

Insect Control Recommendations

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EXTENSION DIVISION

Virginia Polytechnic Institute and State University,

INSECT PESTS OF COMMERCIAL TURFGRASS

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Control of insects and mite pests of turfgrass is best achieved by considering the pests in above-ground and below-ground categories. For the latter, it is essential to get chemicals into the soil; for the former, the grass blades and ground surface should be treated so as to get a minimum of washoff and soil penetration by rain or watering. In general, emulsifiable concentrates provide the greatest residual on grass blades and the least immediate penetration into the soil. Wettable powders provide good residual, but dust and granular formulations rapidly move down into the thatch and soil. White grubs (masked chafer, May beetle, Japanese beetle, etc.) digger wasps, and ants are below-ground pests. Sod webworms, armyworms, and chinch bugs inhabit the thatch near the soil surface, but feed on grass blades. Leafhoppers, frit flies, billbugs, and mites move and feed on grass blades.

CAUTION: Be sure to consider drainage, slope, type of soil, and general area use to avoid contamination of water sources. Avoid using treated areas immediately after application.

NOTE: The following recommendations for dosage are given for 1,000 sq. ft. of area. Abbreviations used are: EC = emulsifiable concentrate; WP = wettable powder; D = dust; G = granular; tbsp. = tablespoon; AG = indicates the proper EC formulation for agricultural uses.

| Insect Pests | Insecticide | Formulation | Amount to Use | | Remarks |
|--------------|-------------|-------------|-------------------|--|---|
| | | | Per 1,000 sq. ft. | | |
| ANTS | carbaryl* | 10% G | 2 lb. | | Use as localized treatments on ant mounds and nest areas. A general area application may be necessary for ants. Water-in immediately after application. |
| | (Sevin) | 50% WP | 8 oz. | | |
| | dursban ** | 22% EC | 1½ fl. oz. | | |
| | | 41% EC | ¾ fl. oz. | | |
| | diazinon | 25% EC | 8 oz. | | Do not water for at least 2 days after application. |

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| Insect Pests | Insecticide | Formulation | Amount to Use Per 1,000 sq. ft. | Remarks |
|-------------------|-----------------------|-------------|------------------------------------|---|
| CHINCH BUG | carbaryl* (Sevin) | 50% WP | 6 oz. | Water prior to treatment. Mix the suggested amount of insecticide formulation with 25-30 gal. of water for treating each 1,000 sq. ft. If granular formulations are used, water-in following application. Apply first treatment in late May to early June, repeat 2-3 weeks later. Only one application of aspon is necessary. Where infestations are discovered later in the season, treatments may be applied when insects are found. Grub-proofing treatments will not control chinch bugs. Keep children and animals off aspon-treated areas until product has been watered in and area is dry. Do not water for at least two days after application. |
| | | 80% S | 4 oz. | |
| | | 10% G | 2 lb. | |
| | diazinon | 50% WP | 6 oz. | |
| | | AG500 EC | 6 oz. | |
| | (Spectracide) | 2% G | 7.5 lbs. | |
| | dursban** | 22% EC | 1½ oz. | |
| | | 4 M | ¾ oz. | |
| | aspon | 6 EC | 4 fl. oz. | |
| | | 5 G | 3½ lb. | |
| ethion | 50% EC | 3 fl. oz. | | |
| | 5% G | 5 lb. | | |
| trithion | 25% EC | 12 oz. | | |
| CUTWORMS | carbaryl* (Sevin) | 50% WP | 8 oz. | Applications in the evening are preferred and should not be watered in following treatment. Sprays are preferred; apply by mixing with 20-40 gal. of water. Do not cut grass for 1-3 days after application. |
| | | 80% S | 4 oz. | |
| | dursban** | 22% EC | 1½ oz. | |
| | 41% EC | ¾ oz. | | |
| FRIT FLY | diazinon | AG500 EC | 2-4 fl. oz. | Mix the amounts in 3 gal. of water to treat 1,000 sq. ft. NOTE: Mow grass; water it thoroughly before treatment. Do not spray until grass dries. Do not water again until necessary. |
| | | 50% WP | 2-4 oz. | |
| LEAFHOPPERS | diazinon | AG500 EC | 1.25 fl. oz. | Use spray formulations only, mixing the amounts in 10-15 gal. of water. Do not water-in treatments. Do not cut grass for 2-3 days following application. |
| | | 50% WP | 1.25 oz. | |
| MITES (Clover) | dicofol (Kelthane) | 18.5% EC | 5 tbsp. | Mix the amounts in 3 gal. of water to treat 1,000 sq. ft. A second application may be necessary 10-14 days later. Apply in spring and/or fall when mites appear. |
| | | 35% WP | 4 tbsp. | |
| | diazinon | AG500 EC | 4 fl. oz. | |
| | | 50% WP | 4 oz. | |
| | dursban | 41% EC | ¾ oz. | |

| Insect Pests | Insecticide | Formulation | Amount to Use Per 1,000 sq. ft. | Remarks |
|---|--------------------|-------------|---|---|
| SOD WEBWORMS | diazinon | AG500 EC | 4 oz. | Applications in the evening are preferred and should not be watered in following treatment. Sprays are preferred; apply by mixing with 10-20 gal. of water. Do not cut grass for 1-3 days after application. Trichlorfon: Mow lawn and rake dead grass from damaged areas; water lawn and allow grass to dry before spraying. Do not water again for at least 3 days. Repeat as needed, but not more frequently than 3 to 4-week intervals. Up to 3 applications may be required for maximum control. First application should be made in May or June. |
| | ----- | 50% WP | 4 oz. | |
| | carbaryl** | 50% WP | 8 oz. | |
| | (Sevin) | 80% S | 4 oz. | |
| | ----- | 22% EC | 1½ oz. | |
| dursban** | 41% EC | ¾ oz. | | |
| ----- | 80 SP | 2½-3 ¾ oz. | | |
| | trichlorfon | 80 SP | | |
| | (Proxol) | | | |
| WHITE GRUBS (European Chafer and Japanese Beetle) | diazinon | AG500 EC | 4 oz. | Chemicals penetrate slowly into the root zone area of the soil. Generally, the chemicals are slow acting against mature grubs, requiring at least 3 weeks or more to give effective kill. Applications are made to protect against reinfestation primarily or against young grubs in the fall. |
| | ----- | 2% G | 6 lb. | |
| | dursban | 4 M | ¾ oz. | |
| BILLBUGS | diazinon | 50% WP | 4 oz. | For the wettable powder and emulsifiable concentrate, mix the amount in 3 gal. of water and apply as a full coverage spray per 1,000 sq. ft. For all treatments, water the grass thoroughly immediately after treatment. Adults emerge in May and a generation lasts 4-6 weeks. Treat in May and repeat at about 6-week intervals. |
| | | AG500 EC | 4 fl. oz. | |
| | | 14% G | ½-1 lb. | |
| WASPS AND HORNETS | carbaryl | 1% S | <u>Outdoors:</u> Apply directly to nests at night. Wettable powders may be used as dry dusts. Repeat treatment, if necessary. Remove nest when no activity is observed. | For nests below ground, apply insecticide and close ground opening with a shovelful of dirt. Use the wettable powder formulation or dusts to prevent damage to vegetation. Commercial hornet and wasp aerosol sprays are available. |
| | (Sevin) | 5% D | | |
| | diazinon | 0.5% S | | |
| | (Spectracide) | | | |
| | *Outdoor use only. | | | |

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- * carbaryl (WP) - For best results, mow lawn, remove clippings and apply immediately after rain or watering. Apply full volume (40 gallons) to insure good penetration. Do not water for at least 2 days after application. Repeat in 2 or 3 weeks if needed.
- carbaryl (G) - For best results, mow lawn, remove clippings and apply immediately after rain or watering. Water following treatment. Keep children and pets off lawn until material is watered in or grass is dry.
- ** dursban - This product is highly toxic to bees exposed to direct treatment or residue on crops. Keep out of fishpools and other bodies of water. Do not apply where runoff is likely to occur. Keep children and pets off treated area until spray is dry.
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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.