

Greenhouse Construction for Vegetable Growers*

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THE growing of vegetables in Essex county is not a business of choice with us, but of necessity. For years the fruit industry was the main industry of the section along the shores of Lake Erie. Great areas were planted in peach trees, and many growers had all that they were worth invested in the business. Then a frost came and wiped out the orchards. We then began to look for something else to grow, with peaches as a side line. With that end in view, we put up some small greenhouses in a very modest way and began growing tomatoes, which proved very profitable. As a rule, our tomatoes mature two or three weeks earlier than those grown in any other part of the Dominion, and therefore we were able to sell our tomatoes at a good price. We again replanted our peach orchards, and about five years ago, they were cleaned out a second time, and thus we had to go into vegetable growing on a large scale.

Our first houses were small and were not convenient. The stress of the business made it necessary to improve them. We find it important that the greenhouses shall be located as convenient to the dwelling-house as possible, because it is something that has to be looked after very closely. If it is far away from his dwelling-house, the grower is much hampered.

We have strong winds from the south-west that come across the lake. We like to have our greenhouses sheltered from these winds, because they are easier to heat, and it is easier on the house. In no case, however, is it advisable, either for defence or protection, to exclude the house from all the benefit of the sunlight; we want every possible ray of sunlight.

Our first houses were built of chiefly wood and glass, and their life was very short. I know one that was put up that began to decay the next year. When there is any chance for the water to lodge, the timber begins to go down at once, and for that reason we have discarded the wood as much as possible. We are now using cement. It is cheap, and once constructed it does not rot out. For supports, we use gas-pipes, set in cement, being very careful to place a pole six inches below the ground to keep the gas-pipe from rotting off at the surface. We have a great deal of chestnut. I do not know whether or not it is as good as cyprus, but we find cyprus to be good, and very much better than pine, and I think that the life of chestnut is two or three times as long as pine.

Question.—How does it compare with the price of cyprus?

Answer.—I do not know. We can buy it at very reasonable prices.

The next material is paint. One should never put up any timber in a greenhouse without first painting it; that is very important.

There has been considerable discussion and difference of opinion between greenhouse growers as to the kind of glass to use, whether to use butted glass or lipped glass. If you use lipped glass, you must lay it in putty; if the glass is quite square and well cut, butted glass is all right. If the glass does not fit, it will leak, and leaks are injurious. I think twenty by twenty is the right size to use.

Mr. T. Delworth, Weston.—How heavy do you have the bars?

A.—About two and one-half inches is the standard; it depends somewhat on the system of construction used. From a vegetable grower's standpoint, I would not build a house over from 80 to 100 feet. My reason for that is that if a house is too wide, it is hard to get enough air into it, and in order to finish vegetable plants in the house, they have to get a free circulation of air or they will be too short.

Q.—How do you construct the roof?

A.—We built our last house fourteen feet, ridge and furrow. We have the glass laid east and west or north and south; we have a house each way. The east house, built a couple of years ago, is running north and south, with the sun striking on the side in the morning and in the evening on the other side. The house I built this spring is in shorter spans of fourteen feet, and set the other way. Where the house ends, there is a glass slide of about three feet in six, and we can open this sash on the south and ventilate, and we can also open the sash at the top. In May and June, when it is very hot, a current of air comes in. The fresh air comes in at the bottom and the hot air goes out at the top. It is as comfortable in the house on a hot day as outside. We drive our teams alongside of the house and take out the plants. We have a main walk in the centre and a narrow footpath leading from it, and we gather our plants in a low wagon and take them out in that way. If the house is 100 feet wide, you are never more than fifty feet from the centre. Where it used to take five men and a team to get plants out in the ordinary way, one man and a team can now keep a gang busy in the field.

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If tomatoes are grown with the in-

tention of maturing the crop in the house, we have to start our seed about the first of January, and as the days are usually dark, it is hard to start the seed on flat or ground benches. Therefore, it is a good idea, in building a house, to have a few raised benches in order to get bottom heat. You can always manage to get good plants by using bottom heat to get them started. After they are started, you can use the ordinary flat benches. If you have a little border of cement running round them, it is so much the better, but you can get along without it if you wish.

The matter of heating, I suppose, is the greatest item of expense. Vegetable growers have been put to a great deal of expense through the ordinary plumbers of the local towns undertaking to lay pipes in the greenhouses. I have found for my own part that it is very foolish to give a man a contract to put in the pipes in a greenhouse unless you are sure that he knows what he is doing, or unless you know yourself how to manage it. The first time I had pipes put in, they were almost useless, and I had to take them out again. I then learned how to lay pipes myself. When a person is experienced and knows what he is doing, it is all right to go on with it, because any ordinary plumber can arrange the pipes if you show him how to do it. But the ordinary plumber does not know anything about heating a greenhouse, and therefore it is best to give it to some person who thoroughly understands it.

Mr. Delworth.—What material do you use for gutters?

A.—Two by five chestnut scantling. We support them by gas-pipes, and where the rafters strike this two by five, there is a bolt that lies over the scantling. We take a brace and bit and bore holes near the edge of the scantling, and then cut out with a chisel two little corners, and the bolts drop in there. There is no chance for the water to lodge, and the rafters strike against this piece and the end is cut off square. The bolt goes through and touches the beam, and there is no contact point except the one small corner. The gutter is made of galvanized iron, with the edge turned down about half an inch to make it stiff, and that fits into the notch in the rafter.

Mr. Delworth.—Do you heat by steam or hot water?

A.—Steam; our snowfall is very light.

Mr. Delworth.—From my experience of heating from hot water, if I had a

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