

Gem; tomatoes, Livingstone's Stone. This includes only the principal vegetables, and the others will have to be chosen to the best of your judgment. I would advise the farmer to purchase, if possible, his early cabbage and tomato plants, but to grow his own late ones. As to instructions as to when to sow and how to care for certain vegetables, you will have to go by the seedsman's instructions, and learn from experience. I know of no other way.

Now, resolve to have a garden in the spring, and don't let it be forgotten till all the spring's work is done, for if you do you will have a poor garden. So order your seed from some reliable seedsman at once, and plan for your garden.

Prince Edward Co., Ont.

A. S. W.

Forest (Ont.) Fruit-growers and Forwarding Association.

Around Forest the orchard bids fair to become the most profitable department of the farm. Co-operation has solved the marketing problem for those who have entered into it in the right spirit, and the apple crop was sold last year, in spite of low prices due to big crops and hard times in the Old Country, at figures which netted the growers a very satisfactory return. The means of securing this boon was the Forest Fruit-growers' and Forwarding Association, organized last summer, largely through the energy and public spirit of President D. Johnston, a son of James Johnson, the leading orchardist in the district. In order to inquire into the methods and workings of this body, a member of the "Farmer's Advocate" staff visited Forest, interviewed the officers, and, in company with Secretary Lawrie, took a drive through the fruit-growing section. The farmers of the district are to be congratulated upon the excellent results, which show what can be achieved by intelligent co-operative local effort.

The object of the Association is to so pick, pack and place before the consumer, in commercial quantities, choice, uniformly-packed fruit that will secure a reputation for the brand and enable the Association to obtain for its patrons the maximum value of the crop. The co-operative idea was taken up last summer, as a result of the agitation by Mr. A. E. Sherrington, of Walkerton. Mr. Johnston and others interesting themselves, an organization meeting was held in May, 1904. Officers were elected, consisting of a President, D. Johnston; Vice-president, D. Simmonds, and Secretary-Treasurer, A. Lawrie, a hardware merchant who has been interesting himself in orcharding. A constitution was drafted, which, however, it is intended to revise in some important particulars. A charter will probably be secured.

So far only apples have been handled, but the members hope that a Provincial system of local and central cold storage warehouses will be established within a year or so, by which the various co-operative associations may be enabled to send plums and other fruits in good condition to the Western market.

ORGANIZATION.

The workings of the Association are very simple. President Johnston, a thoroughly practical man, was appointed inspector, an allowance of five cents per barrel being provided to cover his time and expenses. It was at first intended to have each grower to pack his own fruit, subject to inspection, but the uncertainty that each would comply with the requirements, the inexperience of some, and the diverse grading that would surely result, decided the directors to procure a central packing-house, in this case a curing rink. Hither the fruit, gently packed in barrels, was hauled to hay-racks, with a little hay or straw in the bottom, to prevent jarring or bruising of fruit. Here the fruit was emptied, carefully graded and repacked, all under Mr. Johnston's supervision. In former years, buyers have come in and contracted for the apples, the farmer picking and piling on the ground till such time as the packing came arrived. Some of the fruit would be spoiled, and all of it more or less injured in keeping quality. The buyer would take what he chose, leaving the rest on the farmers' hands. Such fruit as was taken would have deteriorated, and the price received under this system did not warrant the speculator, even were he so disposed, in paying a high price. The Forest Association holds that fruit should never touch the ground, a point in which they accord with the practice of the up-to-date Nova Scotia growers, who have been astonished on visiting Ontario, at the prevailing custom of piling on the grass.

Extra pains were taken with the pack, the XXX grade being kept fully up to legal requirements, and the XX being made equal to some of the XXX from other quarters. The Association was highly complimented on the packing, and towards the end of the season orders poured in from satisfied customers in such volume that ten thousand barrels could have easily been sold. Already an inquiry has come from a firm which wishes to handle the entire output next season.

METHOD OF SELLING.

Instead of waiting for buyers, or consigning to commission men, the secretary was appointed a salesman, he undertaking to dispose of the crop for twenty-five cents a barrel. Owing, however, to the low prices of the season, he accepted only fifteen cents, which he found sufficient to recoup him for time and expenses. The Northwest market was looked to entirely. During August he visited Winnipeg and points north and south, taking orders direct from dealers. Most of the fall varieties were thus disposed of, and some orders booked for winter stock. Returning, after a few weeks, he did the rest of the business by correspondence. The crop of the seventy co-operators, between 5,000 and 6,000 barrels, was all sold this way, except a batch of miscellaneous fall sorts sent to a commission firm. He considers that the only way to introduce a brand is to send a man out to canvass the trade. An economy could be effected by having one man to look after the interests of a number of associations.

Aggregate returns for all varieties were pooled among the shippers, a plan hardly fair to those who have mainly the better-selling varieties, and one which the secretary thought would probably not be repeated. Either the system adopted at Ilderton of keeping separate account for each variety, or some classification into groups, according to salability, will likely be substituted. Deducting all expenses, except picking and hauling to the packing-house, the net returns to growers, allowing 25c. each for barrels were \$1.07 for XXX., and 78 cents for XX. Growers found the stock for their own barrels, and had them made up by local coopers. Those who deferred purchasing until late in the season had to buy them at about forty-five cents apiece, and thus realized about 17 cents a barrel less. This year, most of the growers are buying the stock and having them made up for about 27 cents. While \$1.07 for No. 1's and 78c. for No. 2's may not seem high, it is about 50c. better than most of the XXX would have otherwise brought; while the 78c. on No. 2's may be considered almost clear gain, since buyers would not have taken them at all. Then, too, it is only fair to mention that the commercial varieties did much better, several car lots of No. 1 Kings and Spies going at \$2.25 a barrel, f. o. b., Forest. All except the few fall apples sent to the commission men were sold f. o. b. Reliable firms were dealt with, and not a dollar lost. The fruit was shipped G. T. R. to Sarnia, thence on the Northern Navigation Co.'s boats to Port Arthur or Fort William, then C. P. R. or C. N. R. to destination.

LESSONS LEARNED.

As many other co-operative associations will doubtless be started, modelled after the plan of this one, a few points should be emphasized as specially important. Co-operation often fails because of bad business management. The particular success of the Forest organization appears to be due to the following, among other reasons:

1. An enterprising, experienced president and manager, who had made practical success as a shipper, along the lines followed by the Association.
2. A good secretary and salesman, paid to go to the market and introduce the brand to reliable dealers.
3. Shipping of none but good fruit, honestly packed and rather above legal requirements.
4. Packing at a central point, under supervision of a competent paid inspector.
5. Selling at a straight price, f. o. b.

IMPORTANCE OF SPRAYING.

Last year's experience indicates strongly the importance of spraying. The secretary thought that sound fruit from sprayed orchards shipped better and was of better quality than sound fruit from unsprayed trees, while the proportion of XXX or No. 1's, was far greater in the former case. A clause will be inserted in the constitution making spraying compulsory upon all members.

Another idea that will be adopted is limiting the membership, experience having proved that the only difficulty or friction arose with the smaller growers, who had a large number of ill-assorted varieties, who did not spray and did not take an interest in the Association. Afterwards, as they perceive the benefits of co-operation, and become willing to care for their orchards, they will be admitted.

The disadvantage of a miscellaneous assortment was clearly indicated last season. Half a dozen winter sorts would be plenty for a locality. This would frequently enable the Association to fill orders for car lots of certain kinds, and obtain better prices.

An evaporating factory would be a profitable adjunct to a packing-house. Besides the direct return from the culls, it would remove the temptation to lower the XX grade.

PROSPECTS FOR APPLE-GROWING.

Mr. Lawrie speaks very encouragingly of the prospects for Ontario fruit in the Northwest. He evidently considers that the reason we have not succeeded better is that, with the kind of fruit sent and method of sending it, we did not deserve better than we got. The market is an excellent

one, if exploited properly and supplied with the right kind of fruit, in salable condition. In ordinary seasons, too, we have the British market to fall back upon, so that he considers prospects bright for the profitable extension of orcharding. He himself finds it profitable to rent orchards from farmers who have not been making anything out of them. If a merchant, obliged to rent the orchards, can make money, why not a farmer, who owns one, and has a much better chance to attend to it?

A GOOD APPLE COUNTRY.

The Forest district appears to be exceedingly well adapted to apple-growing. In a drive of six miles, a large number of thrifty orchards were seen, many showing effects of good care and intelligent spraying, though, in others, the rough, fungus-covered bark and unthrifty appearance bespoke lack of attention to first principles. Here, as elsewhere, many have yet to learn that care and expense pay handsomely in orcharding. In this connection, the experience of Mr. Johnson, Sr., should be convincing. On the Johnson homestead is about twenty-five acres of orchard, mostly apple trees, planted for some considerable time. They used to get four or five hundred barrels of inferior fruit a year, until about ten years ago, when they became interested in improved methods and began to make a special study of the business, adopting spraying, etc. Then the returns increased, and the quality likewise. Now their output is from 1,500 to 1,800 barrels a year, principally of No. 1 fruit, besides hundreds of barrels of culls which they evaporate. For years they have been shipping their own fruit, receiving sometimes as high as \$2.50 per barrel. Last year it averaged about a dollar. They spray thoroughly four to six times a year, and have been practising cultivation, taking nothing off the land except the fruit. Though the soil is very rich, much of it being a silt deposit, they manure it occasionally with barnyard manure, and use in addition some five hundred bushels of ashes a year.

As fillers among the apple trees are plums, while there is also a nice young plum orchard planted by itself. The plums are not, however, so profitable as the apples. Among the varieties of apples which Mr. Johnson finds most profitable are Baldwin, Spy, Golden Russet, Greening, Ben Davis, Hubbardston and Nonsuch. In plums, they have Burbank, Lombard, Abundance, Imperial Gage, Bradshaw, Washington, Yellow Egg and Wicklow, the latter being spoken of as a large late plum, ripening irregularly. The plum specially recommended for this locality is Imperial Gage.

Another man who is making his orchard pay well is Vice-President D. Simmonds, who has fifteen acres of thrifty trees, not yet in full bearing. Though situated back from the lake, this orchard seems to do almost or quite as well as Mr. Johnson's, which borders the shore. His list of favorite varieties includes Baldwins, Spies, Kings and Ben Davis, though the orchard contains some other kinds as well. Asked about spot on Baldwins, he stated that he used to be troubled seriously, but had overcome it by spraying. Last year he sprayed seven times, the first of which was an application in the latter part of March of the lime-salt-sulphur mixture, which he made by boiling two hours and applying hot. This he strongly recommends every fruit-grower to use to clean the trees of insects and fungi. Though his orchard is not near full bearing, it netted him in 1903 \$365, and last season, despite the low prices, between \$250 and \$260.

Among other successful orchardists in the neighborhood are Alvin Loughheed, Wm. Burr, Richard Macken, Wm. Fraser and Henry Hudson. Mr. Hudson, by the way, shipped to the Old Country last year on his own account, and claims to have made satisfactory sales.

Sap Flow in Spring.

Sir,—Yours with regard to the flow of sap in trees received. I may say that it is very rapid in the spring before the leaves start, and is accelerated by root pressure, hence the excessive flow, such as we see in the maple or the bleeding of grapevines when pruned early in the spring. This flow continues to a less extent as long as growth lasts, but the root pressure is relieved by the amount given off by the leaves, hence there is not the same flow from the wounds made in summer as from pruning or tapping trees early in the spring. It has been found also that the flow of sap continues even to a slight extent in the winter time, when the ground in which the roots feed is not frozen. This flow is necessary to keep up the supply of moisture in the twigs and branches, which is lost to some extent, even in winter, through evaporation. One reason why trees do not succeed on the Prairies and in the Northwest is because of the evaporation from the twigs, due to the excessive drying winds, while the roots are frozen, and sufficient moisture cannot be taken up to prevent the trees becoming destroyed from what may be called winter drought.

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