Garden, Orchard and Forest.

Coal Ashes in the Garden.

That coal ashes are accounted of little value as fertilizers or improvers of the soil is, in part at least, owing to the works of scientific men. They have analyzed coal ashes, and proved by their analyses that the fertilizing matter they contained was but a very low percentage of their complement, and from the result of these analyses large quantities of ashes from thousands of coal fires have been cast aside as worthless. People have not borne in mind that the most careful analysis of bodies does not always give their full values for industrial and other purposes. Of coal ashes in the garden the *Country Gentleman* says :—

It has been long known that coal ashes have the effect of mellowing the soil, particularly clay. A rigid clay may thus be greatly improved in its texture. It has been held that the fertilizing properties of coal ashes are small—repeated analyses have shown this. Yet, used as they have been here in gardens, without other manure, the effect has been such as to lead irresistibly to the conclusion that they develop in some way a considerable amount of fertility. All cannot be accounted for by the mechanical improvement, as in cases where this is not lacking the effect is still present, and apparently undiminished, if not sometimes increased—in this case acting seemingly as wood ashes do, requiring other (organic) fertility to aid, if full results would be obtained.

I was surprised, early in the season, on seeing unusually thrifty tomatoes and beans, to learn that the only manure used was coal ashes, scattered in the garden to get them out of the way. This was practised for several years, and no manure other than this had been used. I was shown another garden recently which was treated exactly in the same way, the only dressing being coal ashes. Here the growth seemed all that it could be. I was shown a potato grown here that weighed one pound eleven ounces and a half. It was the Early Vermont, a variety not noted, I believe, for its large specimens. But they were all large, averaging from half a pound to a pound; no small ones among them, and many exceeding a pound. They were planted fifteen inches apart in the rows, a small potato dropped in each hill. The owner of this garden lays the success to the coal ashes, and says there can hardly be any mistake about it. This is the opinion of others also. My own experience is confirmatory. But the effect I find is not immediate. It is more tardy than with wood ashes, whose potash and soda act promptly.

I would advise by all means that coal ashes, instead of being thrown away, be used in our gardens, removing the coarser parts; also on potato ground, always mixing well with the soil, and as early as the ground will admit; and to be repeated yearly, thus giving time for effect upon the soil. I find the best success where the ashes have been applied for several years. The second year is sure to tell, even when thrown upon the ground and left to lie there undisturbed, as I have abundant evidence. But the place for full action is in the soil.

I should have stated that in the second garden mentioned, where the ashes were omitted, as was the case with a small space, there was a uniform lack in the growth, both in the size of the vines and the tubers. About a quarter of the soil of this garden was composed of ashes. In places where the proportion of ashes was greatest the largest tubers were raised. There is no doubt of the general benefit of coal ashes in a garden, and their decided effect upon the tomato and potato family. They doubtless affect more or less favorably all plants, in the improved texture of the soil, which most of our old cultivated fields need. Add to this their known manurial properties which science has pointed out, little though they be, and there is no reason why coal ashes should not be used on our land, to say nothing of what may seem an occult influence when they are put in union with the fertility of the soil, resulting thus, as appears to me, in an increased growth. I have faith in the discarded coal ashes, and I am using them to advantage.

Ontario Fruit Growers' Annual Meeting.

(Continued from November No.)

The only successful fight that can be made against the enemy is "jarring." A curculio catcher is a simple but efficient instrument, consisting of a sheet stretched by a frame-work on a common hand-barrow, without the sides, leaving a space in front at the wheel for the admission of the trunk of the tree. A ball of rubber, or rags, and a wooden mallet, complete the outfit, and the cultivator is ready to make his approaches. A sudden stroke with the mallet on the rubber laid on the trunk brings down the curculio in an apparently dead state, during which he is readily captured.

Black knot of late years has become a serious evil to the plum-grower. Some years ago it was unknown in Western Canada; now it is everywhere common, except in a few favored localities, such as Owen Sound and Meaford. It is understood to be formed by a fungus, which appears as a vegetable *goitre*, and to save the tree requires immediate application of the knife. No particular plum tree is proof against black knot. On the common blue plum it is singularly abundant. What a melancholy sight it is for one to see certain fruit-growers preparing a rod to pickle for themselves by allowing the black-knotted trees to stand in their orchards year after year, without the least attempt to rid themselves of the evil! Fungoid forms are produced from spores; these spores ripen every season just as regularly as other seed-bearing plants, and warmth, winds and rains disseminate the germs, which being deposited in convenient resting places, are ready next season to develop and run over again their destructive course. Cut out unsparingly black knot whenever it appears, and burn with all convenient speed.

ROT

is another difficulty with which the plum-grower has to contend. No truly philosophical or reasonable account has been presented of its origin. Conditions of rot have been amply described, but no certainty as regards its true origin has ever been presented. Speculations are rife. Horticulture is an ample field for speculation. The only remedy known to us is to thin out the affected specimens and destroy them. Leaving the injured fruit on the tree, or on the ground, almost equals the folly of allowing black knot to develop and shed its propagating spores.

INSECTS INJURIOUS TO THE PEACH.

Foremost is the peach borer. This insect is not unlike a wasp—the markings are similar. It is unnecessary, however, to be very particular in the description of the perfect insect, as I know of no means to entrap him for his destruction. The only effectual means of destroying this pest is to use the knife, when he is doing the damage under cover of the protecting bark. The eggs are deposited generally between wind and water, just at the neck of the tree. These deposits are made at the end of July and beginning of August. The pupa state lasts in warm summer weather about three weeks. Their whereabouts is easily seen by their fæces, and the exudation of gum from the injured part. Having carefully removed the larvæ, if any, by means of the knife, wrap around the neck of the tree a piece of cotton cloth, covering the trunk to the extent of three or four inches, and reaching closely to the ground. Better still would this appliance be if made from the period the tree is planted, and anterior to the deposition of the eggs in the tender bark.

For trial by our peach culturists, I may mention a plan successfully pursued by growers on the other side of the lines, viz., the mounding system, in which a bank of earth is made around each tree, for three successive years, to the height of about a foot each year, the mound averaging a width of about six feet.

INSECTS AFFECTING THE VINE.

The list of the many insect foes which attack the foliage and fruit of the vine, as given by Mr. Saunders, London, is most alarming. The green grape-vine sphinx, the beautiful wood nymph, the pearl wood nymph, the grape-vine leaf roller, the grape-vine plume moth, the grape cidaria, the common yellow woolly bear, the spotted pelidnota, the grape-vine flea beetle, the grape-seed insect, the thrips, the grape-leaf gall louse, the tree cricket, and last, not least, the honey bee. We spare you, gentlemen, in not giving the jaw-breaking technical terms of these depredators—the vernacular is enough, and after giving them are ready to draw a long breath.

THE GREEN GRAPE-VINE SPHINX

caterpillar is a determined enemy of the vine, and is easily recognized by a horn on his hinder extremity. The moths of the grape-vine sphinx appear about the 20th of May, and begin in a few days to deposit their eggs upon the leaves. They are developed in about a week. The caterpillar is most ravenous, and in an incredibly short time destroys the leaves. The remedy is to hand-pick and destroy them. If allowed to remain and develop, they descend the vine and bind a few leaves together with their filmy cords, and there remain in their chrysalid state till they change into a beautiful green moth, large and powerful on the wing. It enters on its destructive work, like other evil workers, in the dark.

THE GRAPE-VINE LEAF ROLLER

is well-known to all grape growers. This moth is double brooded, and first appear in June and August, and secondly in July and September. The eggs are deposited on the leaves, and whenever they develop they roll the leaf as one would a bit of paper into a match, and make it their hiding place. It requires no little dexterity to catch them, being exceedingly active, they are apt to escape by one end of the rolled leaf before the searcher is aware of it.

THE GRAPE-VINE FLEA BEETLE

has been very destructive of late years in Essex. They penetrate and suck the fruit buds and render the grape entirely barren. These beetles appear in April and continue their evil habits till May. Their orange-colored eggs are deposited under the leaves, which hatch in a few days, and pierce the leaves with innumerable small holes. In June they descend into the ground, burrow, and there make their change into chrysalids. No definite plan has yet been discovered to get rid of these pests.

The THRIPS are the best known of the vine pests. The eggs are deposited on the leaves in June, and when hatched puncture the leaves and suck the sap. The yellow spot on the leaves speedily testify to their diligence, and the destruction of the crop is the consequence. The remedy in and around Cincinnati, and at Stoney Creek, is to shake the vines in the stillness of a summer night, and walk up and down the rows with lighted torches. The complete removal of all leaves, or other roughness, in the neighborhood of the vines, either late in the fall or early spring, will also lessen their numbers, as the survivors are destroyed by exposure to the cold.

THE PHYLLOXERA OR ROOT LOUSE.

This creature attacks the roots of the vines. In France whole vineyards have been destroyed throughout large districts by these hostile pests, and much attention is now bestowed on its ravages, both in Europe and America.

The winged insects appear in July, August and September, but the work of destruction proceeds with unabated pace from early spring till late autumn. The root-louse, as the phylloxera is sometimes called, punctures the tips of the rootlets, and thus cuts off the regular supply of sap needful for the plant. No remedy has been yet propounded which meets the urgency of the case. Soot mixed with the soil has been thought of benefit, but vine growers have been more indebted to predaceous parasites than to any artificial means of destruction yet discovered for the annihilation of these pests.

INSECTS INJURIOUS TO THE PEAR AND APPLE—THE CODLING MOTH.

This is perhaps the most pernicious of all the injurious insects with which the fruit culturist has to contend. Its ravages have become so clamant that the united efforts of horticulturists everywhere should be put forth for its diminution.

It would tend greatly to enhance the law of compensation if the small apple crop of the present season should amply repay apple growers for their present anxiety for the shortness of the apple crop, by its proving the ruin of the codling moth. It may prove a simple, but natural way, of stamping out its ravages. The loss of fruit buds ensures the loss of the eggs of the codling moth. Next season we may be comparatively free from this pest.

The codling moth appears as a winged insect just as the apple blossoms begin to open. She deposits her egg in the calyx of the apple, and the larvæ grow with its growth; their presence always prematurely ripens the apple, and the same may be said of the pear.