

caterpillars, fall web-worm, pear-tree slug, et cetera. The most important points to observe in the control of insect pests are: (1) prevention as far as possible; (2) strict attention to details in the preparation of the remedy to be employed; and (3) thoroughness and timeliness of application.

Preventive measures are usually the cheapest and the most easily accomplished. They are, first, clean culture; that is to say, not allowing rubbish to accumulate on the land. When the crops have been gathered, remove, or destroy if necessary, all waste material from the land; do not wait until the spring to do clean-up; there is too much other necessary work to attend to at that time. In the final cleaning-up in the fall gather all waste material into convenient heaps on the land and allow them to remain there until frosty weather sets in; these will prove attractive traps for a large number of insect pests which are looking for comfortable winter quarters to hibernate in. They should then be burned where they lie. This will destroy many pests. A further method of prevention which should not be neglected is that of spraying before insect pests have commenced to do injury. This is also economical and will save a great deal of trouble and expense during the growing season.

There are, however, important and essential points necessary in accomplishing this successfully. These are a knowledge of what is to be sprayed for, what spray to use, and when to apply it; also of whether the number of such particular pests will be sufficiently great or destructive to warrant the expenditure of the time and material necessary. It is quite obvious that the grower, to be able to decide this for himself, must have a fair knowledge of the pests he is about to contend with. Unfortunately the general conditions in British Columbia have reached a point where it is in most cases necessary to apply an annual dormant

spray in the orchards. If the fruit-grower cannot decide for himself what his orchard actually requires, his local inspector can give him much assistance in the matter, providing the grower will take him sufficiently into his confidence. Many growers seem to have a tendency to hide what may appear to them a slight infestation only of an insect pest, either in fear of dire penalties or else through ignorance of the nature of the insect in question, which may not appear to be harmful. In either case there is the great danger of ultimate severe losses, not only to the individual grower, but to the whole community should it prove to be a serious pest.

In the present day of severe competition growers must endeavour to become acquainted to some extent with the insect pests they have to contend with and the proper time and methods of control. In this matter lies, to a great extent, the secret of success in farming. It is a great matter to the grower whether he has a 90-per-cent, perfect crop or only 25 to 50 per cent. Culls and injured crops have little market value. Economy in production is an ideal basis to work on, but where to economize is a problem to be solved by each individual producer, and he should not make a start by reducing the quality of his marketable crops.

Growers are particularly requested to send in specimens of insects with which they are not acquainted, and these will be identified for them. This would materi-



Fig. 13. Apple-aphis. (1.) Stage of development of the buds when first control spray can be effectively applied. (2.) In this stage of development spraying is not effective. (3.) Stage of development when a second application is most effective. (Figs from Circular 22, Geneva Experiment Sta., N.Y.)