



Garden Hygiene and Use of Organic Garden Refuse

JUST as hygiene in the general sense plays a large part in the control of human ailments, so the practising of hygiene in the garden will help to a very large extent in controlling many of the diseases and pests which beset garden crops. In this article, B. P. Coleman, Horticultural Instructor, Department of Agriculture, Auckland, discusses garden hygiene and disposal of garden refuse; the importance of garden hygiene on crop production; and the utilisation of garden refuse in building up and maintenance of a soil of high organic content.

BY many gardeners it is accepted that at certain times of the year plants are attacked by diseases or pests and that the only control is by the direct methods of spraying or laying poison baits. The merits of those methods of control are not to be disputed, but the gardener might well consider where these pests and diseases come from, where they go between the times when they attack crops, and what can be done during the "off-season" to reduce their numbers.

A brief study of the life cycles of some of the diseases and pests suggests that good garden hygiene will assist in control. For example, insects go through varying life cycles which for some include egg, caterpillar or grub, pupa or chrysalis, and adult. Insects may overwinter in the egg stage, in the form of a chrysalis, or in some instances as adults which hibernate. However, though different kinds of pests overwinter in different stages, they all seek shelter during winter to protect them from cold, wet, or attack by birds and other predators. It is

also important for their existence that they should not be disturbed, particularly in the chrysalis stage, as any upset may cause the death of the developing insect.

The most common hiding places are in dark situations well protected from weather, though eggs are more often laid in crevices on the plants themselves, where they manage to survive in winter.

To deal with insects during winter all hiding places should be eliminated as far as is practicable; this includes removal of all litter from the garden and the collection of boards, tins, pieces of sacking, or stones and any other such hiding places which may shelter overwintering pests. It is important also that weeds should be kept under control, because many of them give a good deal of protection to pests in cold weather.

Fungous and bacterial diseases may overwinter on suitable host plants or may even be carried over in the soil. Some measure of control can be obtained by destroying all weeds and the remains of garden plants. Apart

from the direct control by spraying, little can be done with perennials or shrubs and trees.

Virus diseases, which cannot be controlled by spraying, manifest themselves in a number of ways, including distortion of foliage and twigs, stunted growth, yellowing of leaves, or sometimes only in a general debility in plants. Viruses exist in the sap of plants at all times of the year, though they appear to be more active during the growing season. Many of the viruses which attack garden plants are also to be found on related weeds and consequently there is considerable merit in destruction of weeds at all times of the year, including winter, for reducing the incidence of virus as well as of fungous and insect troubles. Virus diseases are also spread in some instances by insects and therefore the control of insects of certain species, particularly aphides and thrips, contributes toward reduction of the spread of virus diseases. Seriously affected plants should be destroyed by burning, because virus diseases cannot be cured by any known practical method.

Pests such as slugs, snails, and slaters (woodlice) are usually most active during spring and autumn and hide during the daytime. During the

HEADING PHOTOGRAPH: Digging in weeds and green material to increase organic matter. Sparrow photo.