

full of minute insects, and that they produced a gas which raised the cake or bread. Many fungi are so small that they cannot be seen without a microscope. The lecturer contrasted these vegetable productions with the gigantic pines of British Columbia. A section of these trees measured 28 feet in diameter. Orchids are, perhaps, the most wonderful plants. Some resemble butterflies and bees in shape. One contains within its flower a formation resembling a dove. This is called the "Holy Ghost Plant." There is a variety of it in Sir John Abbott's conservatory. Apparent difficulties of growth of some vegetable productions are overcome by special provisions of nature, for example: The banyan tree has straight branches at right angles from the trunk. These would break off if they were not supported by a kind of natural support which forms beneath them. Some leaves of palms grow to a length of 20 feet. They could not support their own weight, but when they reach a certain size a natural ligament is developed which winds about the trunk of the tree and encircles the longer leaves. Epiphytes grow upon trees and plants, but derive no nourishment from them. Parasites, on the contrary, both grow about the plant and draw strength and vitality from it. "Clover dodder" is an example of the first mistletoe of the second class. Vegetable fibres are now used instead of rags in the manufacture of some kinds of paper. Speaking of the culture of roses the lecturer stated that Mr. William Paul, of England, had no less than 90 acres devoted to this purpose. Rose culture was very ancient. Highly developed varieties were grown by the Romans 500 B.C. Nero at one of his feasts distributed 50,000 rose buds among his guests. Mr. Moore stated that it would be better if an Arbor day was appointed for each county separately instead of each province, as climate varied greatly between different parts of Ontario and Quebec. It would also be well if the school children were made to take a greater interest in the day. At the conclusion of the lecture a vote of thanks was tendered to speaker.

BUDDED OR ROOTGRAFTED APPLE TREES.

WHICH WILL LIVE LONGER.

A READER—I saw it asserted a short time ago in a farm paper, that budded apple trees would not live nearly so long as rootgrafted ones. This is not in accordance with my experience. Will some of THE RURAL experts take this for a "target"?

I have in my orchards apple trees grown both from buds and root-grafts, and have never been able to discover any difference in their habits of growth or vitality. It is true that nearly all trees grown here in Ontario County, N. Y., in the nurseries, are budded, and they make fine trees in appearance and usually develop fine systems of roots that please planters, but in this locality either budded or grafted trees will outlive the generation that plant them; hence the question scarcely causes us any anxiety.

S. D. WILLARD.

There is no foundation whatever for the assertion of some writers in farm papers that budded apple trees will not live as long as rootgrafted ones, provided the stocks upon which they are worked are as hardy as the variety

of bud used and so nearly allied in kind as to form a perfect union. As a matter of fact, for a climate like ours here in Minnesota and the adjoining States, the budded tree on hardy stock has considerable advantage over the ordinary root-graft: 1, for the reason that many of the stocks used in root-grafting are seedlings of the most tender varieties or of crabs that do not prove congenial; 2, because the union of root and graft or the knitting together draws out the vital forces stored in the trees at a time when the trees cannot draw on the soil or atmosphere to replace them, and as a result they cannot begin growth as early or make as vigorous a growth the first season as the budded trees and they are more liable to be overtaken by the following winter in an unripened condition which invites black heart from the killing of the pith and young growth. Again, the uncongenial root is very liable to give a weak root system and short-lived tree. The union of the bud to the stock is formed while the roots are drawing nourishment from the soil and the following spring the bud is as ready to start in vigorous growth as any other portion of the tree and has the advantage of being as thoroughly united as any natural branch of the tree; but the cut portion of the graft and root can never grow together. The union takes place in the inner bark of the two and that very frequently only on one side, which would tend to make them more sensitive to unfavorable conditions than budded trees.

We in Minnesota are continually warning our people against purchasing from unknown tree vendors, trees which they sell as budded; for the reason that they are grown for South and are very likely to have been worked upon tender seedlings or stunted, unsalable stocks of their nursery, and I have found that such trees invariably kill below the point where budded trees upon hardy stock are equal to the best common root-grafted trees, if not better, so far as hardiness, productiveness and prospect of long life are concerned.

J. S. HARRIS.

It is much easier to make an assertion like this than to prove or disprove it. I have been in orchards and nurseries now for over 40 years, and I never have observed anything to lead me to believe that budded trees are generally shorter lived than those which have been grafted; that, nursery stock. Budding in larger trees is better than grafting, because it leaves few wounds that do not heal the same season; therefore no such chance for the entrance of decay germs. But I can conceive that budding near the ground on seedling stocks, inasmuch as it causes a crook at that point in the young tree, may leave a tendency toward sun-scald, unless the tree is planted deeply, or turned about when transplanted, so as to have the outer curve stand toward the sun at 2 o'clock. I think this may be a point worth noting; but as I have set very few budded trees, I am not very sure about it, as a practical matter. I do not think it worth while to pay much attention to oracular statements given without proof or reasons like the above. Ignorant people seem to have a great fancy for such, and are usually insulted by a request for evidence of their statements.

T. H. HOSKINS.

Orleans County, Vt.

It is surprising what stories tree agents will get up to sell trees, and it is more surprising to see how people

will believe these romances. There is no way by which an apple tree can be grown so perfectly and well as to set out a stock and grow it one season and bud it just above the ground or graft it at the collar. A better tree can be grown in this way, but not so cheaply as by root-grafting. Some nurserymen raise all their trees by budding while others raise all their apple trees by root-grafting. We do not suppose that there is really much difference in longevity in the two cases, so long as good trees are raised. There are some varieties however, that are less hardy than others, and when the scions go into the ground, as in root-grafting, they are more liable to cracking of the bark near the ground, owing to freezing and thawing, thus large portions of it die, leaving large scars which sometimes take several years to heal over. This we have never seen on budded trees, as the natural stock seems to be more hardy than many of our grafted sorts. From our experience in growing trees and from our observation we should say budded trees would make the longest lived.

STEPHEN HOYT'S SONS.

R. N. Yorker.

"CANADA'S FRUIT EXHIBIT at the World's Fair; Ontario makes the finest showing; superior exhibits. To most visitors at the World's Fair it is a perfect surprise to find that Canada has one of the largest fruit exhibits in the Horticultural building. It is situated in the rear curtain, north of the Dome, and occupies nearly one-sixth of the whole space devoted to pomology. In variety of fruits Canada also excels."

Orange Judd Farmer.

THE ADORNMENT OF THE HOUSE AND GROUNDS.

Not very long ago, I described, among the divers pleasant things fit for the interior of our abodes during the gloomy season of winter, the cultivation of the Passion-flower, as a brilliant decoration for the window or for those pretty little recesses facing the East, in which "Josette," a woman of taste, loves to display her charming chrysanthemums, her splendid oleanders, her sweet-scented mignonette, her gorgeous striped (*margotés*) carnations, her sumptuous hydrangeas, and various other marvels of the kind.

More than one traveller of distinction, in passing through our rural districts and the suburbs of our towns, has been astonished, in the dead season of the year, by the brilliant spectacle afforded by many a Canadian home, not by the luxuries of the old countries, but by the treasures of Flora, the finest specimens of the tropics, in full bloom, which are a thousand times more enjoyable.

How many times, at the meetings, in September, of the Board of Directors of the gardeners of Quebec, has it been proposed to offer wreaths and prizes for these displays. But, in September, "the windows and the recesses of Josette" were, alas, void of their annual decorations.

May I, in my position as a former president of the Horticultural Society of Quebec, be allowed to offer some suggestions on the ornamentation of the exterior of our abodes, whether in the country, or, if space permits it, in the towns? I trust I shall gain consent to my request. Nature has been lavish

of her bounties both to our good town and to the landscape that enfames it. Can not we add something to the setting of this picture? I believe it to be possible: it is only necessary to see what is being done in other great Canadian towns, and in the prosperous cities and villages of New-England: at Montreal, Ottawa, Toronto, Boston, Concord, Troy, Buffalo, &c.

In summer, both rich and poor, in their hours of siesta, seek for shade, flowers, the verdure of leaves, and light: all of which are easily to be procured here, if we like to follow the example of our neighbours. Let us plant trees around our old homes, in our squares, along our boulevards, in our towns. Let us group together clumps of pines, slender maples, especially the majestic and long-lived elm on our road sides, in our pastures, to guard the flocks and herds against the scorching heat of July and August, around the springs of our water-courses, to retain the humidity during the great droughts of summer.

There is another style of ornament for the gardens, and for the avenues that lead to the house: the live hedge, a very durable and cheap decoration. Without reckoning the lilac, which makes a most attractive hedge, rich in perfume and flowers about the end of June, there is a crowd of trees and shrubs, willows, spruce, cedars, thorns, &c., which are easily clipped into any form, square, semi circle, or punctiform, just as the master pleases.

On my land there are many hedges; two are specially remarkable, one, a lovely hedge of black spruce, as bushy, as green, and as graceful in the gloomy days of January as in the leafy month of June. The gardener, with his pruning-bill, only requires two days to keep them in order; they are as healthy now as they were when planted, 25 years ago. The hedges set out in the gardens or along the roads round Quebec have almost always succeeded.

Of this, a look at the hedges planted by Col. Rhodes, at Benmore; by Mr. Dobell, at Beauvoir; Mr. Beckett, at Marchmont, will convince any one, as will those planted at Clermont by our late regretted Lt.-Governor Caron; the cedar-hedges of the late Dr. James Douglas, at Beauport; those set out by the Hon. Louis Panet, at Caly-le-Castel, Rivière St Charles, and divers others.

Hedges are cheap and easily made; they add to the value of an estate, especially in the eyes of wealthy foreigners, who wish to take up their abode in the vicinity of towns.

J. L. LE MOINE,

A Former President of the Quebec Horticultural Society.

THE SILLERY FARMERS' CLUB

The Gardeners' and Farmers' Club of Sillery, organised under the zealous guidance of Robert Campbell, Esq., of "Kirk Ella," continues this winter its good work. Each fortnight, the members assemble at 8 p. m. at the Sillery School House to hear subjects discussed, to promote agriculture, horticulture and farming generally. A very useful and interesting paper was read at the fortnightly meeting held on the 30th ult. by the Rev. Mr. Audet, Chaplain of the Sillery convent, on the ventilation of public and private buildings. The rev. gentleman, who has made ventilation a life-long study, was listened to with unflinching attention for more than an hour. Most useful information was given on the danger to health in imperfectly heated and ventilated tenements, the modern improved system