H. HARDING.

John A. Sprague, President of the Picton, Ont., Cheese Board, and one of the leading farmers and dairymen of the Bay of Quinte district, died suddenly on Sept. 14th, just after the session of the Board.