

larva is killed by eating the poison, and we find that the faintest trace suffices for the purpose. Again, the poison should be applied early, by the time the fruit is the size of a small pea. I have found one such application to work wonders. There is no doubt but that the first application, followed by one or two others at intervals of two or three weeks, would be more thorough, yet I have found one application, made early, so effective, that I have wondered whether it is best or necessary to make more than one application. I do think, however, that it must be early. In May and June the calyx of the apple is up, and so the poison is retained sufficiently long to kill most all of the insects.

One more count in favor of this treatment, is the further good we receive by killing the several phytophagous larvæ that attack the foliage of the apple at this early period when defoliation is so harmful. Thus the terrible canker-worm, the several destructive leaf rollers which even eat out the very buds, and that old pest, the tent caterpillar, are all made to bite the sod. Very likely, too, the plum gouser which so deforms the apple in Wisconsin may also find in this remedy its death warrant.

The danger from this practice I have proved to be nothing at all. The microscope and chemical analysis have both shown that all the poison has been removed long before we wish to eat the fruit. The wind no less than the rain helps to effect this removal, as I have shown by putting the poison on plants sheltered from all rains. Of course we should not turn stock into an orchard till a heavy rain has washed the poison from all herbage under the trees.

I am entirely positive that a knowledge and practice of this remedy throughout our country will save hundreds of thousands of dollars to our

fruit growers. It will serve to give us the fair, perfect apples known to our fathers, but which have become lamentably scarce in our modern orchards.

THE APPLE TREE BARK OR SCALE LOUSE.

In many parts of our State the Apple Scale or bark louse is very common and destructive. This is often called the Oyster Shell Bark Louse and is known in science as *Mytilaspis pomorum*, *Bouché*.

Under the scales, from late summer till the following June, will be found scores of small white eggs, which resemble white powder, unless magnified. Early in June these eggs hatch, and the minute yellowish lice will be seen scattered about the trunk and branches of the tree. Soon they insert their beaks into the bark, sometimes into the skin of the fruit, and commence to suck the sap or juice. They now grow rapidly, and secrete a waxy, fibrous substance, which forms the growing scale, which will be fully developed by August, when the many white eggs will again be laid under the protecting scale, where, unless eaten by some parasite or mite, etc., will remain in safety till the coming June.

It seems strange that these small, almost microscopic, insects can do so much injury, as they often entirely destroy large, vigorous trees. Yet when we consider their numbers—almost millions, which almost cover the bark of the tree, it does not seem so strange. The scales of the male lice are rarely seen. They are found on both sides of the leaves, and are more symmetrical than the female scales. The males have two wings.

REMEDIES.

Parasites, Mites, and Lady Beetles all prey upon these fell destroyers, but though efficient aids, they are not always enough to exterminate the lice, and then the trees fall victims to these