

THE CANADIAN HORTICULTURIST.

In illustration we show Fig. 1396 an industry gooseberry bush before pruning, and in Fig. 1397 the same after pruning. These two illustrations are from bulletin of Geneva Experiment Station.

Mr. S. Spillett, of Nantyr, writes: I send you a pail of each variety of gooseberries that have borne that much this year. I never had such small Downings and Pearls. The severe scorching they got last year with mildew seems to have affected the vitality of the bushes.

For big berries Crosby leaves nothing to be desired. Autocrat also has done well.

Mr. F. W. Porter, of Mount Forrest, writes:

Although this is the worst season for Gooseberries I have seen for many years, what with spring frosts and the Aphis they are in a bad condition, still I think I can give you some fair samples of Whitesmith, but as we are later here than with you they had better be left on the bushes awhile longer to let them swell up. I had to cut my Industries down to the ground. The more tender Raspberries were killed in this neighborhood.

THE GRAPE LEAF HOPPER.

THE grape leaf-hoppers pass the winter in the adult state, hibernating under dead leaves or other rubbish, the survivors becoming active in spring, when they insert their eggs in punctures in the leaves of the vine. The yellow nymphs are hatched from these eggs during the month of June, and they resemble their parents except in size, and having no wings. During their growth, they shed their skins (which are nearly white) several times, and although exceedingly delicate and gossamer-like, the empty skins remain for some time attached to the leaves in a very life-like attitude. The nymphs feed together on the under sides of the leaves, and are very quick in their movements, hopping briskly about by means of their hind legs, which are especially fitted for this purpose. They have a peculiar habit of running sideways, and when they see that they are observed upon one side of a leaf, they will often dodge quickly around to the other. Each is furnished with a sharp beak or proboscis, with which it punctures the skin of the leaf, and then sucks out the sap; this produces yellowish or brownish spots on the upper surface. At first these spots are small and do not attract much attention; but as the insects increase in size, the spots often involve the whole leaf, which ap-

pears as though scorched, and often drops from the vine. Occasionally, vines become so far defoliated that the fruit fails to ripen. As the nymphs grow, diminutive wings appear, which gradually develop into the mature wings of the adult. With the full growth of its wings, it acquires such power of flight that it readily flies from vine to vine, and thus spreads itself in all directions. It continues its mischievous work until late in the season, when it seeks shelter for the winter.

The Clinton, Delaware, and other thin-leaved varieties suffer more from the attacks of these leaf-hoppers than do the thick leaved sorts like the Concord. These insects are sometimes quite abundant in a vineyard one year, and comparatively scarce the next. Their preservation, doubtless, depends much on favorable hibernating conditions. One should not wait until late in the season when the leaf-hoppers are full-grown and can fly, before beginning active warfare against them. When young nymphs, they can only hop about, and are also more susceptible to insecticides. As they suck their food from the interior of the leaves, the poisons can have no effect upon them.

Kerosene emulsion, thoroughly applied to the undersides of the leaves about July 1st, will check this pest.—R. N. Y.