

shown by Wallace & Co., of Illinois, and in it the pressure is furnished by compressed air made by a gear attached to one of the hind wheels of the wagon. Where the orchard is 40 rods or more from the filling point, it is claimed that enough pressure can be pumped up to spray out a tank full with the additional power gained by going from tree to tree. We thought the gas sprayer the finest instrument, but no doubt the Wallace machine will be much more economical in running. The difference in first cost is not great, the former a little less than \$100, the latter a little over that amount.



FIG. 2747. A TOPIARY GARDEN (See page 55.)

How San Jose Scale Spreads

AT an interesting Farmers' Institute meeting at Grimsby in January, Mr. Smith, of Burlington, gave an interesting talk about the dreaded San Jose scale. He had observed that certain trees, such as the Greening apple and the Japan plums, were especially subject, while other kinds, such as the Kieffer pear, are comparatively exempt.

Now it is usually supposed that these tiny scales are carried by the wind, or upon the feet of birds, from one orchard to another, but if so, why should one kind of tree escape and another be infested? Mr. Smith had found that the male scale is winged, and his observations have led him to the conclusion that this male carries the infant wingless mites and places them upon such trees as are the most congenial. If his inference is correct it reveals a wonderful degree of intelligence in such a tiny brain.

For winter and early spring spraying he advised the lime sulphur spray, and for summer the kerosene emulsion, 1 gallon of kerosene to 7 of water.

Onion Mildew

MR. A. J. COLLINS, of L'istowel, asks what is the trouble with his onions. For two years past, after growing nicely for some time, they seem to get a check, cease growing, and the tops turn brown and rusty. Several others in his neighborhood make a similar complaint. We referred this matter to Prof. Lochhead, O. A. C. Guelph, for his opinion, and have received the following in reply:

I am of the opinion that the cause of the death of the onions to which Mr. Collins refers is the downy mildew of the onion, a fungus which under certain conditions is quite destructive. The disease shows itself first by the yellowing of the leaves in patches. These patches soon become covered with a whitish mildew, changing soon to light lilac. Eventually the whole leaf becomes affected and dries up, leaving nothing but a stalk between the bulb and the base of the leaves. The white mildew, as first noticed on the patches of the leaf, consists of the fruiting body and summer spores of the fungus. The spores are soon liberated and scattered by the wind to other plants in the patch. In the fall, however, another