

branches. They live upon the sap of the bark and produce small warts or granulations on it. They increase with astonishing rapidity, and the wind carries them from one tree to another by the light down in which they are enveloped, and thus they spread quickly from one orchard to another. Not a moment should be lost in destroying the first one that puts in an appearance.

REMEDY.

The following remedy is taken from the secretary's report, California State Board of Horticulture :

"Four pounds of rosin, three pounds of sal soda, water to make four and one-half gallons ; dissolve the sal soda in a few pints of water ; when thoroughly dissolved add the rosin ; heat until dissolved and add water finally. Use one and one-half pints of this solution to the gallon of water. Use at a temperature of 100 degrees Fahrenheit."

The application of any of the remedies used for the destruction of the Green Aphis are also recommended as being good. It is thought by this committee that owing to the dampness of our climate the Woolly Aphis will not infest the roots to any great extent, and that a shovelful or so of fresh ashes placed around the base of the tree will destroy those that may have commenced operations below the surface and prevent others from doing so. In the drier climates of the Interior and east of the mountains, it doubtless will be found that they will do their most destructive work out of sight at the roots. When this is known to be the case, the application of fresh gas lime has proved to be a lasting destroyer of the insect, and also a valuable fertilizer for the tree—a couple of shovelfuls for each tree, spreading it over the surface around the tree to cover about six feet in diameter. If the soil is deep and well drained, a much larger quantity may be safely used. Care should be taken not to put it around the body of the tree, as the solution of gas water formed by the rains might scald the bark. It will be well also to use in connection with the gas lime a shovelful of fresh ashes around the base of the tree. This will prevent possible migration of the Aphis from the roots to the upper branches.

This insect appears in two forms, one of which attacks the trunks of the apple tree, the other works under the ground and produces on the roots wart-like swellings and excrescences of all shapes and sizes. While it usually confines itself to the roots of trees, it is sometimes found on the suckers that spring up from the roots, and occasionally the mature lice crawl up the branches of the trees, where they also form colonies during summer, and then are known as the Woolly Aphis of the apple. The insect which attacks the trunk and limbs of the apple tree is of the same species as that which works on the root, having the same cotton-like covering. In October a considerable number of these appear with wings, having but little downy substance upon their bodies. Late in the autumn, the females deposit eggs for another generation the following spring, and thus furnish the parents of countless hosts to infest the trees another season.