

Insects and Orchard Trees.

During fruitful seasons, the orchardist is pretty sure to give particular care to his trees, and from the fact that, in examining the fruit, attention will be especially called to insect depredators.

In seasons when there is no fruit, cultivators are apt to neglect their orchards, at least so far as keeping them free from canker worms, leaf rollers, and such insect pests as are not plainly to be seen, and the work of which is usually noticed in the general bad appearance of the trees. It will be admitted, however, that it is fully as important to keep the trees intact from insects in non-bearing, as in bearing years, since by this division of labor the work is thereby lightened, at least, in full bearing years.

It is absolutely necessary this year that orchardists, and especially farmers who seek to cultivate what fruit they need for family use, and to supply some local demand, pay careful attention to their orchards, for, being a light year for fruit, they need save all they have; and if insects are kept well down this season, there will be less to breed from next year.

The Prairie Farmer has heretofore called attention to the efficacy of whale oil soap for cleaning the bark of trees, and especially for syringing the foliage to destroy the canker worm. It is also fully as useful for leaf rollers and other insects that infest the foliage, and also for bark lice at the time they are hatching and moving forward on the bark, which is usually from the last of May to the middle of June, from Central Indiana and Illinois and corresponding latitudes north, according to the location. South of the latitude of Indianapolis, but little damage is done by this, the oyster shell bark louse.

One of the greatest friends of the farmer, and especially the orchardist, is our common prairie ants which build their mounds wherever chance offers. They are indefatigable hunters of canker worms, and also destroy various other insects that they can manage. They ought to be protected, and even transplanted into the orchard whenever practicable.

In conversation a short time since with Mr. A. R. Whitney, of Franklin Grove, Ill., one of the most extensive and best known of Illinois orchardists, he gave us his formula for preparing whale oil soap for syringing trees and plants. It is as follows:—For 40 gallons of rainwater use 4 or 5 pounds of soap, or enough to make a strong suds. The cost of soap is from 8 to 10 cents per pound. The soap should be first broken and stirred in just enough water to thoroughly soften and mix with it, and then add to the rest of the water. Then add to each 40 gallons of water a quart of kerosene. The kerosene forms a kind of varnish which causes the whole to adhere, and prevents its washing off easily. To this the Prairie Farmer would suggest the addition of a quart of impure carbolic acid, such as is obtained at gas works; and, for washing the trunks and limbs of trees a gallon or more of the acid to 40 gallons of the suds. If the impure acid cannot be easily obtained, half an ounce of crude carbolic acid may be had of the druggist, to be used to the 40 gallons of suds; and for the trunks, three or four times this amount. It will be found a good investment either for the nurseryman, orchardist, or farmer, since the preparation will be found beneficial to the trunks and branches, cleansing them from moss and insect larva, and inimical to leaf-eating insects generally.

Vick says that in the majority of our orchards nearly half of the fruit is not marketable, and this is the legitimate result of ignorance and carelessness. Trees are allowed to grow as they please, producing, in many cases, such dense heads as to prevent proper maturity of fruit; they are allowed to over-bear, producing a few good specimens and a great many poor ones. We must learn to give our trees judicious pruning, remove all surplus fruit as soon as set, leaving on only those the tree can mature; give good culture, top dressing with proper food—and then we will not spoil three barrels by selecting one fit to send to market. When Americans learn how to grow and pick and pack apples properly, we shall have an almost unlimited and exceedingly profitable market in Europe.

Copperas water—a solution of sulphate of iron—5 pounds to 40 gallons of water, is recommended as valuable for tomato plants at three applications during the season of growth. It is reported as increasing fruitfulness and earliness, and prolonging the season. It is also said to be beneficial to roses and other flowering plants.

Effect of Climate on Plants.

Observations made during the Arctic Expedition have brought to light one or two curious facts in connection with the powers of growth possessed by different plants under varying conditions of climate. American research has proved that the seeds of certain plants, if gathered in one climate and sown in another, will germinate earlier or later, and with more or less vigor, according as the new climate is warmer or colder than the old. And even a perceptible change of climate is not required to show these results; a difference of a few degrees only in latitude is sufficient to do so. For example, wheat from Scotland, sown in the south of England, will germinate and ripen much more quickly than wheat of exactly similar quality gathered in the South and planted in the same latitude in which it was grown.

This fact is of the utmost importance to agriculturists. To secure early-growing wheat, it is only necessary to take care that the seed is gathered in a colder climate than that in which it was sown. The process is perfectly practicable, as it might be so arranged that the wheat sown in the North should not be consumed, but preserved for seed for the next season in the South. The same thing is noticeable among other plants, and florists and horticulturists might take advantage of this circumstance to produce both earlier and stronger plants than they do now, without the appliances for forcing.

Another curious fact is that seeds—especially wheat—will stand an immense amount of cold without injury. Some wheat left in the Polar regions by Captain Hall, of the *Polaris*, in 1871, and found by Captain Nares in 1876, germinated and produced healthy plants when sown under glass on board ship.

Captain Allen Young, of the *Pandora*, has on board his yacht a curiosity in the shape of a rose tree, grown in England, which has been on board ever since he left England for the Arctic regions. When in the Polar cold the tree drooped, and to all appearances died; but as soon as the vessel reached a warmer climate the rose tree revived, and is now in full bloom and in a perfectly healthy condition. The functions of life had been suspended while the tree remained in the cold latitudes, but they were not destroyed. This fact is curious, as tending to prove that a tree which will stand frost at all will bear almost any amount of cold; and also that, if its natural growth and development are retarded at the proper season, the plant cannot defer the revival of its development till the next normal period, but will continue its development at the first opportunity, which, in this case, after the intense cold of the Arctic regions, occurred in the more moderate cold—the comparative warmth—of an English November. It will be interesting to see if this plant blooms naturally at the proper season next year.—*London Country.*

More of Borers.

The Round-headed Apple-tree Borer (*Saperda bivitata* of Say) deposits its eggs in May and June. It is essential to keep the base of the tree free from weeds and trash in May, after which the lower portion of the trunk should be freely soaped, and Riley suggests placing a piece of bar soap in the crotch of the tree to be washed down by the rains. Soft soap in the same situation was recommended by early writers, but the bar-soap is doubtless better. The trees should be examined in the Fall, and any worms which may have hatched in the Summer found and destroyed, as they are more easily detected in their young stages than after they have gone deeper into the trunk; besides they can be dislodged with less injury to the tree.

Where the Flat-headed Borer, which works in the branches and limbs, is at all troublesome, the soaping should extend to this portion of the tree to prevent egg-laying by the female. These remarks cannot be made to apply to the borer of the peach tree (*Egeria exetiosa*), as it is a very different insect (in the perfect state a kind of moth, and not a beetle), the eggs of which are deposited fully two months later; besides the application of soap does not deter the female from depositing her eggs upon peach trees. As a preventative to the attacks of this insect, removing the grubs with a sharp knife, Spring and Fall, or raising mounds of earth or ashes around the base of the trees in the Spring, has been recommended since the first writings of Fitch. For trees badly affected, removing the earth and pouring in hot water has been found efficacious.—[Charles R. Dodge.]

How to Preserve and Restore Flowers.

Flowers may be preserved in a fresh state for a considerable time by keeping them in a moist atmosphere. Those who love to see plenty of fresh flowers in their parlors or sitting-rooms will be gratified by adopting the following plan:—Pour water into a flat porcelain or glass dish. Set a vase of flowers in the dish, and over it place a bell glass, with its rim in the water. The air which surrounds the flowers, being confined beneath the bell glass, is kept continually moist with the water which rises with it in the form of vapor. As fast as the water is condensed it runs down the sides of the bell glass back into the dish; and if means were taken to inclose the water in the outside of the bell glass, so as to prevent its evaporating into the air of the sitting-room, the atmosphere around the flowers would remain continually damp. Those who wish to "linger on the beauty" of a rare flower or a bouquet will be repaid by this experiment. It can be tried on a small scale by inverting a tumbler over a rose-bud in a saucer of water.

Another method, by which some flowers may be preserved for many months, is to carefully dip them, as soon as gathered, in perfectly limpid gum water, and after allowing them to drain two or three minutes, to set them upright, or arrange them in the usual manner in an empty vase. The gum gradually forms a transparent coating on the surface of the petals and stems, and preserves their figure and color long after they become dry and crisp.

Faded flowers may be generally more or less restored by immersing their stems in very hot water, and allowing them to remain in it until it cools, or they have recovered. The cooled portions of the stems must then be cut off, and the flowers placed in clear, cold water. In this way a great number of faded flowers may be restored, but there are some of the more fugacious kinds on which it proves useless; but flowers may also be preserved, and their tints deepened, by adding to the water a little of the solution of carbonate of ammonia and a few drops of the phosphate of soda. The effect of this, in giving the flower a deeper color and a stronger appearance, is quite wonderful; and by cutting off every other day about one-half inch of the stems of the flowers with a sharp knife, they may be kept as long as their natural life would last.

Transplanting.

So far as transplanting is concerned, all that is necessary for success with any plant that will bear transplanting at all is to press the earth pretty firmly about the roots, leaving a little depression thereabout; give sufficient water to reach the lower roots, and when the water has entirely sunk in the earth, draw the dry soil over all. As to how well or how ill the planting may be done, or whether the work be done fast or slow, this can only be learned by practice. A man or boy who can learn to be a really good plowman, should have no difficulty in becoming both speedy and accurate in transplanting.

This, however, is not all. He must know something of the nature of the plants he cultivates. The tomato is strictly a tropical plant. It is also essentially a dry weather plant. Do not, therefore, transplant, north of latitude 43, before June, and let the space where they are to be set be drawn up into pretty high and broad hills. Have the roots at the proper depth, and if the plant is pretty long, and perhaps spindling, lay it along the ground, covering with about two inches of earth, leaving but little more than the head or crown of leaves to the air. Thus you will have what will eventually make a good plant. If you endeavor to make it stand straight you will fail, unless the plants have been well hardened in the beds, and are both short and stocky. Then, if you give water as before directed, you are certain of success. The same rule will apply to all plants having straight shoots, as cabbage, sweet potatoes, egg-plant, pepper, etc. In planting, set them deeper than they stood in the seed bed, or well up to the first leaves. Plants with spreading leaves, like lettuce, cannot, of course, be planted much, if any, deeper than they usually grew.

Do not be afraid to transplant now. There is yet plenty of time to get tomatoes fit for use and for canning before frost comes; so with pepper, egg-plants and sweet potatoes. July 1 to July 20 is early enough for late cabbage, and the middle of July will do nicely for celery.