

# Aphids And Their Control In Greenhouses

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Aphids or plant lice are familiar to every florist. Some refer to them as "green flies" or "black flies", regardless of the name used to identify them, they are still the persistent pest against which perpetual warfare must be waged.

Aphids vary in size and color depending upon the species. The legs and antennae are long, fragile, and usually conspicuous. They may be usually distinguished by the presence of two tubelike structures, on the top half of the abdomen near the posterior end, called cornicles. Adult aphids may be winged or wingless, however, in the greenhouse wingless forms are much more prevalent.

Aphids have the ability to reproduce parthenogenetically or by direct growth of germs from egg-cells without fertilization by the male. Females produce living young instead of eggs in many cases. The young or nymphs become mature in as little as 10 days and begin to produce more aphids. Therefore, with this great reproductive power, a few aphids are a threat to a whole greenhouse.

Damage by aphids is exhibited in several ways:

(a) by sucking sap from plants they cause distorted, curled and discolored leaves, plants with reduced vigor, as well as, hardened buds and misshapen flowers. In the feeding process, saliva is injected into the plants. It is possible that much of the damage attributed to the extraction of sap may be due to the injection of saliva. (b) Aphids spread plant diseases, especially virus diseases. (c) The production of honeydew by aphids causes shiny, sticky spots on the leaves of plants. This, however, is not as serious as the development of an ugly black, soot-like fungus which develops in the honeydew. When this occurs, the plants are so unsightly that they are not saleable.

## Control

There are many natural enemies of aphids such as ladybird beetles and their larvae, aphid lions, surphus fly larvae and parasitic wasps. In the greenhouse, however, we cannot depend wholly upon natural enemies to control harmful insects on this high priced crop. Therefore, chemicals must be used. The following have been used to control aphids successfully:

| Insecticide and Formulation                   | To Mix            |            |
|---|-------------------|------------|
|   | 1 Gallon          | 25 Gallons |
| Malathion 50% emulsifiable concentrate        | 2 teaspoons       | 1/2 pint   |
| Malathion 25% wettable powder                 | 2 tablespoons     | 1/2 pound  |
| Lindane 20% emulsifiable concentrate          | 1 teaspoon        | 1/4 pint   |
| Lindane 25% wettable powder                   | 1 tablespoon      | 1/4 pound  |
| Nicotine sulfate 40% emulsifiable concentrate | 1 1/2 teaspoons   | 1/3 pint   |
| Demeton* 20% emulsifiable concentrate         | 1 1/2 teaspoons   | 1/3 pint   |
| Parathion* 15% wettable powder                | 1 1/2 tablespoons | 1/3 pound  |
| Parathion* 25% emulsifiable concentrate       | 1 teaspoon        | 1/4 pint   |
| TEPP* 40% emulsifiable concentrate            | 1/4 teaspoon      | 1/16 pint  |

\* All insecticides should be regarded as poisonous to humans. For your sake, read and heed all precautions, especially on labels of demeton, parathion and TEPP.

In addition to the above listed sprays, all the insecticides, except demeton are available as dusts and aerosols. Nicotine is also available as a fumigant for spot treatments in greenhouses. Demeton may be used also as a soil drench at the above rate. Use about 1 quart of the solution to a 10 inch pot.

If there is any doubt regarding the safe use of an insecticide on certain plants, always treat one or two plants and not the whole range. Also, if susceptibility to insecticide damage is great, consider dusts, areosols, wettable powdes and emulsifiable concentrates in that order. Emulsifiable concentrates are likely to cause most damage. Therefore, be sure that the insecticide you plan to use is specially formulated for use on greenhouse plants.

Apparently no one insecticide is safe on all plants. The following insecticides have caused damage to the listed plants:

Malathion: Poinsettas, African violets, ferns, caldonia and Talisman roses. At high temperatures-gloxinas and red carnations.

Parathion: Roses, hydrangea, ferns, poinsettas, Christmas star azalea, asters, glad-iolus and African violets.

TEPP : Cyclamen, carnation, dahlia and hydrangea.

Always remember, greenhouse plants are grown under artificial conditions. They are extremely succulent and consequently more susceptible to chemical injury.