assumes a dormant state ; some burrow in the ground while others wrap themselves up in a silken cocoon.

Grasshoppers, etc., do not go through such complete stages. The larva of a grasshopper is very much like the perfect insect when born, except that it has no wings. This, then, is an exception but, as a general rule, there are four stages of existence

In the caterpillar, this rule about the six legs does not hold. There are, however, a series of legs, called pro-legs, which help the insects to move along. The majority of the insects are all supplied with these appendages which answer the purpose of legs There are some others, though, which do not. Taking it as a whole, then, this is the usual form in which these creatures are constructed ; but this is a very large subject and I will not have time to dwell on this any longer.

The next point is :

### The Mode in Which Insects Feed.

There are two kinds of insects—those that feed by biting with their jaws and those that feed by suction. You can see that if you want to kill a biting insect you would have to adopt a different plan than you would to kill a sucking insect. Horticulturists have to understand these two systems and to base their actions accordingly.

I was intending to tell you something about the different families, but I think I will change my line and say a few words about dealing with noxious insects. Everyone knows what plagues they are. Personally I am indebted to them.

A number of years ago a number of us formed an entomological society, and had great difficulty in getting along, having to depend entirely upon ourselves. We started a magazine. By correspondence we found that there was a scourge affecting the potato in the Western States. I had occasion to visit Chicago and found it to be true. We immediately set to work to learn all we could about it. I wrote an article in the Toronto *Globe* and one in the *Canada Farmer*, calling upon the Government to make some effort to keep this troublesome pest out of Canada. Our idea was by not growing any potatoes for some distance from the border, we might check their progress. The long and short of it was that we started to work and formed a committee for experimenting. It was found that Paris green was the one effective remedy. After this the Government of Ontario gave us an annual grant, which they have continued for some years past, and gradually increased to a thousand dollars a year.

Speaking of Paris green reminds me that it has now become the greatest means of destroying insects that has ever been discovered· It is generally delivered by means of pumps which send a fine spray through the foliage.

Another insect that gives a great deal of trouble is the codling worm, which burrows into the heart of the apple. This codling worm has been a very difficult worm to get rid of. The moth lays its egg in the eye of the future apple. It generally destroys the apple and it falls to the ground.

With regard to the use of Paris green by spraying the trees just when the apple is formed. The Paris green is spread all over the tree by means of the spray-pump When the caterpil'ar starts out of the egg to burrow into the apple, the first thing it does is to eat some of the Paris green and is consequently destroyed. The plum weevil will also be kept in check by spraying with Paris green. So far we have been dealing with biting insects.

We will now turn to those that live by sucking. It would be no use spraying anything on the foliage. You have to apply it to their bodies The remedy is coal oil, but if applied to the foliage direct, the plants would be killed. By experiments it was found that if this coal oil was mixed with water it would destroy the insects and yet not damage the foliage. However, water is not the best thing to mix it with. If you take some soap and water and make strong soap suds, it will make a better mixture than water alone ; it will form an emulsion and you can then keep it for any length of time. Use a