



## Bug-Wise

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**First Issue:** This is the first issue of the Bug-Wise Newsletter. This newsletter will focus on non-commercial entomological issues affecting Mississippi homeowners and consumers. It will include topics related to insect pests of ornamental and vegetable plants, household and structural pests and entomological topics of general public interest. The primary goal of the newsletter is to provide extension clientele with timely information that will aid them in addressing insect related problems that affect their daily lives. Initially, this newsletter is being sent to County Directors, Area Horticultural Agents, and other related extension personnel. We also hope to be able to get this information relayed to Master Gardeners. However, if you know anyone who would like to receive this newsletter, please send their name and address to Bug-Wise, Box 9775, Mississippi State, MS 39762. We anticipate publishing approximately 15 issues of Bug-Wise yearly, on an irregular, as-needed basis.

**Diamondback Moth, Imported Cabbageworm, and Cabbage Loopers:** These are the caterpillar pests that most commonly cause problems on spring-grown broccoli, cabbage, collards, and other cruciferous vegetables. These three caterpillars can be easily distinguished from one another, but this is not really necessary as the insecticides listed below are effective against all three species. However, neither of these insecticides will control harlequin bug or other non-caterpillar pests (except that spinosad is effective against leafminers).

Diamondback moth: These small, quick-moving green caterpillars are less than ½ inch long when fully mature and taper toward both ends of the body.

Imported cabbageworm: The skin of these caterpillars has a velvety texture and is green with yellow markings. Mature larvae are slightly over 1 inch long.

Cabbage looper: Because this caterpillar has only 3 pair of ‘false legs’, it moves in a looping, or inchworm-like, motion. Mature larvae are green with a white stripe down each side and about 1 ½ inches long.

### Insecticides Recommended for Control of Caterpillar Pests on Cole Crops in Home Gardens \*\*

Active ingredient	Brand Name*	Pre-harvest interval **
B.t. kurstaki	Thuricide	Up to day of harvest
Spinosad	Fertilome Borer, Bagworm, Leafminer, & Tent Caterpillar Spray	1 day
	Monterey Garden Insect Spray	1 day
	Conserve Naturalyte Insect Control	1 day

\* Brand names are given as examples only. Other appropriately labeled products containing the same active ingredients should be equally effective.

\*\* Verify pre-harvest intervals and use recommendations by reading the label of the specific product being used.

**Lesser Canna Leafroller:** This is the caterpillar that can be so damaging to cannas by tying together the whorls of newly forming leaves and feeding inside. This is a persistent pest of cannas in Mississippi and many people have been discouraged from growing cannas because of the unsightly damage it causes. Properly applied insecticide sprays can help keep this pest in check, but there is one very useful non-insecticidal control that can be implemented now. Cannas appear to be the only host of this pest, and it overwinters as pupae in last year's old leaves. Therefore **removing and destroying the old leaves and associated debris from canna beds before spring green-up will greatly reduce the number of first generation moths present this spring.** This is information you may wish to share with any neighbors who also have cannas.

**Dormant Oil Sprays for Scale Control:** Horticultural oil sprays are one of the most effective means of controlling many species of scale insects, and late winter is one of the best times to apply these treatments. Horticultural oils are specially formulated petroleum based oils that contain an emulsifying agent to allow them to be mixed with water, usually at a rate of 1 to 4% oil. These treatments will also provide control of spider mites, whiteflies, aphids and other similar pests, if they are contacted by the treatment. Shrubs and trees that were known to have heavy scale infestations last fall should be considered as special candidates for these treatments. Oil sprays kill insects and their eggs by suffocating them and/or by causing physiological disruptions, but **only pests and eggs that are directly contacted by the spray solution will be controlled.** This means that it is important to use adequate amounts of spray and to achieve thorough spray coverage when applying oil sprays. It is also important to be sure that the spray solution is thoroughly mixed before beginning application and that it remains well mixed during application.

There are two basic types of horticultural oils that are used to control insects on woody ornamental plants and fruit trees. Both are specially formulated petroleum based oils, not vegetable oils. 'Summer oils' are highly refined paraffinic oils that may be used on growing, leafy plants during the summer, as well as during dormant periods. However, the recommended use rate for summer is normally lower than for dormant periods. 'Dormant oils' are heavier weight oils, which evaporate more slowly and thus provide better insect control, but are also more likely to injure green plant tissue. Therefore true 'dormant oils' are intended to be used only when the plant is dormant (before bud-break in the spring) or in the 'delayed dormant' stage (when buds are just beginning to break, but there is less than ¼ to ½ inch of green growth). Most of the horticultural oils available for home use today are 'summer oils', but be sure to check the label for recommended rates and time of use. Oil sprays are generally more effective when applied at, or just before, the delayed dormant period, because the insects and/or eggs are also becoming more metabolically active at this time, making them more susceptible to the treatment. Note that the brand names of these horticultural oil sprays can be somewhat confusing. Some 'summer oils' use the words 'dormant' in their brand name, but the label indicates that they may also be used during the growing season.

It is important to carefully and thoughtfully read the label before applying oil sprays. **Oil sprays can cause plant injury under certain conditions** and some species of plants are especially susceptible to injury from oil sprays. These sensitive plants should be listed on the label. Because plants treated with oil are more susceptible to freezing injury, avoid applying oil sprays within 24 hours of temperatures below 40 ° F. Also avoid treating when temperatures are above 90 ° F. There are also cautions against applying oil sprays with certain insecticides or with certain sulfur-containing pesticides. Despite these cautions, dormant and delayed dormant horticultural oil sprays are important tools for controlling infestations of scale and other insects. Because these treatments provide no residual control, they are less disruptive to beneficial insects, which also play an important role in controlling scale insects. Examples of currently available horticultural oils include: Hi-Yield Dormant Spray, Bonide All Seasons Horticultural & Dormant Spray Oil, Monterey Saf-T-Side, Fertilome Scalecide, Fertilome Dormant Spray & Summer Oil Spray, and Ortho's Volck Oil.