

### Co-Operation in Dairying.

Dairying is an industry that has suffered heavily through well-intentioned but ill-informed men attempting co-operative organization. A lack of understanding on the part of those attempting organization has been prevalent, and only lately has the true co-operative idea begun to make way. In the dairy industry, the joint-stock company, in the guise of a co-operative society, has done more to throw general discredit on the whole movement than any other factor. There has been an utter lack of knowledge of the distinguishing features between a joint-stock company and a co-operative association. Trouble is wrought by the misconception of the place that production holds in the co-operative organization of an industry. Factories doing only a small business have brought trouble to themselves and others by attempting to organize a co-operative society.

The form of society has in nearly all cases been joint stock, after the pattern of similar organizations in Denmark. The prime movers or head men may, by reports, have become much impressed by the Danish co-operative producing dairies. Very naturally, they considered what they saw and heard to be the whole of the co-operative system, whereas experience has proved that it was but a part of the whole. Production, rather than marketing, was emphasized, while the underlying and fundamental idea of the Danish system—marketing—was, unfortunately, overlooked.

The smallest co-operative dairy factory in Denmark has 655 cows, and without this number, or more, the Danes do not consider it pays to organize; in this country, one-quarter that number is thought to be sufficient. If the sections where dairying is the main industry will organize on the truly co-operative plan, these associations unite in a uniform system of marketing, form federations of societies, hold "surprise" butter contests, study markets, and carry out the whole Danish programme, there is good reason to believe that abundant success will follow. In these sections, where dairying is only a small part of the farming industry, it is doubtful whether success can ever be attained, unless the factory is worked along with some other lines of co-operation. Such joint co-operation is difficult to secure. This fact has been responsible for failure of the system in Canada.—[Farmer's Advocate and Home Journal, Winnipeg.]

### Herd Improvement.

The question of herd improvement is perhaps the most important one which may engage the attention of milk producers, according to the report of the Dairy and Cold-storage Commissioner. The officials of the Dairying Service, at Ottawa, believe this to be true, and are putting forth every effort to impress it upon milk producers and factory owners throughout the country. A plan for further promotion of the work has been approved of, whereby men shall be placed in charge of small districts covered by four or five cheese factories or creameries, so that they will be able to get into touch with all the patrons and secure the average milk records of all the herds, even when the owner will not undertake to keep individual records. Information thus obtained will be accurate and instructive, and the constant presence of an enthusiastic advocate amongst the farmers will surely have a stimulating effect.

There is nothing discouraging about the commercial outlook, and every dairyman can rest assured that the market for his produce is not likely to become glutted. The home market absorbs about \$80,000,000 worth of milk and its products each year, and it is expanding rapidly. Great Britain is never satisfied, consequently our export trade is safe. Trade is likely to increase with the United States and the West Indies, and the world's market will always demand increasing quantities of milk and its products. Even if the market were dull, this would be all the more reason why the individual herd record should be raised.

To increase the herd's output necessitates herd improvement, and herd improvement cannot come without each cow in the herd being improved. To improve the individuals, it is necessary that some record be kept of every cow in the herd, and, after this, the first thing to practice is a careful and systematic weeding out of all unprofitable cows.

Much depends upon the sire at the head of the herd. Get the best available, and do not stick on the price provided he has a number of high-record dams behind him. Insist upon knowing the record of his dam and of as many of his ancestors as possible. It will be found that the cheapest and surest method of improving the herd is by breeding them up and keeping the best. For this purpose, an excellent sire is necessary.

In keeping heifers for the herd, do not select any from the poor-milking cows. Here again the value of keeping records is proven. Such heifers from high-record cows, and sired by the best bull,

that money can buy, will be very likely to show improvement over their dams, and a process of such breeding year after year will almost certainly improve the herd.

If any cows are bought, they should, if possible, be ones which have records better than those of the animals already in the herd. Care must be taken in introducing new blood, that the cow or the bull, as the case may be, is one which will blend well with the bull or the cows already in the herd. There is no more satisfactory method of improvement than breeding up the herd at home and keeping a record of each individual. The chief attraction for prospective buyers is the cow's or heifer's milk record.

Along with the milk record, it is a good plan to keep a record of food consumed, so that the exact profit resulting from each cow is known. Let every dairyman in the country follow this method, and the results would be an enormous increase in the dairy output, which would greatly enhance the value of agricultural land and a large amount of time and human energy which with the poor cows is wasted would be turned to profitable account.

## GARDEN & ORCHARD.

### A Fine Crop of Apples.

Numerous inquiries have been made this season as to how the apple crop looks in "The Farmer's Advocate" orchards. It is not our purpose to say much until final returns enable us to speak definitely, but readers will be pleased to know that in orchard No. 1, prospects to date of writing justify expectations of much the best crop in our three years' work. Greenings and Spies were particularly well laden, the former having averaged better than five barrels per tree, and the latter promising to do so, unless windstorm or other disaster should intervene. Some trees will run six or eight barrels. A few odd St. Lawrence and Greenings have already done so. As editorially stated elsewhere in this issue, the fruit is excep-

tionally clean. Results indicate that the three sprayings given must have been very well done.

In our other two Demonstration orchards, however, as also in the orchard at "Weldwood," results have not been so satisfactory. In these orchards the spraying was done after orchard No. 1 was finished, and it seems that the time for effective work this year in the case of the third spraying, performed just after the blossoms fall, was very brief. So far as scab is concerned, all our orchards have clean fruit, but in all except orchard No. 1 there are a good many worms, some end-worms and many side-worms, the last-sprayed orchard being conspicuously the worst. In other respects, also, the second, third and fourth orchards have been handicapped, so that, while they are wonderfully improved in condition, they are not yet on a revenue-paying basis. Orchard No. 2, the abandoned one, taken over late last spring, has borne a fair quantity of fruit, but of varieties which would not keep, and, as local markets were glutted, the only outlet was the cider mill, where two and a half tons were disposed of, including many fine Fall Pippins. These would have made choice evaporator stock, but the only evaporator within reach burned down the night before the apples were to be delivered.

Taking it all round, though, our orchard operations this year promise to result satisfactorily, albeit we do not anticipate the princely returns which local rumors would indicate. The accompanying cut shows part of a 24-year-planted Spy tree in orchard No. 1, carrying a load of seven or eight barrels. A number of other trees could have been selected that were equally heavy.

### Selection and Planting of Apple Trees.

"The horticulturist should pay more attention to the individual tree," said Prof. J. W. Crow, in an address before the O. A. C. Horticultural Club, on "The Selection and Planting of Apple Trees." The Chinese market gardeners of California pay strict attention to the individual plants which they set out, and discard all those which do not come up to a certain standard. In

this way they get far larger returns from the soil than the average American or Canadian gardener. As in plants, so in trees, the best individuals will be the most profitable. Two-year-old stock is usually sent out by the nurserymen, but where it is desired to head the trees low, better results will be obtained by planting what are called one-year-old nursery whips—young trees which have been in the nursery row for a year, and which have not been headed back. These should be from three and one-half to five feet long, exclusive of the part which will be below the surface of the soil after planting.

The soil intended for the orchard should be fertile and well drained. It is advisable, also, that it should be under hoe crop the season previous to planting, in order that the land may be cleared of bad weeds and put in good shape. Drainage is important, as there must not be free water in the soil nearer the surface than three feet, if the root system of the tree is to develop properly. Surplus water around the roots stops the air circulation and prevents bacterial growth. Roots must have air to live, the same as animals, and the bacteria are necessary to break up the plant food in the soil and make it more readily available to the tree roots.



A Well-laden Spy Tree.

The Farmer's Advocate Demonstration Orchard No. 1. Limbs literally borne to the ground.