In the States of Minnesota and Dakota, where grasshoppers are numerous every year, and sometimes extremely so, and do a great deal of harm, one of the best remedies is supposed to be to plow up the stubble late in the autumn, by which the eggs are exposed to the winter frosts and laid bare so that they may be attacked by their enemies—predaceous birds, and other insects and animals. Where this is done, the occurrence of these insects next year is very much less, so much so that the State of Minnesota passed a law making it necessary for the farmers to plow their stubble in the autumn; and if they don't do it, it is done by the State, and the farmer is charged with the amount of the labor. The next means relied upon is a machine called the "hopper doser," or tar pan; and this consists of a pan ten feet long by two feet wide, turned up at the back 18 inches and at the sides are side pieces of wood or iron soldered in. To these at each end rings are attached and this pan is drawn over the fields or pastures—and you will probably all have noticed that grasshoppers are most injurious in pastures of long standing. That simply means where the eggs were laid. We find these insects are very particular as to the choice of a proper place to lay their eggs; and in this part of the country they are laid in old pastures. In the West they are laid in stubble fields; and where these stubble fields cannot be plowed regularly in the autumn it is found very profitable to draw the hopper-dosers across the fields in the spring. On the top of this pan is placed some gas-tar or kerosene emulsion, or water with a little kerosene on the top. These are drawn across the fields before the insects have got their wings. Roughly speaking, it would be about the 1st of July in Ontario when these insects develop their wings. The eggs hatch early in spring; the young grasshoppers pass five moults, and then they develop their full-grown wings; but before that is done they are very largely at our mercy, and if these tar pans are dragged over the fields they are gathered in great numbers. In Minnesota they are destroyed by thousands of bushels in the spring months. This is found a practical remedy. Probably in western Ontario, if these insects are in such numbers next year, it will pay farmers and others to apply this remedy to their pastures—because in the early part of the year the young grasshoppers live in the pastures or in the grass meadows; and although we do not notice them very much in the hay lands, they are generally there in very large numbers; they do not show so much and the extent to which hay lands can be injured without it being observed is very great. In experiments carried on by Professor Osborn in Iowa, 35 per cent. of the grass could be saved on crops which were measured out and treated by these pans being drawn over them three or four times during the early months. That being the case, how much better it would be for all farmers systematically to do this; for not only are there grasshoppers which destroy this important crop of grass, but there are numberless other smaller insects. These insects that Mr. Osborn was treating were a small leaf hopper, similar to that called thrip, on vines. This diminishes the crop of grass every year; and if these grasshoppers are abundant next year, farmers ought to be on the look out early to make use of this remedy, because until the insects get their wings they are unable to fly very far from where they are born. As to Paris green on turnips, it is very important for fruit-growers to know that it may be made to adhere to such plants as the turnip and cabbage, and all such as have that waxy glaucous covering, by mixing soap in the water before you mix the Paris green. As to Paris green not having effect on grasshoppers, I think possibly it had effect on a good many but their places were taken by many others. There is a remedy sometimes used in California—mixing bran and arsenic and sugar together; and this is made into a sticky paste, and about a teaspoonful is used about the bottom of each vine in vineyards. The grasshoppers do not fly very much in hot weather, and instead of mounting into the vines they ate this poisonous material and were killed. In experiments I tried five years ago at Ottawa, when the grasshoppers were very abundant, I made some of this mixture; but there I saw very little effect, because no sooner were the grasshoppers killed by this mixture than they were eaten up by their companions. A little flour in water will also make the Paris green stick. In regard to the plum

Spraying with Arsenites.

curculio discussion, it is a very important thing that we should recognize how we stand as to that. Either spraying Paris green is a good thing, or it is not. I am not con-