

the market, needing only the addition of soft water to make them ready for use. They are quite easy to mix if the following instructions are carried out: Take one part of red oil and place it in a bucket (a benzine-tin answers admirably). Next take one part water and pour this into the vessel containing the oil. Stir or agitate the mixture, and an emulsion is readily formed. It is then ready for further dilution as may be required. Should the water be very hard a little soda should be dissolved in it before mixing.

The following strengths are recommended, but may vary slightly according to the locality and time of application:—

Pip-fruits.—1 gallon red oil to 10–15 gallons water, applied towards the end of August or the beginning of September. Trees badly affected with woolly aphid may be sprayed with red oil, 1–60, as soon as the fruit is gathered.

Stone-fruits.—1 gallon oil to 12 or 15 gallons water, in early spring, but when the trees are dormant. Trees affected with San José scale in autumn should be cleaned up with lime-sulphur sprays before they become dormant.

Citrus-fruits.—1 gallon oil to 40 gallons water. Apply in spring, after an inch or so of growth has been made; also in autumn, towards the end of March, when the summer crop has been gathered.

Nicotine Concentrate (Black Leaf 40).—This is a safe and efficient insecticide for use during the growing-period. Use one part of Black Leaf 40 to 1,200 parts of water, first adding 3 lb. or 4 lb. of dissolved soap to the 100 gallons water. The soap is an important ingredient, but when using Black Leaf 40 in combination with other sprays the soap should be omitted.

Lime-sulphur Concentrate.—This mixture has some insecticidal qualities; they are chiefly useful in the control of red mite and San José scale. For details of strength of mixture see "Fungicides."

FUNGOID DISEASES.

Following are some of the principal fungoid diseases: Black-spot on apple and pear, leaf-curl on peaches and nectarines, bladder or pocket plums on plums, powdery mildew on apples, shot-hole fungus on apricots, brown-rot of stone-fruits, and verrucosis of citrus-fruits.

FUNGICIDES.

There are three in general use:—

(1.) *Bordeaux Mixture.*—In this the active agent is bluestone (sulphate of copper) temporarily neutralized by combination with quicklime, both being dissolved in water. In recipes the ingredients are quoted in this order. The right method of mixing these ingredients is most important and should be carefully followed. To make bordeaux, 8–6–50, dissolve 8 lb. bluestone in 25 gallons water. This may be done by placing the bluestone in sacking and suspending it in the water. Take 6 lb. of good quicklime and slake it in another barrel, using a small quantity of water; then dilute it up to 25 gallons. Pour the two solutions simultaneously into the spray-tank, and the mixture will