

Garden, Orchard and Forest.

Seasonable Hints—December.

BY HORIUS.

Old fruit-bearing trees require mulching every year with manure, ashes or any fertilizing material; if not done last month, do so now, if weather will permit. This is an attention which your trees demand, and which is essential to their future productiveness. During any mild spells of weather, pruning may be gone on with; also the old bark may be scraped off. All these should be attended to whenever opportunity offers. If left till spring the chances are they would not get done at all. After heavy snow falls the snow around young trees should be firmly tramped to prevent mice from destroying the bark. A good plan where mice are very troublesome, is to place at different points about the orchard or garden, little stacks of corn stalks or a few sheaves of oats. These serve as harbors for them, and amusement for the boys and dogs, once a week, to inspect the stacks for the vermin therein collected. Mark any trees bearing unprofitable fruit for to be top-grafted in spring with good varieties, and secure cions now so as to have ready and in proper condition for working. The borer is committing great ravages in many fine orchards, particularly in the northwestern part of Ontario. To save your trees will necessitate constant vigilance on your part to discover the enemy and destroy it. Covering the ground with a heavy coat of ashes, wood or coal, is recommended as a preventative. Where trees have become crowded it would be well to thin them out now, removing those that are sick and weakly. One good, vigorous tree, stocky and healthy, is worth a whole clump of poor ones. During this month any contemplated changes in the formation of the grounds, or approaches to the house, or the construction of a lawn or walks, and planting of hedges, may be planned out, and the necessary information and details collected, ready to place in operation as soon as practicable in spring. How many fine farm houses there are in the country that have execrable out-buildings and surroundings—no order and no taste—rubbishy corners where all the old tins and broken milk crocks, delapidated straw-cutters and broken rakes, find a resting place. In summer time the burdock grows up strong and vigorous and kindly spreads its broad leaves out to cover these scenes of neglect and carelessness. How a little labor would improve all this. How much better a clump of evergreens, or some fruit trees, would look, than the thickets of lilac and wild thorn we notice around so many places. Cellars will need care to prevent frost. Apples will require turning over, picking out decayed ones and assorting the early winter kinds to take to market. Look after any Dahlia roots and Gladiolus bulbs you may have—see that they are in a cool, dry place. Plants in the house require more care now than during any other time. Water should be given sparingly, and then only when ground is dry. Give more moisture and heat as the roots touch the edge of the pot, and frequently give the leaves a good syringing or washing to remove the dust.

American Grape-vines and Phylloxera.

M. Boutin, in an article in *Comptes Rendus*, finds that a resinous principle exists in American vines which have resisted the attacks of Phylloxera, especially in the bark of the roots; that it is present in about double the proportion in which it occurs in the French vines. He thinks the resisting power of the American vine due to this resinous substance. The puncture made by the

insect is cicatrized by the exudation of the resinous matter when this is present in sufficient quantity, and the escape of the nutritive juices of the plant is thus prevented.

The American vines are better able to resist the attacks of the Phylloxera than the vines of France or other parts of Europe. Nevertheless great damage is done to the American vine by this dreaded insect—to both leaf and root. The first step towards the restoration to health proceeds from the invalid knowing that he needs the healing skill of the physician; so is it well to have knowledge that our fruit-trees and vines are attacked by an enemy that often proves fatal. From an article in a former number of the *Horticulturist*, by T. J. Parker, we take the following extract:—

There has long been noticed certain unaccounted-for years of the immaturity of the wood of the vine, want of ripening at the usual period of its fruit, and in the winter or early part of the next season after, the death of the old canes of the vine. This immaturing of the fruit and buds, decay of leaves, we have too often ascribed to wet or dry, cold or hot fall weather, or some other apology of a season. The death of vines during the winter, and especially by the hot sunbeams of early spring, and the dryness and heat of later spring, we too often have ascribed to any cause except the injury done to the roots, and especially the rootlets of the vine, by an insect now known the world over as the *Phylloxera*. Perhaps it was certain French savans and German observers that first discovered this minute pest on their vines. But to Prof. Riley, the distinguished entomologist of Missouri, so far as I know, is due the first distinct public announcement, in a manner to attract attention in this country, that this insect here was also the cause of the injuries to vines usually credited to other causes.

If my ideas and observations are correct, one form of the Phylloxera is its appearance in mid-summer, on the leaves of the vine, and usually by punctures on the top of the leaf. These punctures are oftener open than closed. I have seen them in both forms. Where there grows a minute ball, or excrescence, and as it scientifically belongs to the same class of leaf growth as the nut "gall" and other "galls" or roundish growth of leaf or leaf stem, those in Europe call it a "gall."

The great damage is done to the root, the second form of its injury, which also in midsummer, and later, perhaps at other periods, it does by its feeding especially on the rootlets, where, also, it produces excrescences and other marks. But of this my own observation has not been accurate enough to fully describe it—a matter which has been now fully done by others. As it does its injury to the roots, the roots furnish diseased sap, and, as I have said, I believe it accounts for the want of ripening of the canes and fruit at the proper time in the fall. And often frost comes on the wood, leaves and fruit, yet but half matured. Hence the loads of half ripe grapes that deluge our markets of late years. Hence, too, the bearing wood for the next year enters the winter but poorly prepared for flowering and fruit bearing the next season.

As the question now stands, it seems probable that much of the irregular ripening, much of the killing of buds and canes; perhaps of all of the occasional loss of the upper portion of our American vines, and other unaccounted-for injuries, are to be charged to this insect, whose name as Phylloxera, or Pemphigus vitifolia, is scarcely yet known to the mass of vine growers. At any rate, it becomes us all to carefully observe, accurately note and describe its habits and our losses by it. I am favorable to all State and other entomologists, but do not consider it their duty to provide a remedy for every insect; as I believe, in all cases of a persistent insect, as the curculio, and, I fear, Phylloxera, nothing effectual can be done by any one, except on a scale too small to accomplish much.

THE JAPANESE CLIMBING FERN.—The *Lygodium scandens* (Japanese climbing fern) is a most graceful climbing plant, growing from one to fifty feet, as desired. It is quite as easy of culture as the smilax, and will, no doubt, be largely used for similar purposes in decorating. Although a climbing plant when supported by strings or wire, it can be used with equal advantage as a drooping plant for baskets or vases.

Quinces and their Cultivation.

Why is it that the quince, which is as hardy and as well adapted to our soil and climate as the apple, is comparatively scarce, and commands on the average three or four times as much in our markets? There is seldom, if ever, a "glut" in the market, and prices are uniformly remunerative, bringing the producers for handsome fruit from \$2 to \$4 a bushel in New York and Boston almost every season. The apple, in the fresh or dried state, enters into the annual supplies of almost every family, as cider, vinegar, jelly, sauce, and other preparations, and is also a profitable feed for our domestic animals, while not one family in ten knows anything of quince preserves and jellies. It is really one of the most appetizing and wholesome of the sweetmeats found among the stores of our housewives; and the cultivation of this fruit should be greatly extended. We know of no fruit that promises so good returns as this to the intelligent fruit-grower. If we look at the quince plantations, as we ordinarily find them, they are few and far between in the farming districts. The popular fancy is that the bush flourishes best in a damp soil, and if there be an undrained swale on the premises, we may safely look for the quince bushes there. More frequently than otherwise, they stand in the grass, receive no cultivation, and after a few brief years die, either from stagnant water or the attacks of the borer. Under such treatment the trees have no chance to bear fruit, and make themselves profitable. The quince wants a deep, rich, rather moist soil, but it should always be well drained. Good corn land, that will bear maximum crops of grain, will bear good quinces. No fruit pays better for thorough cultivation, and the ground should always be kept under the spade or plow, and should, if we want abundant fruit, receive a good dressing of manure every season. The bush, or tree, requires very little other care than the occasional thinnings out of the branches if they crowd too closely. The thinning of the fruit, where it sits too abundantly, will increase the size and profitableness of the crop that remains. The fruit, as well as the flower, is quite ornamental, and an attractive feature in October and November. The "apple," or "orange quince," is by far the best variety. It ripens earlier, and brings the best price in the market. The quince is easily propagated from cuttings, and this is the simplest and best method of multiplying a desirable variety. Cuttings put down in the spring, in a moist, well drained soil, a little shaded, will root about as readily as the currant. In making a plantation the young trees should be set at least ten feet apart.

Consumption of Timber.

In pleading for the protection and perpetuation of forests, the *Lumberman's Gazette* gives some interesting particulars of the amount of timber consumed every year in this country. "We have now," it says, "about 90,000 miles of railroad; the annual consumption for ties or sleepers alone is 40,000,000, or thirty years' growth of 75,000 acres. To fence these these would require at least 130,000 miles of fence, which would cost \$45,000,000 to build, and take at least \$15,000,000 annually to keep in repair. We have 75,000 miles of wire, which requires in its putting up 800,000 trees, while the annual repairs must take 300,000 more. The little, insignificant lucifer match consumes annually in its manufacture 300,000 cubic feet of the finest pine. The bricks that are annually baked require 2,000,000 cords of wood, which would sweep the timber clean from 50,000 acres. Shoe-pegs are quite as important an article as matches or bricks, and to make the required annual supply consumes 100,000 cords of fine timber, while the manufacture of lasts and boot-trees takes 500,000 cords of maple, beech and birch, and about the same amount is required for plane-stocks and the handles of tools. The packing-boxes made in the United States in 1874 amounted to \$12,000,000, while the timber manufactured into agricultural implements, wagons, etc., is more than \$100,000,000. The farm and rural fences of the country consume an immense amount of lumber and timber annually, but as we grow older as a nation, this consumption may, and probably will, be reduced by the more general use of live fences or hedges. Our consumption of timber is not only daily on the increase, but our exportation of timber is also rapidly increasing. Our staves go by the million to France annually; walnut, oak, maple and pine to England, and spars and docking timber to China and Japan.