

cause of the death of more fruit trees than people generally suppose.

As to that dread scourge, Black-knot, volumes have been written, yet the public are as much in the dark as ever; all kinds of theories and sarnises have been made; our trees still die of that fatal cancer. I hesitate to add a new theory, yet I have thought that in plant life we shall no doubt find principles and agencies analogous to some of those laws which have been found to prevail in animal organization, under a greater scientific research than has been brought to bear on vegetable diagnosis. Among animals, starvation and gluttony, foul air and filth, will be followed by ill results as a violation of normal law; deficiency in sunlight and circulation of air in vegetation, a superabundance of moisture and sudden change of temperature, are conditions which have a direct effect on the tissues; these and like deviations derange the force of life, and place the thing subject thereto in an unhealthy condition, and in a position much less able to resist opposing forces. It is claimed that black-knot is contagious; I have no doubt of it, but only so to those organizations which have had a previous preparation for that particular inoculation of fungus spore for which the atmosphere forms so ready a means of transmission, and this at particular times is always ready to be multiplied under favourable conditions. It is now well established, that cholera is not only mitigated, but is entirely resisted by cleanliness and temperance, without the aid of special intervention. Therefore, let us study the conditions to health in our trees, and the days of black-knot will be numbered.

INSECT ENEMIES.

These, by a proper handling, ought not to do the amount of damage at present pretty universally complained of. A knowledge of insect life and habits, at the least of those injurious to fruit production, and of their parasites and enemies, should be taught as a school lesson, until we are able to discriminate and set the forces of nature to control each other for our good. Our unaided efforts will not suppress the aphids, borers, and curculios, the three enemies at present most injurious to the plum tree. An application of whale oil soap-suds by means of a syringe or hydropult, repeating it occasionally, will partially clean the foliage from aphids; but only on a limited scale can applications of this nature be made. Then there is the *Saperda* and *Illyris* borers; both do duty and perpetuate in the plum tree, and they are not easily got rid of, and are much to be feared, because they do their work silently. The beetle lays its eggs in June and July on the bark of the trunk of our trees; then is the season for warfare, if at all. With a brush, paint the trunk of the trees with strong soft soap; this will destroy many of the young grubs, besides being of service to the tree. Did you ever see this larva? It looks for all the world like, and reminds one of, a polly-

wog, all head, and the balance caudal, (forgive the Hibernianism). Yet the parent of this happy little creature is rather pretty. Should any of the grubs get a lodgment under the bark, they are to be removed without delay with a sharp knife. They leave behind them in their track a pumice, which you should follow with your knife, and after destroying them, put a poultice of cow-dung over the wound in the tree. Never let a season go round without inspection for this pest; they are fully described in the annual report of the Fruit Growers proceedings of Ontario for 1868, through the report given by William Saunders Esq., of London. Of all the enemies to the plum, however, "Thou, Curculio, surely bear'st the bell among them all." So incorrigible is this pest, that many persons have given up the cultivation of this noble fruit. This should not be, when some perseverance for two seasons will so far decrease its numbers in your own grounds as to secure a sufficient crop of fruit annually. The remedy consists in jarring the trees early in the morning, having sheets spread under them to receive the beetles as they fall; they resemble dead bugs; destroy them at once; and every day gather all fallen plums and put them in boiling water, for they contain the worm of the future curculio. Some careless people allow all fallen plums to remain on the ground until the worm has crawled out and taken up its snug winter quarters in the earth, only to come out with increased numbers the season following; these persons are not equal to the situation; for depend upon it, no lazy fellow's application will ever suppress the curculio: and all nostrums are worse than useless, for they damage the trees without disturbing his sublime highness; the little Turk revels in villainous mixtures. You should commence this method of fight when the plums are of the size of small peas, and continue daily to the middle of July. There are few sections free from this pest. I am told the country about Goderich is free from its ravages; I hope the good people there may be able to keep it so.

In conclusion, I have now to remark that the various abuses to which the plum tree is too often subjected must receive but a short notice; the limits of this paper preclude me from entering on the subject as fully as it deserves. Most assuredly many of these abuses arise from an entire ignorance of the laws governing the conditions which produce the soundest and healthiest growth of limb and root, of leaf and branch. In one important particular the tree differs from the animal in not being able to move its position, to secure for itself immunity from danger, and good conditions in its struggle for life. In its uncultivated state, nature controls the forces or conditions with unerring ability for its perpetuation and hardihood. But under domestication, man does in his own way, to a certain extent, use these forces of nature after his own style. He can supply manures or withhold them; he can

bend in this or that way the growing plant; he may so adjust and combine conditions as to produce monstrosities in growth, or organic dwarfs, disease or health. It would be miraculous to find that nature, having a beneficial object in view, had ever applied whale oil soap or lime to the foliage of the plum tree, or rubbed the trunk with coal oil, or used tobacco juice to secure it from the curculio. It would be hard to find nature guilty of supplying crude application of manures, much less bring it into direct contact by carefully spading it in about the roots. It would be still more difficult to show that she severed roots annually at all comparable with the plough.

If nature is ever to be pushed to the limit of its beauty, its goodness, its grandeur, and its bounty, it must be done in harmony with its laws, and through this means we shall read its love.

Fruit Tree Queries.

To the Editor.

SIR,—Can you or any of your correspondents inform me what sort of cherry and pear trees would thrive in the neighbourhood of Lennoxville, and stand the severe winters; also where to procure them, the soil best suited to them, and the treatment they should receive; also, the same of dwarf pears, apples, and cherries; also, would the English oak thrive here, and what trees would be the best to plant as a breakwind to an orchard?

A CONSTANT READER.

REPLY.—The hardest cherry in cultivation is the variety known as the *Kentish Cherry*. It is dark red when fully ripe, acid, high flavoured, and one of the very best for cooking or canning. It is possible that the *May Duke*, *Reine Hortense*, *Plumstone Morello*, and others of the Duke and Morello section would endure the winter, for our hardest cherry trees are to be found among these. The *Flemish Beauty* is a very hardy pear, and the *Tyson*, *Beurre d'Anjou*, *Buffam*, *White Doyenne*, and *Fulton* are considered quite hardy sorts.

Pear trees usually thrive best on a strong clay loam, cherry trees on a lighter loam. Dwarf apple, pear and cherry will thrive on the same soils that are best suited to the standards. The treatment required by them is good cultivation; to speak more minutely of planting, pruning, manuring, &c. &c., would require an extended essay. If our correspondent does not know what is meant by good cultivation, we must refer him to the standard works on the subject, Downing's, Thomas', Warder's, &c. These trees can be had of all our leading nurserymen. The English oak thrives well in the grounds of the writer at St. Catharines. The Norway Spruce forms the very best possible wind-break. If any of our readers residing in the colder part of the country have any experience that will aid in the solution of these inquiries, we should take much pleasure in publishing their communications.

HORT. ED.