

Insect Control Recommendations

EXTENSION DIVISION
Virginia Polytechnic Institute and State University.

INSECT PESTS OF CHRISTMAS TREES

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Effective control of insects and mites in Christmas tree plantations requires proper timing and thorough application of insecticidal sprays. Growers should be familiar with the identification, habits, and seasonal development of the major pests. Be sure to follow the directions for safe use on the container labels and apply only the recommended amounts of chemicals suggested for control. Be sure to keep wettable sprays well agitated in the tank while spraying.

Abbreviations: EC - emulsifiable concentrate; E - emulsifiable; WP - wettable powder; S - sprayable powder; liq sol. - liquid solution; tbsp. - tablespoon; tsp. - teaspoon; qt. - quart; pt. - pint; lb. - pound; AG - designation for proper EC on plants.

Pest and Host	Insecticide	Formulation	Amount to Use In		Remarks
			3 gal.	100 gal.	
APHIDS - free living White pine, Scots pine, fir	diazinon	AG 500	1 tbsp.	1 pt.	Aphids may infest needled or bark. Usually active beginning in May until late summer. Make applications when stem mothers first appear to prevent buildup of infestations. Controls are effective against adults and nymphs.
		50% WP	3 tbsp.	1 lb.	
	malathion	57% EC	2 tbsp.	1½ pt.	
		25% WP	7 tbsp.	2½ lb.	

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Pest and Host	Insecticide	Formulation	Amount to Use In		Remarks
			3 gal.	100 gal.	
BAGWORM arborvitae, red cedar, spruce	carbaryl (Sevin)	80% WP 50% WP	3 tbsp. 6 tbsp.	1½ lb. 2 lb.	Carbaryl has the longest residual but may cause mite buildup on conifers; add a miticide if carbaryl is used (see Mites). Treat in early to mid-June. Caterpillars are difficult to kill as they become larger. If a few bags are found on plants in late fall to spring, remove and burn them prior to May 15.
	diazinon	AG 500 50% WP	1 tbsp. 3 tbsp.	1 pt. 1 lb.	
	malathion	57% EC 25% WP	2 tbsp. 12 tbsp.	1 qt. 4 lb.	
	trichlorfon (Dylox)	80 SP	3-3/4 tbsp.	1½ lb.	
MITES, SPRUCE MITE spruce, red cedar, arborvitae, pines, hemlock	dicofol (Kelthane)	35% WP	4 tbsp.	1 1/3 lb.	It is important to spray <u>either</u> early in May or in early fall. Mid-summer sprays may not be as effective. Tedion is primarily toxic to eggs; chlorobenzilate is effective against active stages, while Kelthane may have some effect on eggs, in addition to being highly toxic to active stages. Other miticides may be used if available.
PINE TIP MOTH Scots, Austrian, loblolly, red pine	dimethoate (DeFend, Cygon)	2.67 E 2 E	3 tbsp. 4 tbsp.	3 pt. 4 pt.	Thoroughly wet entire tree, especially buds. Apply the first spray in mid to late April and repeat in early June.
	trichlorfon (Dylox)	80 S	3-3/4 tbsp.	1½ lb.	Spray to run-off in mid-April and late May
PINE WEBWORM	diazinon	AG 500 50% WP	1 tbsp. 3 tbsp.	1 pt. 1 lb.	Spray in late July or early August when webs are first beginning to form. Larvae drop to pupate in soil in September. There have been reports of larvae and webbing in mid- to late June. Treat during June if new webbing is found.

Pest and Host	Insecticide	Formulation	Amount to Use In		Remarks
			3 gal.	100 gal.	
SCALE INSECTS Scots, red, Austrian, Virginia pine	malathion	25% WP	12 tbsp.	4 lb.	Sprays for pine needle scale should be applied about May 15-20 when eggs hatch. Good results can be obtained by spraying for the second generation, July 10-20. For pine tortoise scale treat about mid-June and repeat in 7-10 days for most effective cleanup.
	-----	57% EC	2 tbsp.	1 qt.	
-----	-----	50% WP	3 tbsp.	1 lb.	
-----	-----	AG 500	3 tsp.	1 pt.	
WHITE PINE WEEVIL white pine, Scots pine, Norway Spruce	lindane	20% EC	3 tbsp.	3 qt.	Spray only the main upright terminal, not the entire tree. Coverage is especially important just below the terminal bud. Add a spreader-sticker at rates given on the label. Treat prior to April 1, or before adults begin feeding on trees and laying eggs.

Trade and brand names are used only for the purpose of information and the Virginia Cooperative Extension Service does not guarantee nor warrant the standard of the product, nor does it imply approval of the product to the exclusion of others which may also be suitable.

KEYS TO PROPER USE OF PESTICIDES

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.
2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.

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IMPORTANT NOTE

According to the regulations of the amended Federal Insecticide, Fungicide, and Fertilizer Act of 1972, it is illegal to use pesticides in a manner not specified on the pesticide label. There are many insecticide uses that have been recommended in the past which are not included on currently approved labels. Consequently, those uses have been deleted from the recommendations. In some cases, such as pales weevil, pine bark aphid, sawflies, and spittlebugs, there are no recommendations to provide. As approved uses are found and developed, they will be added to this publication.