



## CORNELL COOPERATIVE EXTENSION - SUFFOLK COUNTY



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### Using Insecticidal Soap in Your Home Garden or Landscape

These specially formulated soaps contain potassium or sodium salts of certain fatty acids. They have become popular because of their low toxicity to humans, pets, and many beneficial insects.

Insecticidal soaps are one of the safest choices available for controlling pests in the garden or on ornamental plants. They control adelgids, aphids, mealybugs, whiteflies, mites, and other pests.

Insecticidal soaps work only on contact, so the spray solution must coat the pest. Once the spray has dried, an insect will not be harmed by walking over the residue. For example, spraying only the upper leaf surface will leave whiteflies alive and healthy because they usually feed on the undersurfaces of the leaves. Whitefly immature stages move little or not at all and will not be killed by contact with the wet material.

Spray only when and where an infestation appears, not as a preventive measure. Symptoms such as leaf or shoot distortion, sooty mold, and holes in leaves require further investigation to determine the cause and the extent of an infestation. Once you find the pest, treat only affected plants or spots.

Watch for phytotoxicity, an adverse plant reaction, or injury, from the soap treatment. Symptoms on foliage include yellow or brown spotting, “burned” tips, and yellow or brown scorching on leaf edges. Soap spray may also cause marking on certain pome (e.g., apple, pear) and stone fruit varieties. Phytotoxicity is perhaps most people’s greatest concern when using insecticidal soap.

#### Avoidance of Plant Injury

1. Do not use insecticidal soap on plants that are under stress. Drought is a major stress factor. Newly planted ornamentals, transplants, and unrooted or newly rooted cuttings are under stress and should not be sprayed until they are well established. Conifers are particularly susceptible when under drought stress. Make sure plants are well watered before treatment.
2. Avoid treating sensitive plants.

The following plants may show phytotoxic reactions after treatment:

Common Name	Scientific Name	Common Name	Scientific Name	Common Name	Scientific Name
Horsechestnut	<i>Aesculus hippocastanum</i>	Bleeding heart	<i>Dicentra formosa</i>	Lantana	<i>Lantana spp.</i>
Mountain ash	<i>Sorbus americana</i>	Sweet pea	<i>Lathyrus odoratus</i>	Nasturtium	<i>Nasturtium spp.</i>
Japanese maple	<i>Acer palmatum</i>	Maidenhair fern	<i>Adiantum pedatum</i>	Easter lily (during bud formation)	<i>Lilium longiflorum</i>
Gardenia	<i>Gardenia spp</i>	Crown of thorns	<i>Euphorbia milii</i>		

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Certain varieties of azalea, begonia, camellia, fuchsia, geranium, and impatiens may be sensitive. Rinse these plants with a clean water spray if they show signs of wilting within a few hours after treatment. Test a small portion of palms, delicate ferns, ornamental ivies, and succulents before treating an entire plant or area.

3. Wait for new growth to harden off before treating. Tender, young foliage of evergreen trees or shrubs is especially sensitive. Fruit and nut trees in bloom should not be sprayed. If in doubt, test a small part of the plant first. If the plant is sensitive, phytotoxic symptoms will appear within 48 hours.
4. Do not apply if the temperature is above 90°F. or the plant is in full sun. High temperatures and high relative humidity may increase plant stress and therefore sensitivity. The best time to apply insecticidal soap is early morning.

### **Compatibility with Other Pesticides and Fertilizers**

Insecticidal soap is compatible with many pesticides but should not be mixed with rotenone-based insecticides, Manzate, Dithane, lime sulfur, copper sulfate, or copper fungicides such as Bordeaux mixture. It should also not be combined with concentrated mineral fertilizers for spraying on foliage.

### **Compatibility with Water**

Use soft water or demineralized water to dilute insecticidal soap. Hard water is unsatisfactory because soap combines with and is precipitated by certain minerals, especially calcium, iron, and magnesium that are in hard water. If you are not sure if your water is hard, you can test by allowing a quart of prepared spray solution to stand for 15 minutes. The solution should be a light, milky color. A scum or curd of soap scale on the surface indicates hard water. If you have hard water, use distilled water for dilution, or use a premixed ready-to-use product instead.

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Reprinted from “Insecticidal Soaps” *2009-2010 Pest Management Around the Home Part II – Pesticide Guidelines*. Copies are available from Cornell Cooperative Extension – Suffolk County.

The Pesticide Management Education Program (PMEP), in cooperation with the New York State Department of Environmental Conservation (NYSDEC), maintains a web site with a searchable database for pesticide products currently registered in New York State. Individuals who have Internet access can locate currently registered products containing the active ingredients suggested above at <http://pmep.cce.cornell.edu/pims/current> (NYS PIMS).

**This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available, and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (NYSDEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional NYSDEC office. Read the label before applying any pesticide.**

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