

dust; (c.) Carbolic acid emulsion; (d.) Kerosene; (e.) Turpentine; (f.) Coal tar; (g.) Naphthaline; (h.) Zenoleum and Creolin compounds; (i.) Tanglefoot, etc.

(a.) *Bordeaux Mixture*.—This mixture keeps away flea-beetles from potato leaves when applied as a fine spray.

(b.) *Tobacco dust*.—In the case of certain garden crops fine sprinkling of the ground when it is moist with refuse tobacco dust not only fertilizes the soil but also repels the striped cucumber beetle and the melon aphid.

(c.) *Carbolic acid emulsion*.—Carbolic acid is a repellent, as well as an irritant and stomach poison, and in various forms is used for the control of insects. Reference has already been made to its use as a contact insecticide. As a repellent it is added to a solution of washing soda or lye as a protective wash against borers in orchards and shade trees; as an emulsion with soap against root-maggots of cabbage and onion; and often also used in poultry house against biting lice and mites.

(d.) *Kerosene*.—(e.) *Turpentine*.—And (f.) *Coal tar* are sometimes mixed with saw-dust, sand, or other material; when placed around plants or seeds they are said to have a repellent action towards insects.

(g.) *Naphthaline*.—This substance is the basis of camphor balls, and is commonly used as a preservative of household good and wearing apparel against the attacks of clothes' moths and other insects.

(h.) *Zenoleum and Creolin compounds*.—Some excellent compounds of creolin and related substances are prepared as repellents against flies that bother cattle, and against biting lice and mites of poultry. The cow horn-fly may be controlled by the use of such substances.

(i.) *Tanglefoot*.—A sticky substance, is used as fly-paper and as sticky bands for trees to prevent caterpillars such as those of Gypsy moth and Tussock moth from ascending.

### 5. The Use of Protectors.

Various forms of protectors are used to ward off insect attacks. The application is confined mainly to the orchard and garden. The following methods are those most commonly in use:—(a.) Metal or sticky bands; (b.) Cheese-cloth or muslin screens; (c.) Wire-netting.

(a.) *Metal or sticky bands*.—To protect trees from the attacks of climbing caterpillars such as the Tussock and the Canker worms,