

GARDEN & ORCHARD.

Cold Storage for Apples.

Editor "The Farmer's Advocate":

In your weekly publication of October 11th you have gone into the matter of the apple trade of Canada, and have shown the important bearing which cold storage has on that industry. I am sure that every farmer who has an orchard will join with me in thanking you heartily for the very, very strong way you have presented the matter. You could not have done better than you did in placing the picture of the operations of the Cold-storage and Forwarding Company, of St. Catharines, before your readers. When I started to investigate this cold-storage question, I spent four or five days at the St. Catharines cold storage and in the vicinity, and know every word you have said to be true. You cannot realize how many farmers and well-informed people there are in Canada to-day who think that when you speak the word cold-storage you have reference in some vague way to a chunk of ice. The term mechanical cold-storage, the word insulation, the word ice-machine, are not understood.

R. J. COCHRANE.

Northumberland Co., Ont.

[Note.—In a recent interview in the Montreal

Witness, Mr. Cochrane says: "An ice machine is worked on the principle that certain volatile gases, like ammonia, carbonic-acid gas and others, when compressed, and the heat of compression removed, will liquefy. When this liquid is exposed to heat it will again turn to gas. That is the principle. An ice machine is composed of five parts: a compressor, a condenser, a refrigerator, the engine and boiler, that drive the piston in the compressor and the piping and ducts that lead the cold air through the building. A 20-ton ice machine will make as much cold in 24 hours as 20 tons of ice at melting point will make in 24 hours. A 20-ton ice machine will make ten tons of ice in the same time. The other two important features in this mechanical refrigeration are insulation and application. Insulation is a non-conductor of heat applied to the walls, floor and ceilings of the building, to prevent the transmission of cold after it is placed into the various compartments of the building. Different kinds of insulation are used at the present time; non-pareil cork stands high as an insulator, while mineral wool, or asbestos, is used in many of the best cold storages. The Department of Agriculture has recommended an insulation comprising sheeting, two layers of straw sheeting, an air space, sheeting, paper, sheeting with a space filled in with mill shavings. In connection with the cold storages for bait-freezing, a cheaper insulation is used. Regarding the cost of insulation, in a \$75,000 building, approximately \$25,000 is used to make a shell, or foundation, walls and

roofing; \$25,000 would be applied to insulation, and \$25,000 for an ice machine. This shows how important each is in its relationship to the others. As to the application of mechanical refrigeration, it is not a menace to the consumer. Take, for instance, the apple crop this year; the major part consisted of harvest or fall apples. The early part of the season was tremendously hot, and the dealers were afraid to handle these apples, and consequently they are on the ground and out of the market. Fish is caught in such quantity at times that it is spread on the ground for manure. If the apples and fish could be cooled and forwarded promptly, the consumer would get them at a lower rate; the producer, or fisherman, would get a fair rate for all his product, and thus both would be benefited."

Clean Your Apples for 10 Cents a Barrel.

"Why is it," said A. McNeill, Chief of the Dominion Fruit Division, at the Ontario Fruit-growers' Convention, "that here at the Show in Massey Hall I find this kind of Fameuse (Snow) apple (holding up a large, red, smooth one), while if I go into an hotel, this is what I find (holding up a runty little thing, with one side shrunken and scabby)? One was grown on a sprayed tree, the other on an unsprayed tree. There is no reason why, at a cost of 10 cents a barrel for spraying, all our Fameuse could not be as clean as the perfect specimen here in my right hand."

The Annapolis Valley: Eden of Nova Scotia.

[Editorial correspondence.]

Wolfville! That place cannot be described, but, for readers who have been there, the mention of its name will kindle coals of memory to a warm glow. Wolfville, center of the choicest section of probably the finest apple region on earth, prettiest of charming towns, commanding one of the most entrancing landscapes ever spread before the vision of man! Wolfville, with its broad, shady avenues, beautiful white homes, and cultured, intelligent, leisurely people, delightful to meet, to associate with, to live among! Acadia College is befittingly set in such an intellectual atmosphere. The conversation and appearance of the inhabitants denote it. In all that is latest and best in social life, Wolfville stands at the front among Canadian towns. Papers, magazines and high-class literature abound in every home; a piano is a matter of course. Elegant furniture, and a spick-and-span team—a one-horse outfit is a "team" down here—and all reasonable accessories of human comfort, delight the visitor by their universality, not only in Wolfville, but all through "the Valley." In fact, its inhabitants claim that there is a different social atmosphere in this part from anything elsewhere in the Province. Nor is this any reflection on the rest.

Where is Wolfville? In the eastern end of that famous apple district broadly called the Annapolis Valley, after one of the rivers it contains. More specifically, Wolfville is near the mouth of the Cornwallis River, and within sight of Minas Basin.

The Annapolis Valley is a narrow vale, 90 or 100 miles long, extending from Minas Basin, south-westwardly to Digby, at the mouth of the Annapolis Basin. It parallels the Bay of Fundy coast, from which it is shut off by the bastionlike North Mountain, while south of the Valley lies the irregular South Mountain range. The North Mountain averages 550 feet in height, but sinks abruptly towards the east in the 680-foot precipice of Cape Blomidon, jutting out boldly into Minas Basin, north of Wolfville and Grand Pre. The South Mountain reaches at some points a height of 1,000 feet or so above sea-level.

In this cosy vale are two principal rivers, the Cornwallis and the Annapolis, neither of which, however, would amount to much in size but for the tides

that raise their levels twice a day, sometimes by forty feet. Both have their rise between the villages of Berwick and Aylesford, in a bog that occupies a good part of the Valley's width. The Annapolis runs west, and expands into the long, narrow Annapolis Basin. The Cornwallis takes the opposite course, and empties into the south-west corner of the broad Basin of Minas. A mile or two south of the Cornwallis River, and roughly parallel to it, is the shorter and narrower but even more beautiful Gaspereaux, whose headwaters are in a lake of the same name. The Gaspereaux is divided from the Cornwallis by what is known locally as "The Ridge," height 100 to 500 feet. The mouths of the two streams are not far apart.

The Annapolis river is almost wholly in Annapolis County; the Cornwallis and Gaspereaux are in King's. These are the two leading apple counties of the Province.

APPLES, APPLES, APPLES.

Talk about apples! Wheat is hardly so absorbing a topic on the Western plains as apples are in the Annapolis Valley. They discuss apples, think about apples, read of apples, study apples, eat apples, and live by apples. It is hardly extravagant to say that a man may plant a few acres of orchard here when young, and pick a living from it till old age overtakes him. Good-bearing apple orchard is valued at \$1,000 an acre, and not a few owners average annual profits of 10, 15 or 20 per cent. on this valuation. An ordinary yield is 50 to 75 barrels per acre, and it is a rare season when they do not clear over a dollar a barrel net.

A list of leading export varieties, in order of ripening, might include Gravenstein, Ribston, Blenheim, King, Hubbardston, Rhode Island Greening, Baldwin, Fallawater, Northern Spy, Golden Russet, Nonpareil and Ben Davis. For home markets, there are Astrachan, Duchess of Oldenburg, Yellow Bellefleur, Wagner, and a great many others.

OTHER FRUITS, TOO.

But apples are not the only fruit that succeeds here. Pears are successfully grown, and are being more largely planted. Plums are used extensively as "fillers" in the young apple orchards, and are very

profitable where cared for. Peaches are rather precarious, from a commercial standpoint, and only early hardy sorts are relied on. Grapes are grown for local consumption, but only the early varieties are sure of ripening. Cherries do well all through the Valley, and quinces also bear freely.

Apples, however, are the stand-by. They flourish in all their varieties, excelling in quality and coloring. Foremost among the list they used to rate the luscious Gravenstein, though of late years it has not done so well. The apple crop of the whole region is half a million barrels, and some optimistic person has estimated that the Annapolis and Cornwallis Valleys could be made to produce \$30,000,000 worth of apples and other fruits annually.

What are the secrets of their phenomenal success, when Ontario farmers value their orchards so lightly? There are three: (1) Natural conditions; (2) intelligent culture; (3) convenience to British market.

LIGHT SOIL AND EQUABLE CLIMATE.

The soil is light, and needs generous fertilizing; but, given this, it seems to suit the trees to perfection. It is well drained, because most of the orchards are planted on sloping upland. The climate is mild, autumn, in particular, being open quite late. In winter, zero weather is considered cold, and the mercury seldom drops far below it. The spring is rather backward, and the summer cool. Taking the year round, the Valley climate is most favorable, indeed, for, snugly reposing under the North Mountain's friendly cliffs, it experiences the tempering influence of Fundy's Bay, without its mists and gales. Insect and fungous pests are by no means unknown, though there is possibly a smaller number of such plagues than farther west. As yet, San Jose scale has been kept out.

OBJECT LESSON IN APPLE CULTURE.

But climate and soil alone would never make the business successful. The orchards are object lessons of good culture. A study has been made of it by hundreds of men, and they have the science down fine. No sticking a few trees into the ground and seeding down to grass, to cut annual crops of hay! The growers do their part. They prune intelligently, spray faithfully, and cultivate assiduously.

Of course, there is considerable variation in the practice of different growers, but the usual manner of cultivation is something like the following: In spring the land is plowed, and worked for several weeks; in July a cover crop of clover, vetches, buckwheat, or the like, is sown, and next spring the growth is plowed under for manure. In addition, considerable quantities of commercial fertilizers are bought, and used with full understanding of their composition and value. Everybody is posted on orcharding and on all things pertaining thereto. Ordinary hired men can discuss intelligently such questions as varieties, pruning, spraying, insect pests, fungous diseases, fertilizers, etc. Knowledge pays, and the apple-growers of western Nova Scotia perform the best irksome labor, derive the most princely incomes, and are the most thoroughly satisfied with their business of any farmers we have ever met.

The fruit is all marketed by individual growers. Much of it is shipped direct to Old Country commission men, by whom the growers are regularly advised concerning English markets, just as Niagara District growers are quoted prices of peaches in Toronto. Co-operation has not yet made much headway in the Valley, because not so badly needed as in the case of



Blomidon and Minas Basin, Overlooking Wolfville, When the Tide is In.