

fall in August. It pays to have some supplement. For this purpose, nothing is better than silage. Strange as it may seem, cattle like it better than green fodder cut for them. This country has an advantage over the countries of Europe that compete with us, in that corn can be grown here, while there it cannot. There are ideal conditions for growing feed in this country. Corn is a crop that never fails. At least, they had grown it at Ottawa for 23 years, and, while it varied in different years, the lightest crop had given 12 tons per acre, and it had gone as high as 20 tons. Some seasons, like last spring, for instance, it had to be put in late, but when such was the case an early-ripening variety could be used.

There is nothing equal to a clover sod for corn. It matters little whether it be plowed in fall or spring. If the manure made during winter is to be applied, plowing had better be deferred till spring. Plow not too deeply, and work very thoroughly with disk and harrow and roller. Nothing is more important than thorough working before planting. Work it until you think it is all right, and then work some more.

We sow our corn with the drill, in rows 42 inches apart, using about half a bushel of seed per acre, and thin the plants to eight inches apart in the row. That is better than to sow just the exact quantity of seed needed, as no drill can sow so evenly that there will not be gaps and bunches. We prefer the drill to hill planting, because it is more suitable for cutting with the corn binder.

Where large areas are grown, as at the Ottawa farm, and corn-cutting and silo-filling occupy quite a lengthened period, it is well to grow three varieties. We use the Longfellow for early, the White-cap Yellow Dent, and the Leaming. These are not mixed, but are sown separately, and cut at different times. The frost is not much to be feared. Frosted corn makes as good ensilage as any other. Indeed, the best silage he had ever seen was of corn that had been frozen a considerable time before being cut. The proper time to cut corn for ensiling is before it is fully ripe, about a week after the grain is right for boiling.

Professor Grisdale advised the feeding of straw in conjunction with silage, when the latter is fed in summer. Grass and silage combined are too succulent. Just lately he had been trying an experiment in feeding cows on silage alone. After three days on that fare, they began to eat their mangers. One of them ate out the side of her water-trough.

From an average of years at the Ottawa Farm, the cost of an acre of corn in the silo, including rent of land, manure, labor, and all other expenses, amounted to \$18. The value of silage, as it is taken out, on account of considerable waste from one cause or another which occurs in the silo, is placed at \$2.00 per ton.

ALFALFA, PEAS AND OATS, ETC.

Other useful supplemental food crops are alfalfa, oats and peas, oats, peas and vetches, and other mixtures. These grain mixtures should be sown thickly, using from three to five bushels of seed per acre. Caution should be observed in cutting them, not to cut too green, nor let them get too ripe. As Mr. Glendinning would tell us, alfalfa is the most valuable crop of them all. There is nothing like it for milk.

Q. Would you put alfalfa in the silo?

A. No. There is a considerable loss when alfalfa is made into ensilage.

ROOTS.

There ought to be more roots grown. Silage is all right, roots are all right, but the combination of roots and silage is ideal. An unexcelled roughage mixture for an average-sized cow is 50 pounds silage, 25 pounds roots, and 5 pounds straw, per day. Mangels are probably the best kind of roots to grow, especially on strong clay land. Mangels will grow as well on sod as on land in any other condition, but for them it must be plowed the preceding year. Liberal manuring is also of the greatest consequence. Prepare the land thoroughly in spring, and sow—either in drills or on the flat, there is little difference—in rows 30 inches apart, using an abundance of seed, and thin to a width of 8 to 15 inches.

HUNGARIAN GRASS OR MILLET.

Another roughage which is more of a catch than a regular crop, is Hungarian grass or millet, or either one mixed with sorghum. On well-prepared land, and sown any time in June, this produces an abundance of excellent food for dairy cows. Cutting should not be delayed until seed is forming; just when in blossom is the proper time.

Quality and Appearance Surprised Him.

Have received the kitchen set, sent by you to me as a premium. It more than surprised me, surpassing what I expected, both in quality and appearance. You have my best wishes for future prosperity, and many thanks for past favors.

Box 100, Ont.

O. N. HISLOP.

GARDEN & ORCHARD.

Tomatoes and Potatoes on Same Plant.

The past summer, W. Wagner, the gardener of the Botanical Institute of the Royal Agricultural Academy, Bonn-Poppelsdorf, produced an interesting double plant which bore tomatoes above and potatoes below. That one can graft tomatoes on potatoes is not new, yet this interesting fact may be unknown to a great many. The life-history of this plant is as follows. On June 1st potatoes were planted in pots, and placed in the greenhouse. After about three weeks, one of the young potato shoots, which had developed three branches, was cut off, and on each of the three branches a shoot of a young tomato plant was grafted in the ordinary way, by inserting the scion into the stalk, and binding the same at the junction with bast. On July 4th the plant was taken out of the pot and planted in the Economic Botanical Garden of the Agricultural Academy, where it remained until harvested. The illustration shows the photograph of the plant as it appeared in the end of October. Since the roots had suf-



Tomatoes and Potatoes Produced on the Same Plant.

fered in being removed from the ground, the foliage soon commenced to wither, and obliged the grower to harvest them before the tomatoes and potatoes were fully matured. Eighteen tomatoes, weighing 370 grams, and 11 potatoes, weighing 300 grams, were reaped. As the illustration shows, the foliage consisted almost entirely of tomato leaves, which had to elaborate food not only for the tomatoes, but also for the potatoes. There was, therefore, from the same plant food two quite different parts of different plants developed, on the one hand juicy, fleshy tomato fruit, on the other starch-filled potato-tubers. It may be remarked that this plant is not a hybrid, but a double plant, produced by means of grafting, and neither part, in its general appearance, is influenced one by the other.—[Translated for "The Farmer's Advocate" from the German Agricultural Press.

Possibilities and Needs of Ontario Fruit-growing.

An Ontario Man's Tour of Inspection Through the Fruit-growing Valleys of British Columbia, and Ontario's Requirements to Keep Pace with the West.

From investigations made during a recent tour through the fruit-growing valleys of British Columbia, it occurred to me that it might be possible for the Eastern, and especially the Ontario growers, to learn some useful lessons from the British Columbia growers.

This season's work is over, but now is an opportune time to look about, review the past, and devise ways and means to overcome, if possible, mistakes, and endeavor to plan improvements for the future. Every season brings disappointments in one way or another to the fruit-grower, and these are in many instances our best educators,

putting us on the guard to avoid them in the future.

It naturally appeals to us that, as the British Columbia growers have only so recently gone into the business, their limited knowledge and experience could hardly be expected to compare favorably with ours, we being the pioneers in the fruit industry in Canada, and supposed to know all about it. We evidently have been paying little attention to their methods of growing, caring for and packing fruit.

It sometimes happens, when a person conceives the idea that he knows all that is worth knowing about a thing, it is just possible for him to be sadly mistaken. When he gets that idea in his head, he is on a fair way to lag behind, and not be up-to-date. Eventually he realizes that there are others who know just about as much, and possibly in advance of him. The only safe way to do any business or occupation, in order to keep up with the times, is to have an eye open, and be ready and willing to learn from others.

Is it possible that we Ontario fruit-growers have been content with the methods we have been so long adopting, and not been keeping pace with our Western fruit-growers, who evidently, it would appear, are adopting more modern and up-to-date methods? They are indebted largely to the Washington, Oregon and California fruit-growers, from whom they have acquired their knowledge.

No doubt, many Ontario fruit-growers will be ready to confront me, and say that Western climatic and other conditions are altogether different, and do not apply, nor could they be successfully carried out in Ontario. While I am ready to admit, to a certain extent, such may be the case, I am thoroughly satisfied that in many respects we could adopt Western methods in the growing, caring, thinning, grading, and especially in the packing of our fruits, to a decided advantage. If we wish to hold a prominent place in the future market, we must adopt more modern methods, in order to produce a better article, and put it in up-to-date packages.

My object in giving your readers this communication is to impress, if possible, the importance of this matter receiving careful consideration. I am so thoroughly convinced that I have been prompted, feeling it my duty, to bring this to the attention of the fruit-growers of the East.

As the apple—king of fruits—is grown so extensively over such a vast area in Eastern Canada, I shall for the present confine my remarks to that fruit. I admit we have in the East some hard propositions to contend with, which they do not have in British Columbia. We have a great many old, neglected orchards, with not the most desirable varieties, the product of which, usually inferior fruit, is forced on the market, to the injury of the better varieties and superior quality; this they have not to contend with in British Columbia. They started right by setting good varieties that were best adapted for the localities, hence have practically only good stock to offer.

If the would-be apple-growers of the East had gone about the business systematically years ago, with the knowledge we now possess, we too would be producing a superior grade that would command prices possibly as good as the British Columbia product. I believe there will be better opportunities for the apple-growers of the East in the future than ever in the past, if modern and systematic methods are adopted throughout. The climatic conditions in most portions of the East may never produce apples so firm, with such good shipping and keeping qualities, as are grown in the West. Another apparent advantage they seem to have, their apples are bright, shiny, clean, presenting an attractive appearance, captivating to the prospective buyer.

The advantage of Eastern-grown apples, and also some of the other fruits, is their decidedly superior, richer and better flavor, to be preferred every time for eating out of the hand. This alone will go a long way toward making up the other deficiencies.

The all-important matter for us to consider is what can we do to raise our standard of production, and how had we better go about it? Criticising the methods we have been following is useless, unless something better can be suggested.

In the first place, we should learn just what varieties do best in each locality, and then only a few of these varieties should be grown by everyone in that locality. In that way, shipments of car lots of one variety could be made, which always command better prices than the mixed lots; buyers, too, know just where to go to secure what they may require for the markets they are catering to.

There should be more large orchards planted by those making it a specialty, from whom smaller growers could take object-lessons; and if they will not learn, they will soon be forced out of the market.

British Columbia to-day owes much to the Coldstream Ranch, the pioneers of the fruit industry in that Province, for the example and up-to-date methods there practiced. We want some such leading men all over Eastern Canada to-day. The tendency, in order to realize the best results