

HORTICULTURE

New Brunswick Fruit Notes

J. C. Gilman, York Co., N.B.

Apple picking is about done. With the exception of a high wind on October 2nd, the weather has been the finest, in a number of years, for harvesting. The result will be fruit handled in better condition and more satisfactory to all.

Fall and early winter apples are a good medium crop, and there are some kinds of later kinds. Prices are very good. Duchess are going at \$1.00 to \$1.45. Wealthy, Dudley and Alexander are bringing from \$1.25 to \$2.00 in this market. Fameuse are selling from \$2.00 to \$3.50 with McIntosh \$1.00 better to private trade.

Where strawberry fields have received good care the plants have made good growth and will go into winter in good condition. Currant, gooseberry and raspberry bushes have also made good growth and look very promising for next season.

The Herbet raspberry is giving a good account of itself, coming through last winter alive to the tips and yielding a good crop of valuable berries. It is very valuable to the fruit gardens of the colder parts. We hope some one will give us a blackberry equally hardy and prolific.

Exhibition Dates Changed

The dates for the holding of the fifth annual Ontario Horticultural Exhibition have been moved forward one day, to enable the opening being held on the evening of Thanksgiving Day, Nov. 9. It is expected that the exhibition this year will eclipse any previous effort of the association and will be the largest exhibition of its kind ever held in America.

The exhibition has outgrown Massy Hall and will be held this year in the St. Lawrence Arena, King Street East, Toronto. This is the building that has so successfully accommodated the Horse Show, the Automobile Show, and various other large public functions.

The exhibition will continue during the entire week. Each evening there will be a programme in which the regimental bands of Toronto will take part.

The entrance to the Arena and the Arena itself will be lavishly decorated with bay trees, plants, flowers, fruit and hunting. In fact it will be almost impossible to recognize the building after the decorators have finished their work. The Arena will be divided into four parts for the showing of flowers, fruit, vegetables and birds. These sections will be divided by colonnades and arches. The effect of the whole will be one of the most pleasing sights one could imagine. The decorated dining tables, set complete to seat eight persons, are expected to be one of the features of the exhibition. There is great interest among the Toronto decorators and caterers, to see who can set up the most artistic and correctly set dining table. This feature will attract thousands of ladies who are interested in matters of this nature. The whole building will be comfortably heated, and there will be seats for those who wish to sit and enjoy the music and the beautiful flowers.

Soil Moisture and Its Control

F. T. Sholt, M. A., Chemist, Dominion Experimental Farms.

(Continued from last week)

In 1903, a severe and unusual drought prevailed at Ottawa during the spring and early summer months. It afforded an excellent opportunity to prosecute this research on the conservation of soil moisture. On May 23, on adjoining plots, the moisture in the cultivated soil was 12.65 per cent.; in the soil under sod, 4.78 per

cent.—a difference equivalent to 180 tons of water per acre. The soil of the cultivated plot was quite moist to the touch and the trees were not visibly suffering; the soil under the sod was a powder, apparently dry, and the leaves of the trees had begun to wither and fall. Enough has been said, it will not be necessary to follow the results in detail throughout the season till the drought broke. They emphasize the very exhaustive character of soil as regards moisture and furnish proof of the immense value of cultivation in arresting the drying out of soils. Further, in another series of tests, the same data pointed out the desirability of early turning under the corn crop and, if this is done by the plow, immediately working the soil with the cultivator in order to again set up capillary action with the underlying soil and creating an earth mulch to prevent surface evaporation.

Our experiments with Ottawa and Nappan show that the practice of growing a grain crop in the orchard is to be condemned, for it makes an unusually large draft on the soil moisture at a time when the trees most require it. Trials were made with oats, winter rye and buckwheat. It will prove of interest to cite certain of the data we obtained. First, with regard to rye: During the first month of the investigation, May 9 to June 9, the growing rye reduced the water content of the soil 5.30 per cent, equivalent to a loss of 150 tons of water per acre of 14 inches, over and above that lost on the adjoining cultivated plot—and this in spite of the fact that during that period there had been 2½ inches of rain. By June 23, the percentage of moisture in the rye plot was still further reduced though the cultivated plot maintained its initial percentage. This continued until a determination made about the middle of July showed that one-third the water content in the rye plot compared with that of the cultivated soil. The data of the oat and buckwheat plots are of a similar nature, though in certain particulars, not quite so pronounced as those from the winter rye.

We also estimated the losses of soil moisture caused by growing a grain crop as compared with those resulting from the growth of the legume crops—clover and hairy vetch—and found in every instance that the soil bearing the grain crop suffered the greater loss. This is probably owing in a large measure not to greater transpiration, but to surface evaporation being more active in the grain covered soil; the soil carrying the clover and vetch is much shaded by their foliage, and thus evaporation is checked.

The effect of the various legume crops upon the soil moisture has been very fully studied. As it would be impossible now to recount all our experiments, I would present the following summary of the results obtained:

Soil moisture is retained by cultivation, is lost growing a crop. This is true of course in spring, summer and autumn and, consequently, in this system, we have a means of controlling the water supply of our orchard trees at all seasons during which it may affect their life or thrift.

The difference in the moisture content of the soils from adjoining plots, the one under cultivation, the other supporting a growing crop, is dependent upon several factors: In autumn it may vary from a few tons

to more than 200 tons per acre, in the surface 14 inches of soil.

The larger the rainfall the less the difference in moisture content of these two plots, and vice versa. Cultivation is all the more necessary with a restricted or limited rainfall.

The amount of transpiring surface or foliage materially affects the loss of soil moisture; the larger the crop the more water it takes from the soil.

The character of the soil determines in some degree the extent of the loss. If capillarity is easily set up in the undisturbed soil, viz., that which is bearing a crop, water escapes by surface evaporation.

The shade afforded by a cover crop prevents in a degree surface evaporation.

Cutting the cover crop and using the material as a mulch, checks the loss of soil moisture. This allows, in some districts and on certain soils, growing the cover crop throughout the summer without affecting the water supply of the trees.

National Apple Show

It is expected that the National Apple Show to be held in Spokane, Wash., Dec. 7-12, will be the greatest exhibition of its kind ever held in the West. The total value of premiums amounts to over \$30,000. The secretary is Mr. H. G. Neely of Spokane.

A premium of \$1,500 calls for a carload exhibit of 20 barrels or 630 50-pound boxes of one or more varieties. A premium of \$1,000 is offered for exhibits of more than 20 barrels, boxes, baskets or plates of one variety. The exhibitor of the largest apple of regular shape, with perfect stem and calyx and without disease or blemish, will receive a reproduction of the fruit in bronze heavily plated in gold and mounted on a silver pedestal representing Adam and Eve in the Garden of Eden.

Tests with Beans and Peas

H. S. Peart, Horticultural Experiment Station, Jordan Harbor, Ont.

At the beginning of our work with varieties of vegetables, we endeavored to secure the leading varieties that have been placed upon the market. Although we grew 104 varieties of beans and 109 varieties of peas, many are entirely useless. We would suggest the following varieties, those being worthy of trial by our vegetable growers and kitchen gardeners.

Among the best early beans are Earliest Hopkins Red Valentine, Long Pod Forer, David Kidney, Bountiful Bush, Early Red Valentine, Longfellow and New California Wax. Prolific German Wax, Dwarf Horticultural, Stringless Green Pod, Mighty Nice, Rennie's XXX Best Green, Imperial Golden Wax, Giant Stringless Green Pod, Early Red Valentine, ripen somewhat later, giving a succession of picking. Hodson's Wax was decidedly the heaviest cropper we had but New Pearl Wax, Black Wax, Refugee Improved and Large White Marrowfat are worthy of further trial for late crop.

The peas which we would recommend are as follows:—Briggs Extra Early, Rural New Yorker, Pease-Less Little Gem, First of All, Prolific Early Market and Rawson's Clipper. Melrose and Premier Banner, Improved Stratagem, Telegraph, Burpee's Profusion, Heroine, Horsford's Market Garden, Mammoth Melting Sugar, Burpee's Quantity, and Dwarf Gray Sugar. Late—Rennie's Queen Marrowfat, Early Dwarf, Britany

Sugar, Bliss Everlasting, Long Island Mammoth, Black Eyed Marrowfat, Marblehead, Early Marrowfat, Prolific and Royal Dwarf White Marrowfat.

While there are a number of other varieties grown throughout the province, these are the ones that have proved to be the best with us this season. Growers should not form the opinion that we are recommending these varieties only. Further tests may show that some of the others may be superior to those mentioned.

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