

cessive humidity. The combination of a too low temperature with excessive humidity is particularly injurious.

A bee cellar to contain many colonies should be furnished with a chimney to draw off the foul air, the draft being regulated by dampers. Good insulation may be secured by having the cellar wholly underground, or in the side of a hill, and the fresh air may be brought in through a six-inch or eight-inch earthenware drain pipe laid under the ground.

The bees should be brought into the cellar as soon as possible after the last good flight that they are likely to get. This is usually some time in November. It is advantageous to contract the entrance and give light protection for two or three weeks previously. During transportation to the cellar the entrances to the hives should be temporarily closed with, for instance, soft paper or burlap. Inside the cellar the size of the entrances should be large enough to allow sufficient ventilation and to facilitate the ejection of dead bees. The hives may be raised behind slightly to allow the dead bees to roll out. It is a good practice to replace the cover of the hive with three or four empty sacks. The dead bees should be swept out of the cellar two or three times during the winter, if they accumulate and become offensive. It is not advisable to winter bees in trenches dug in the ground. Should a colony through accident have been put away for winter light in stores, thin cakes of candy should be placed over the frames to avoid starvation, but to have to feed bees in winter is a sign of bad management.

Feeding the Bees.

Syrup made from the best grade of white granulated sugar is a safe substitute for honey in spring and summer and a desirable supplementary food for winter. For autumn feeding use two parts of sugar to one of water, in the interior of Canada, and two and a half parts sugar to one of water at the coast. To get the sugar to dissolve completely, the water must be hot, and if the syrup is made over the fire, the sugar must be added to the water in small quantities at a time and stirred constantly until dissolved, to prevent it from settling to the bottom of the vessel and burning. Burnt sugar is very unwholesome for bees and would cause their death during winter. To prevent the syrup from granulating, a teaspoonful of tartaric acid may be added to every twenty pounds of sugar.

Candy for feeding in an emergency during winter is made by dissolving over a slow fire six pounds of sugar in one and one-eighth pints of hot water and boiling it at 238 degrees Fahrenheit over a hot fire, with one-quarter teaspoonful of cream of tartar, for a few minutes without stirring. Boil longer if too soft. When the candy becomes almost cool enough for the finger to bear it, it should be stirred until it begins to whiten, and then poured quickly into moulds to form cakes about one inch thick. Syrup made as previously described should be given inside of the hive and covered up so that bees from the other hives could not get access to it. To prevent undue excitement at robbing,

it is best to feed in the evening. (From Bulletin No. 26, Dominion of Canada, Department of Agriculture.)

HORTICULTURE.

The Fifth Fruit Crop Report.

The fifth fruit crop report issued by the Dominion Fruit Commissioner shows little improvement in the quality or yield over what was stated to be the case in the last report. In some sections there will be very little No. 1 quality. The British Columbia crop will be slightly less than last year with a smaller percentage of No. 1's. In Ontario the yield is poor and the quality worse still. Apples are coloring well and attaining size, but the scab is very prevalent. The most favorable Ontario report comes from the Georgian Bay District. The total crop there will be between 60 and 70 per cent. of normal, but there will only be about 20 per cent. No. 1's. The latest indications are that the crop in the Annapolis Valley will not exceed 500,000 barrels. The quality and color are very much better than last year. Crop prospects in the United States are very good particularly in the Northwestern States. The volume of the crop, says the report, will be between 16 and 18 thousand cars.

The Inside and the Outside of a Big Co-operative Company.

The most severe critics of the United Fruit Companies of Nova Scotia, Ltd., admit that it has been a good thing for the fruit business in the Annapolis Valley. This should prevent any incorrect inferences on the part of readers who, on account of prejudice or through our inability to properly set forth the nature or operations of the organization, desire or happen to arrive at conclusions opposed to co-operation. The Company referred to has often been cited as one big success in the co-operative method of handling farm produce and farm supplies. At a distance we see only the outside; we are told of its successes, but not its failures; we are led to believe that, in spite of all the influence brought to bear by interests that would be injured by its success, the Company stands supreme and undisturbed. This is peculiar to all co-operative organizations. Away from home they are not without honor, and farmers after hearing of their achievements often link themselves up with such an organization, thinking, that from the first, so long as they are all good, the movement will go steadily on and everything will be fine. Co-operative associations do not usually work in this way, and, knowing this to be a fact, the writer became imbued with a desire to obtain a glance at the inside of the cup. We were able to view the operations of The United Fruit Company from many angles. The Manager, individual members and critics were interviewed, and from the different threads we are able to weave a fabric that represents to some extent the Company as it is. To be brief, the organization is still doing a large business and a remarkable amount of good, but it has its troubles. Furthermore, the people of the Annapolis Valley are apparently no more liberally endowed with the true spirit required for such a movement than they are everywhere else in Canada, and Canadians at large are perhaps the most niggardly endowed of any people in the world. The Canadian's independent life and the prosperity which comes to him who seeks it with hand and brain working in unison are the biggest obstacles to co-operation in this country.

To obtain a clear idea as to the work of the large Co-operative Company that since 1911 has been handling an ever increasing quantity of the output of apples, one should first understand the conditions prior to its inception. Commission firms in Great Britain had representatives in the Valley who solicited consignments. They in turn had sub-agents at the shipping points, who went from grower to grower seeking patronage for the houses they represented. There were many charges against this produce included in the account of sales, and while the majority of the commission houses in England and Scotland were probably honest, very few of the shippers actually thought so. There was a charge for this and a charge for that. In fact, the returns were so extensively itemized as regards the expenses, that many of the growers who had no way of ascertaining the truth were somewhat dubious about the integrity of the consignees. Again, there was the speculator who was active when the demand was keen, and dormant when the market was dull. Thus, during a good season there were several channels through which the fruit could be marketed, but when the price went flat and there was little demand, the growers were obliged to look out for themselves, which usually meant that the greater part of the fruit was consigned. With no guiding factor in the handling of six or seven hundred thousand barrels, one can easily understand how there would sometimes be congestion at the shipping points, and even in the Old Country markets themselves, when such a number of individuals, practically uninformed as to conditions at home and abroad, tried to market their season's crop.

One cannot say, however, that the people of the Annapolis Valley lacked confidence in anybody with whom they came in close contact. Not many years ago a representative of a very honest man, still residing in Ontario, purchased apples throughout the Valley. Fruit was drawn to the warehouses and put in charge of the buyer, who at once stamped the shipping mark of the gentleman he represented on the barrel. Not

requiring funds at that particular season, the growers failed to demand payment as they handed over load after load of their product. Just as the season was drawing to a close the buyer left without saying "Good-bye," the apples were safely stored with another gentleman's shipping mark plainly stamped with good ink on the end of the barrel, and a large number failed to receive even one cent for their season's crop. It would have been a strange jury, or an unjust judge, who would not have allowed the owners of those apples to recover what still remained in the warehouses, but there was no organization and the individuals said: "Oh, its only sending good money after bad," and they let it drop there. These are reminiscences, but they depict pretty well indeed conditions in the Annapolis Valley as they existed ten years ago.

Co-operation Tried.

In the year 1907 a few growers in the vicinity of Berwick united themselves into a small co-operative company. By 1909 five more associations were organized, and the following year saw the inception of as many more. These co-operative associations must have been an improvement over the old haphazard method of marketing, or the movement would not have had such a rapid growth. The number increased still further and 1911 was the birth year of the Central Company, which was consolidated in 1912 and incorporated under the name of "The United Fruit Companies of Nova Scotia, Limited." The majority of the small associations throughout the country became subsidiary companies and contributed representatives to its board of management. We shall not attempt here to explain the type of organization or the history of its growth. We are more interested in what it has done and in what it is doing.

Last year when the apple crop of the Annapolis Valley amounted to approximately 625,000 barrels, about fifty per cent. was handled by the Central. They had their European representative, and furthermore endeavored to develop new markets in other parts of the world. Supplies, meaning fertilizers, spraying materials, barrels, nails, etc., were handled to the extent of \$100,000. In 1913-14 the total expenses of operating the Central amounted to \$28,700. The following year the amount was reduced by \$4,500, and the present manager, A. E. MacMahon, expressed the opinion that the Company will be operated this year for about \$20,000. The average cost of packing at the warehouses of the subsidiary companies was about 12½ cents per barrel last year, and it cost in the neighborhood of five cents per barrel to pass the apples through the Central. The remaining charges levied by the local company depend upon their capital expenditures in warehouses, equipment, etc., or in any operations they carry on in connection with the business. The fruit is all packed by gangs employed by the local companies at their shipping points. The culls are disposed of according to an agreement between the subsidiary companies and the growers. Altogether fifty-two warehouses are controlled by the organization. These have an average capacity of 8,000 barrels, but including the different varieties 20,000 barrels will easily pass through one building in a season. Last year 52,000 barrels were passed through two warehouses. These plants are frost-proof on the first floor and in the basement, which renders storing a safe proposition and makes it possible to pack and ship the winter varieties during the months of December, January, February, and even as late as March.

Following are a few features which the Manager expressed as characterizing the efforts of the Central organization:

1. Raising the standard of grading and packing and creating a demand for the output.
2. Establishing markets for the sale of potatoes direct, and chartering steamers and schooners for transportation at a figure less than the prevailing freight rate. Three steamers and two schooners had been chartered by the last week of September this year, and negotiations

for more were then under way. Raising the standard of the potato pack is considered important, and work along this line is being conducted all the time.

3. Purchasing supplies including flour and feed, which business exceeds \$100,000. So far the Company has been very fortunate in securing low prices for the benefit of the members. Supplies are distributed at prevailing retail prices and the members receive their rebates periodically.

These three brief references to the work of the United Fruit Companies of Nova Scotia, Ltd., should suffice to introduce the reader to the organization and convey a fair idea of what it means to the grower of the Annapolis Valley. Its field extends as far East as Falmouth and as far West as Annapolis Royal, a distance of about 75 miles. In addition there is a subsidiary company in Queen's County and one in Lunenburg.

As to the advantages of the organization, with reference to prices, the Manager said that in Liverpool, Eng., the co-operative brand was favored with a preference amounting to 2 to 4 shillings per barrel. In the local markets the Company's output was desired and commanded a better price than the average of the individual grower and shipper. The Fruit Branch at Ottawa also made some investigations and commended the co-operative enterprise for the work it was doing and the prices it was returning to the grower.

Rumblings Heard on the Outside.

While none of the views set forth in the preceding paragraphs were contradicted or questioned by critics or dissatisfied members of the organization, some did make statements that we shall reproduce here in part. Up to the present we have revealed only the bright side of the picture, but let it be plainly understood that there are dissatisfied members, and, more than that, dissatisfied local companies. Just as the good accomplished by the central finds its way down through the local association to the individual grower, so do the little dissatisfactions which exist in the separate communities coalesce into a large complaint to the local company, which, in turn, through its connections with the Central registers its grievances.

One practice which is causing trouble is the pooling system. As an example, the members of a local company will deliver all their Gravensteins to the warehouse to be graded and packed. That association has its manager and its packing gang, upon whom depends the standard adopted. This system extends all along the line and the complaint has been registered that the quality is not the same throughout the Valley and some packs are superior to others. In parts of King's County the growers feel that their fruit should not be pooled with that from Annapolis, and vice versa, for the Central Company adjusts the price for Gravensteins after the variety has been disposed of, handing to the local company so much per barrel and paying no attention to the character of the output of the different associations. These apples must of course conform to the requirements of the Fruit Marks Act, but the feeling exists that a barrel of No. 1's selected from an unclean crop is not so good as a barrel of the same grade selected from good-quality stuff. The Central has its own paid inspectors and instructors going from warehouse to warehouse endeavoring to standardize the pack, but this, some of the growers claim, has not been accomplished. The packing of the growers' fruit at their own local shipping point and in turn pooling each variety from the subsidiary companies has caused no small amount of trouble. There is little incentive to keep on improving the quality when some company in Hants or King's or Annapolis puts out more inferior stuff and gets just as much per barrel for it.

The United Fruit Company might discriminate between the brands of the local associations, but if the pooling system is not right the evil will still exist