

over, the shorter time a plant stands in nematode-infested land the fewer will be the generations of worms dwelling on it and, hence, the lighter the infestation.

As stated above the value of the material as a fertilizer should be deducted from the cost, when figuring the cost of the treatment. Indeed, on some seedbeds, such as celery, larger amounts of nitrogen to the acre are regularly applied than is contained in 600 pounds of cyanide and 900 pounds of ammonium sulphate. Ordinarily it will be necessary for the grower to apply only potash and phosphoric acid after treatment.

Sodium cyanide alone does not seem to be nearly as efficient as when used in combination with ammonium sulphate. The latter is necessary to hasten the decomposition of the cyanide and thus free the hydrocyanic acid gas. When used alone, the cyanide remains in the soil a long time and greatly lengthens the time between treatment and planting.

In addition to nematodes this treatment will free the land from many other pests; such as, ants, wireworms, white grubs, mole-crickets and, indeed, all insect life and possibly some fungi. Of course, many of these pests will come back after treatment. Most weeds also are killed out, altho those with large seeds, like coffeeweed, will spring up after treatment.

TREATMENT OF TREES AND OTHER LIVING PLANTS

All the chemicals cited above are, of course, applied to fallow land and not living plants. At the present time no chemical is known that is entirely safe to use on living plants and, at the same time, will kill nematodes. Of all well tried chemicals carbon bisulphide comes nearest to being such a compound. If the dosage is properly regulated, it can be used to fumigate the soil about the roots of plants without killing them. It is not practicable by this means, however, to kill all the nematodes; and except, perhaps, in the case of very valuable plants, such as choice roses, the result hardly justifies the trouble and expense.

A slanting hole is made under the plants and a little carbon bisulphide is poured into it, after which the soil is tramped solid over the hole to confine the fumes. These holes should be from a foot to 18 inches apart. The shorter distances are for clay and other stiff soils; the longer for loose sandy soils thru which the fumes can penetrate readily.

It is particularly important that susceptible species of long lived plants, such as trees and shrubs, should be planted in soil