

Garden, Orchard & Forest.

INSECTS INJURIOUS TO THE APPLE.

The first presented was the tent caterpillar. The natural home of this insect is the wild cherry, but they have become naturalized on the apple tree. These are the first of the injurious insects to appear in spring, hatching from eggs laid the previous summer and often as early as the last day of April. They are extremely tenacious of life, being known to live eighteen days without food. The female moth deposits her eggs in rings around the twigs from the 20th of July to the same time in August. The bunches of eggs are quickly distinguished in winter, and then or in early spring is the best time to prevent the ravages of this insect by cutting off and burning the cluster of eggs. If this is neglected make vigorous war upon them when in the caterpillar state.

The next insect treated of was the apple tree borer. This insect is hatched in July from an egg deposited upon the bark near the ground, and immediately commences boring into the tree. The borers pass three years in the tree, the second winter being passed in the roots beneath the surface of the soil. The perfect beetle emerges from the tree in June. Trees in cultivated grounds are seldom infested with them. The first year they may be exterminated by digging them out with a knife; after this it must be done by inserting a flexible wire into their homes. Alkaline washes are destructive to the eggs of all insects. Washing the bodies of trees with potash water or soap suds once a fortnight, will destroy the eggs and be very beneficial to the trees.

The new trunk borers come next. The natural home of this insect is the white oak, but he has made himself doubly odious by emigrating to the noble apple tree. This insect was not known in Maine ten years ago, but is spreading very rapidly. The perfect beetles are active only in bright, sunny weather. The female beetle deposits her eggs in the crevices of the bark about the middle of June. In four or five days they hatch, and the grub commences to eat into the soft sap wood. These insects burrow in the trees three years before emerging in the perfect form. What is called sun-scald is frequently due to the depredations of these insects, and trees presenting this appearance should be thoroughly examined for the borer. The grubs should be immediately cut out, the wounds thus made not injuring the tree as much as the borer will, if allowed to remain. Pruning trees so as to form the heads low and shade the trunks would be a preventive to their ravages.

The codling moth is a true caterpillar, and of European origin. The moth deposits her eggs in the blossom end of the apple in the night time, during the latter part of June and the month of July. The eggs hatch in a few days, and the worm immediately burrows in the apple. In about three weeks it emerges, spins for itself a beautiful white cocoon, and becomes transformed into the perfect insect. But few pass through this transformationary state the first season, the larger portion passing the winter in their cocoons and appearing as perfect insects in the early part of the following summer. By gathering up the wormy apples and feeding to swine, or pasturing the orchard with sheep or hogs, large numbers of the grubs will be destroyed. If bands of straw are wound round the trees, the worms will spin their cocoons in them, and then they can be removed and destroyed. — *L. F. A., in Maine Farmer.*

A PRACTICAL MAN'S WAY OF PRUNING APPLE TREES.

A fruit grower near Utica, New York, gives the following account of his experience in trimming apple trees:—

We have found in our experience, which has been considerable, that to remove large limbs, and several of them at a time, is injurious to the tree. The shock seems for a while to check the growth for more than a year, and some fatal cases may be attributable to this. One, or at most, two large limbs at a time are usually sufficient, depending upon the size of the tree or upon the number of its large branches. We have had the very best success in reducing gradually the overgrown top of a tree, or where decay had affected the large limbs, as is the case with Spitzenburgs, taking two to four years to remove the cankered or crowded large limbs, starting new ones in place of the deceased old ones where needed.

The time for doing this is, of course, not in summer, when the tree is in full growth, as the shock will be all the greater. It is, however, the time to free the tree of small, unnecessary limbs and shoots; the latter, in their tender state, may be rubbed off, and that is decidedly the way to do it, as the work is easy and the further loss of wood growth is arrested, the remainder of the tree and the fruit getting it. Removing these small shoots and limbs will not visibly injure the tree, but will divert the sap into those parts of the tree where it is

wanted, and the wound will more readily heal over.

Whether large limbs are removed in the fall, winter or spring is not very material. Mr. Thomas, than whom there is no better authority, says, in his *Fruit Culturist*, that the time for removing large limbs should be deferred till toward spring. The reason is that the tree receives a shock to a considerable extent, even in winter, as growth is not entirely suspended, and the cold superadded makes the tree suffer still more. Hence, when the severity of the season lessens, as it does toward spring, and other causes seem to operate, it is the time to remove large limbs, or do the most extensive pruning at a time. March with us, is a good time. But a strong, hardy tree may be pruned at any time during the winter or late fall. If your tree is very thrifty and large, with a tendency to grow wood rather than fruit, trim in the fall. You may remove the large branches then, and the small ones in summer. We have practised this, and always with satisfaction.

Pruning apple trees is an art, and it is the main thing in the prosperity of a tree. Attendance to the roots—that is, the soil—is of importance, sometimes the greatest; but of great importance we deem attention to the top. We speak not only from experience, but the most gratifying experience. We have taken orchards in hand that were thought ruined, most of the limbs dead or in a state of decay, and by a gradual, careful course of pruning, starting new shoots in the place of old ones, where needed, have renewed the trees and have made them surpass their former state. There is a chance with old trees—which is of the greatest importance—to give spread or outward extension to the limbs. This cannot be too strongly insisted upon. You must have the sun and air and free ventilation of the whole tree if perfect fruit and the largest amount is to be realized, and also the best growth. Spread, therefore, the top, so that each large branch is distinct—a small tree by itself, as it were—giving chance for light and air between. But each branch itself wants to be thinned out, the whole well aired and exposed to the sky influence. Then every fruit will be colored and matured, limbs will be healthy, or healthier than if not thus treated.

Sometimes, however, it is difficult to prevent a tree by pruning from going to decay. This without the intervention of the borer or any visible disease. In such a case we have known the cause to be a hard, impervious soil—too much water present at times or habitually.—The remedy is ditching. Then the pruning will be efficacious.

THE KILLING OF ORCHARD TREES.

The Warsaw Agricultural Society, at its last meeting, had the above subject under discussion. It appears that the destruction of orchard trees in that vicinity the past winter was very great. The conclusion arrived at appeared to favor the sowing of blue grass in the orchard, in order to keep the soil moist and cool. That may do for that purpose, but a thick growth of blue grass will not load the trees with fine fruit.

It is now pretty evident that the death of so many orchard trees is chiefly due to the dryness of the soil during the winter. I found that in Colorado, where the land had not been wet down in the fall, the loss of trees was general. In Utah this has been pretty well understood, and water has been more freely used.

Out of several thousand apple trees, I lost but a few last winter, and part of these are set in blue grass. These were planted 28 feet apart, and do not fully shade the ground.—Those the least affected are 20 feet, and they not only shade the ground, but their leaves make a good mulch, and the soil is kept moist, as the evaporation is retarded. A block of snow apples with low heads suffered the least, and there the shade was the most perfect.—There has been an occasional orchard on the exposed prairie that has produced fair crops of apples this season, but all of these have been on moist soils, and did not suffer during the winter.

We may, therefore, attribute the loss of trees to the dryness of the soil, rather than to the severe cold of the winter. Our next study is how best to keep the soil in a moist condition. I certainly do not think that setting the orchard to blue grass is one of the best things. The plough, harrow and clover appear to promise better results.

The orchards set in grass will be benefited by a liberal dressing of manure during the winter, and then let the plough turn over this turf between the rows of trees early in the spring, to be followed by the harrow. Then the blue grass may in part recover, and this, with the crop of leaves turned under the following spring, will assist to keep up the fertility of the soil, and to keep it moist also. We have some things yet to learn in regard to prairie orchards, though we have made great progress. Because a few orchards on the prairie, fully exposed to the winds, have produced fine crops, it does not follow that shelter belts may be dispensed with. My best crop of apples this

year was on a part of the orchard closely planted and thoroughly sheltered. We may now account for the diversity of opinions in regard to hardy varieties—condition of soil having more to do with it than the tree itself.

NEWLY SET TREES.

We offer a new suggestion to those who may have set out young trees—not as new, but because the necessary care is apt to be overlooked or forgotten. There is a critical period late in spring or early in summer, when these often suffer severely and sometimes fatally, for the want of a little timely attention.

Trees set out in autumn are sometimes seriously injured by winds, which sway about the stem and form a hole in the earth by this motion. The air enters, comes in contact with the roots, and such trees frequently die. The remedy consists in throwing the earth away from the trees, applying fresh mellow earth, pressing it down firmly enough to protect the young tree from the wind. Sometimes it may be necessary to throw up a mound of earth as an additional protection for a few weeks until it becomes established. When the roots have been cut short in taking up, it may be necessary to secure the stem by means of an inclined stake, but staking is always to be avoided if possible. As a general rule, liable to exceptions, trees should never be so large when removed as to require staking; and if the roots have been carefully taken up and will spread out in transplanting, they will stand more securely. Sometimes it happens that a tree having a large top has retained a small set of roots, in which case the top must be freely cut back so as to render it lighter, and to equalize the top and roots. But if the buds have already started or partly expanded, the cutting back must be omitted, as nothing checks a newly set tree more than pruning too late in spring.

Hardy trees set out in autumn, would, properly do better than spring set trees, if properly treated, the earth having become well settled about the roots and an early start given them. But it often happens that all these advantages are lost by neglect. In addition to the injury already maintained, from swaying away by the wind, the hard crust which forms during the several months they have stood is a serious detriment, and care should be taken to break the crust, and to produce a fine mellow surface.

As hot weather approaches, all newly transplanted trees require mulching. In most cases, mellow earth forms the best mulch; and if a circle about the tree, several feet in diameter, is kept clean and well cultivated, and a fine growth will be the result. An additional mulching will be necessary only on very dry soils, or in an unusually dry season. Young cherry trees form an exception, and they should always be mulched before the hot weather of summer. After being well set out and commenced growing, the leaves often wither and the trees die under hot sands. Several inches of old straw or grass, spread thinly under the tree will save it. The mulching should never be omitted with cherry trees the first year.

Watering trees should never be employed except in extreme cases. The practice destroys many more trees than it saves. If they are well set and the earth kept mellow, they will not need it. A neighbor set out 30 cherry trees and watered 15. Those not watered all lived; a large number of the watered trees died, in consequence of the hard crust which the watering formed on the surface, while none reached the roots a foot below. If water is ever applied to a young tree, the surface earth should be first shovelled away, so that it may at once reach the roots, and the mellow earth be replaced. But even here the intermittent supply thus given is not as good as the uniform moisture preserved by keeping a mellow bed of earth.

Young trees, and especially young pear trees, sometimes remain dormant for several weeks after setting out, and then gradually wither and die. They may be easily restored if treated in time, by cutting the head back sufficiently, encasing it loosely with straw, and keeping the straw wet. Before the leaves expand, the stem and branches must be watered; after they expand, the water must be given to the roots, for if applied to them sooner or before the leaves commence pumping through the stem, they will become water soaked and rot. Therefore water the step only, whilst the buds are yet closed—and not the roots.

The proceeding suggestions, it will be observed, apply chiefly to trees where there has been defective management, or where the roots are badly cut, or the trees allowed to become dry, or where they have been imperfectly set out, or where the soil is too hard or has been allowed to become so. Much trouble will be avoided by prevention, or by securing in the first place a good supply of roots in digging, and by setting out the trees on well prepared soil, and keeping it in good mellow condition through the summer. With such management, we have known our orchards to succeed well.—*Country Gentleman.*

Sales of Stock to Take Place During the Present Month.

R. J. STAUNTON, Thornhill, April 7, 21 head Shorthorns, 30 Cotswold and Berkshire Swine. See advertisement in this paper.

JNO. SELL & SONS, Edmonton, April 8, 60 Shorthorns, Cotswold Sheep, Berkshire Swine.

HUGH THOMPSON, St. Marys, April 9, 25 head Shorthorns, Clydesdale Stallions and Mares.

J. S. SMITH, Ailsa Craig, April 10, 22 Shorthorns, Cotswold and Leicester Sheep.

We still hear some complaints of the non-receipt of papers by subscribers. Sometimes we hear complaints that subscribers have missed half of the year's papers. We have a most careful mail clerk; every subscriber's paper is mailed regularly from this office—still some of the papers do not reach the parties to whom they are addressed. We wish any one not receiving the Advocate before the middle of the month to write us at once; a one cent stamp is all that it is necessary for you to send. We have always mailed lost and missing papers, but we cannot promise to be able to send back numbers at the end of the year. Write at once and let us know if you have missed any number during the present year, and always write if you do not receive your paper by the 15th of the month.

Potatoes.

Our American cousins have done us a good service in introducing potatoes that have eclipsed the old varieties. The potato that appears to be creating the greatest noise across the lines is the Campton's Surprise, it is introduced by B. K. Bliss & Sons, the same gentleman that introduced the Early Rose. We quote the following from their catalogue:

COMPTON'S SURPRISE.

511 POUNDS GROWN FROM ONE POUND OF SEED.

"This wonderful Potato, wonderful for its fine quality, productiveness, size and beauty, is a seedling of the Prince Albert fertilized with the pollen of the Long Pinkeye. The first year from seed there were four Potatoes weighing one-half pound. The following Spring these were cut to single eyes, and planted on poor soil. The product of the half pound was three hundred and ninety-one pounds, sixty-two pounds of beautiful tubers being picked from the surface of a measured rod, as it is a peculiarity of this Potato that they often mature a crop on the surface under the foliage. The past season they were planted in soil from which a poor crop had been taken the previous year, and, although the season was very unfavorable, this seedling yielded six times more than the Rose and other old sorts planted by it, and remained sound, while the other varieties rotted badly. One-half bushel yielded seventy-six and three-fourths bushels of Potatoes, from which but one-half bushel of small ones could be sorted, the entire yield being at the rate of eight hundred and twenty-six bushels to the acre. These Potatoes are invariably sound to the center, a hollow one having never yet been found. It is a late variety, ripening with the Peachblow. Its shape is oval-oblong, eyes sunken, brow prominent, skin smooth, color reddish-purple, flesh white; grows to a large size. It is believed to be much the most abundant in starch of any variety extant, it retains its quality perfectly throughout the year, appearing on table like a ball of flour. The high quality of this Potato late in Spring may, perhaps, be owing to its tardiness in sprouting, remaining plump and free from sprouts when kept until June, and never having that wilted appearance common to early sprouts."

We still send these Potatoes out at the same price they are selling them in the States, namely, \$1 per lb., post paid, or a 1 of a pound as a present to any one sending us one new subscriber.