

## (WARM-SEASON, CONT.)

WARM-SEASON*	LATE WINTER (Mar.)	SPRING (Apr.-May)	SUMMER (June-Aug.)	FALL (Sept.-Oct.)
<b>MOLE CRICKETS</b>	Timing of treatments is critical and varies in different areas. In years when activity of overwintered mole crickets resumes early, treatment with Orthene 755 (3.5 Al/acre) or Turcam (2 lbs. Al/acre) is sometimes effective. Extensive treatment should be delayed until young nymphs are present. Rolling, fertilizing and irrigating warm-season grasses helps tunnelled turf to recover.	Monitor infested turf weekly with soap flushes to determine presence and number of young nymphs. For short-residual treatment of overwintered crickets in April use Turcam (2 lbs. Al/acre, irrigate after treatment), or Orthene 755 (2-3 lbs. Al/acre) on wet turf, unirrigated after late afternoon treatment, provides quick knockdown. Baits are effective in central Florida in May when young nymphs are present. Begin monitoring damaged areas for newly-hatched nymphs.	For residual control, use Oflanol (2 lbs. Al/acre) or Mocap granules (10 lbs.) or Turcam (2.5 G, 2 lbs. Al/acre) on young nymphs. Irrigate immediately. Baits are effective from central Florida northward during summer. Baits available are Baygon 2% (1/4 lb./1000 sq. ft.), 5% Dursban (150 lbs./acre or two applications of 75 lbs./acre three weeks apart), malathion 2% (100 lbs./acre or two applications of 50 lbs./acre three weeks apart). Irrigate several hours before bait applications, and do not irrigate afterwards. Orthene 755 (2-3 lbs. Al/acre) can be used during summer, applied on irrigated turf late in the day and unwatered overnight. Triumph 4E (home lawns only, up to 2 lbs. Al/acre/season) can not be used on "sandy" soils.	Sprays of Turcam (2 lbs. Al/acre) or Orthene 755 can be used in areas where outbreaks occur and may have to be repeated several times. Mocap granules (10 lbs. Al/acre, commercial turf only) may be used, but don't use either more than once per season. Do not expect excellent late-season control if earlier measures have not been taken.
<b>TWO-LINED SPITTLEBUG</b>	Treatment is not appropriate at this time.	Treatment usually not necessary at this time. Dethatching turf when appropriate may reduce populations.	Mow, irrigate several hours of the day before treating infested turf. Spray with diazinon (4 lbs. Al/acre) or in less thatchy turf with Dursban (1 lb. Al/acre). Use at least 10 gal. water/1000 sq. ft.	Re-treatment is usually unnecessary. Treat in pestid areas in September if necessary as described for summer.
<b>FALL ARMYWORM</b>	Treatment is not appropriate at this time.	Populations usually do not develop until summer.	Treatments are most effective in early morning or late afternoon. Use diazinon (4 lbs. Al/acre), Dursban (1 lb. Al/acre), or Proxol/Dylox (1-3 lbs. Al/acre).	Apply as directed for summer. Fall armyworms may be a greater problem in Sept.-Oct. than earlier.
<b>FIRE ANTS</b>	Treatments are less effective when soil temperatures are low.	Area treatments when new mounds being established in heavily infested areas with Amdro bait (1.5 lbs. bait/acre), Pro-Drone bait (36 lb. bait/acre), Logic bait (1-1.5 lbs. bait/acre) Afirm bait (1 lb. bait/acre) or Dittanol (.05 lb. Al/1000 sq. ft.) are effective.	Treat mounds as they appear with various formulations of diazinon or Dursban. Orthene 755 dust (2 tsp./mound) or MC-96 (2 oz./mound).	Apply controls to mounds or areas early in the morning or late in the day, as described for spring and summer. Area treatments with baits may be done in heavily-infested areas. Irrigate dry areas or wait until rain before treating if drought conditions exist.
		Ive. Mound treatments in less infested areas include various diazinon or Dursban formulations; Orthene 755 dust (2 tsp./mound); or MC-96 mound fumigant (2 ft. oz./mound).		
<b>SCALE INSECTS</b>	Treatment is not effective.	Chemical control for gound pearls is not effective at any time of year. Proper fertilization, disease controls and adequate irrigation is the best defense.	To control Rhodegrass scale, apply diazinon (5 fl. oz./1000 sq. ft./25 gal. plus wetting agent). Retreatment is usually necessary.	Treat as directed with diazinon for summer.

\* See accompanying text for details; always follow label directions.

**(COOL-SEASON)**

Harry D. Niemczyk, Ph.D., Ohio Agricultural Research & Development Center

COOL SEASON*	LATE WINTER (March)	SPRING (April-May)	SUMMER (June-Aug.)	FALL (Sept.-Oct.)
<b>CHINCH BUGS</b>	When summer damage is expected preventative application of liquid or granular Dursban (1 lb. Al/acre) Triumph <sup>1</sup> (1 lb. Al/acre) or Ottanol (2 lb. Al/acre) may be used as soon as the insects become active.	Preventative applications of insecticides should be completed by the first week in May.	Treat before injury is severe with Dursban (1 lb. Al/acre), diazinon (2.5-5.5 lb. Al/acre), Triumph <sup>1</sup> (1 lb. Al/acre), Sevin (6-8 lbs. Al/acre) or other labeled insecticides.	Treat if necessary, but generally, infestation levels are not high enough to warrant using insecticides.
<b>BILLBUGS</b>	Same as for chinch bugs.	Same as for chinch bugs.	Treat infestations at same rates as grubs with diazinon, Turcam, Proxol or Sevin. Irrigate following application.	Treatment is usually not appropriate at this time.
<b>GRUBS</b>	Application of Ottanol (2 lb. Al/acre) during March may provide control of overwintered grubs. This may not provide control into late summer.	A single application of Ottanol (2 lb. Al/acre) made in April may control overwintered grubs. Can also be controlled in May by spot or general treatment with Triumph <sup>1</sup> (2 lb. Al/acre) Turcam (4 lb. Al/acre) or Sevin (8 lb. Al/acre). Golf course superintendents can use Mocap (5 lb. Al/acre) or Sevin (5-8 lb. Al/acre) to control green June beetle. Irrigate with application.	Existing infestations found in July or Aug. may be treated with Triumph <sup>1</sup> , Proxol, Turcam, Ottanol, Sevin or Mocap (commercial turf only) at rates used in spring. Treat green June beetle with Sevin (6-8 lb. Al/acre).	Treatment can be made as late as mid-September. Irrigate first if thatch or soil is dry.
<b>SOD WEBWORMS</b>	Treatment is not appropriate at this time.	When necessary, apply diazinon (5 lb. Al/acre) Triumph <sup>1</sup> (1 lb. Al/acre) or Proxol (6-8 lb. Al/acre).	Make application when larvae are present or two weeks after peak moth flight. Use Dursban (1 lb. Al/acre), Triumph <sup>1</sup> (1 lb. Al/acre), diazinon (5 lbs. Al/acre), Sevin (6-8 lbs. Al/acre) or Proxol (6-8 lb. Al/acre).	Larvae are small and cause little damage at this time. Treatment in September reduces population for next spring.
<b>GREENBUGS</b>	Treatment is not appropriate at this time.	Aphid numbers are too low to detect.	Use Orthene (1 lb. Al/acre) or Dursban (1 lb. Al/acre) or diazinon (2.5 lb. Al/acre).	Severe infestations may occur as late as December. Use the same insecticides as in the summer.
<b>BLACK TURFGRASS ATAENIUS</b>	An application of Ottanol (2 lb. Al/acre) in March may prevent summer infestations of larvae, but it's best to wait until April.	Application of Ottanol (2 lbs. Al/acre) during April or May prevents larval infestations during summer. Diazinon (5-6 lbs. Al/acre) applied to fairways in April also prevents infestations.	If preventative applications were not made, spot or generally treat with Proxol (8 lbs. Al/acre), Turcam (2-4 lbs. Al/acre), Sevin (8 lbs. Al/acre) or Mocap (5 lbs. Al/acre), as needed.	Undeveloped larvae die with frost.
<b>CUTWORMS</b>	Treatment is not appropriate at this time.	The insecticides effective against sod webworm are also effective against cutworms. Apply late in the afternoon. Do not irrigate following liquid applications unless specified on label.	Use Dursban (1 lb. Al/acre), Triumph <sup>1</sup> (1 lb. Al/acre), Proxol (8 lbs. Al/acre) or Sevin (6-8 lbs. Al/acre). Do not irrigate following liquid applications unless specified on label.	Same as for summer.
<b>COVER MITES</b>	Treatment is not appropriate at this time.	Liquid diazinon (2.5 lb. Al/acre) or Dursban (1 lb. Al/acre) may be used.	Treatment usually is not necessary.	Treat as needed with liquid diazinon (2.5 lbs. Al/acre) or Dursban (1 lb. Al/acre).
<b>WINTER GRAIN MITE</b>	If needed, use spring treatment.	If treatment is necessary, use liquid diazinon (2-3 lbs. Al/acre) or Dursban (1 lb. Al/acre). Avoid repeated use of Sevin.	Treatment is not appropriate, since mite is in egg stage.	Treatment is not appropriate since mite is in egg stage.

\* For use only by commercial lawn pest control personnel. A maximum of one application per year is permitted for the 2 lb. Al/acre rate. A maximum of two applications per year at least 60 days apart is permitted for the 1 lb. Al/acre rate.

<sup>1</sup> See accompanying text for details; always follow label directions.

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# DISEASE CONTROL

## (WARM-SEASON)

Robert Haygood, Ph.D. and Walker Miller, Ph.D.

### Trade Names for the Common Turf Fungicides

Common Name	Trade Name*
anilazine	Dyrene
benomyl	Tersan 1991, Benlate
chloroneb	Terraneb SP
chlorothalonil	Daconil 2787
etridiazole	Koban, Terrazole
fenarimol	Rubigan
iprodione	Chipco 26019
maneb	Dithane M-22 Special
mancozeb	Fore, Tersan LSR, Dithane M-45, Manzate 200 Flowable, Penncozeb
metalaxyl	Subdue
PCNB	Terraclor, Turfcide
propiconazole	Banner
propamocarb	Banol
thiophanate	Cleary's 3336
thiophanate-methyl	Fungo 50
triadimefon	Bayleton
vinclozolin	Vorlan

\*The mention of a product does not constitute a recommendation or an endorsement, and discrimination by the Clemson University Cooperative Extension Service is not implied by the exclusion of any comparable product. Each specific label is the final authority on application rates and uses.

## Turfgrass Disease Control

Read and follow label directions closely

Fungicide*	Product Rate/1,000 sq ft	Fungicide*	Product Rate/1,000 sq ft
Brown Patch			
anilazine 50WP	4-8 oz	iprodione 50WP	1.5-2 oz
benomyl 50WP	2 oz	maneb 80WP	3-8 oz
chlorothalonil 75WP	2-8 oz	mancozeb 37%	5-14 fl oz
chlorothalonil 29.6%	8-12 fl oz	mancozeb 80WP	4 oz
chlorothalonil 40.4%	3-11 fl oz	PCNB 75WP	3-16 oz
triadimefon 25WP	1-2 oz	10G	2-7.5 lb
propiconazole	1-2 fl oz	thiophanate 50WP	1-2 oz
fenarimol 50WP	4-8 oz	thiophante-methyl 50WP	2 oz
Dollar Spot			
anilazine 50WP	4-8 oz	fenarimol 50WP	2-4 oz
benomyl 50WP	1 oz	iprodione 50WP	1.5-2 oz
chlorothalonil 75WP	2-8 oz	maneb 80WP	6-8 oz
chlorothalonil 29.6%	8-12 fl oz	mancozeb 37%	10-14 fl oz
chlorothalonil 40.4%	3-11 fl oz	mancozeb 80WP	6-8 oz
triadimefon 25WP	1-2 oz	propiconazole	1 fl oz
vinclozolin 50WP	2 oz	thiophanate 50WP	1-2 oz
		thiophante-methyl 50WP	1-2 oz
Melting out, Helminthosporium Leaf Spot			
anilazine 50WP	4-6 oz	iprodione 50WP	1.5-2 oz
chlorothalonil 75WP	2-8 oz	maneb 80WP	3-8 oz
chlorothalonil 29.6%	8-12 fl oz	mancozeb 80WP	4 oz
chlorothalonil 40.4%	3-11 fl oz	mancozeb 37%	5-14 fl oz
Pythium Blight			
chloroneb 65WP	4 oz	metalaxyl 2E	1-2 fl oz
etridiazole 30WP	2-8 oz	propamocarb 6E	1.33-4 fl oz

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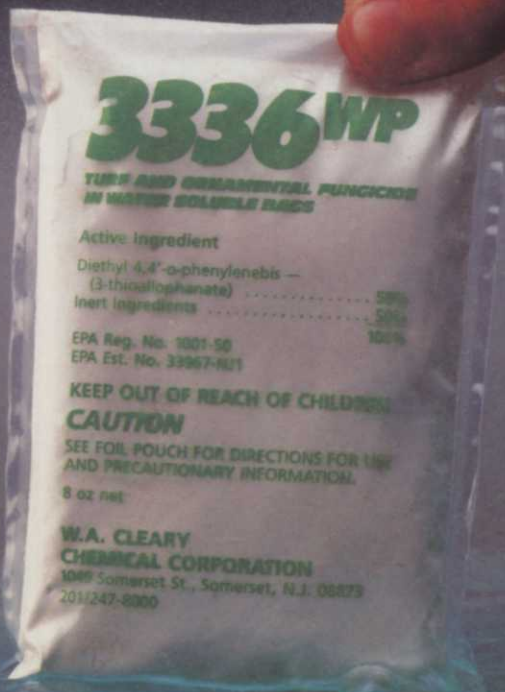
## Turfgrass Disease Control (Cont.)

Read and follow label directions closely

Fungicide*	Product Rate/1,000 sq ft	Fungicide*	Product Rate/1,000 sq ft
Rust			
anilazine 50WP	4-8 oz	maneb 80WP	3-8 oz
propiconazole	1-2 fl oz	mancozeb 37%	5-7 fl oz
triadimefon 25WP	1-2 oz	mancozeb 80WP	4 oz
Fairy Ring			
Vapam			
<i>see label for detailed instructions</i>			
Powdery Mildew			
triadimefon 25WP	1-2 oz	propiconazole	1-2 fl oz
Gray Leaf Spot			
chlorothalonil 75WP	2-8 oz		
chlorothalonil 29.6%	8-12 fl oz		
chlorothalonil 40.4%	3-11 fl oz		
Slime Mold			
None recommended.			
Easily controlled by cultural methods.			
Spring Dead Spot			
fenarimol 50w	1-2 oz	propiconazole (calif only)	1-2 fl oz
St. Augustine Downy Mildew			
metalaxyl	see label		
Anthracnose			
propiconazole	1-2 oz	triadimefon 25WP	2 oz

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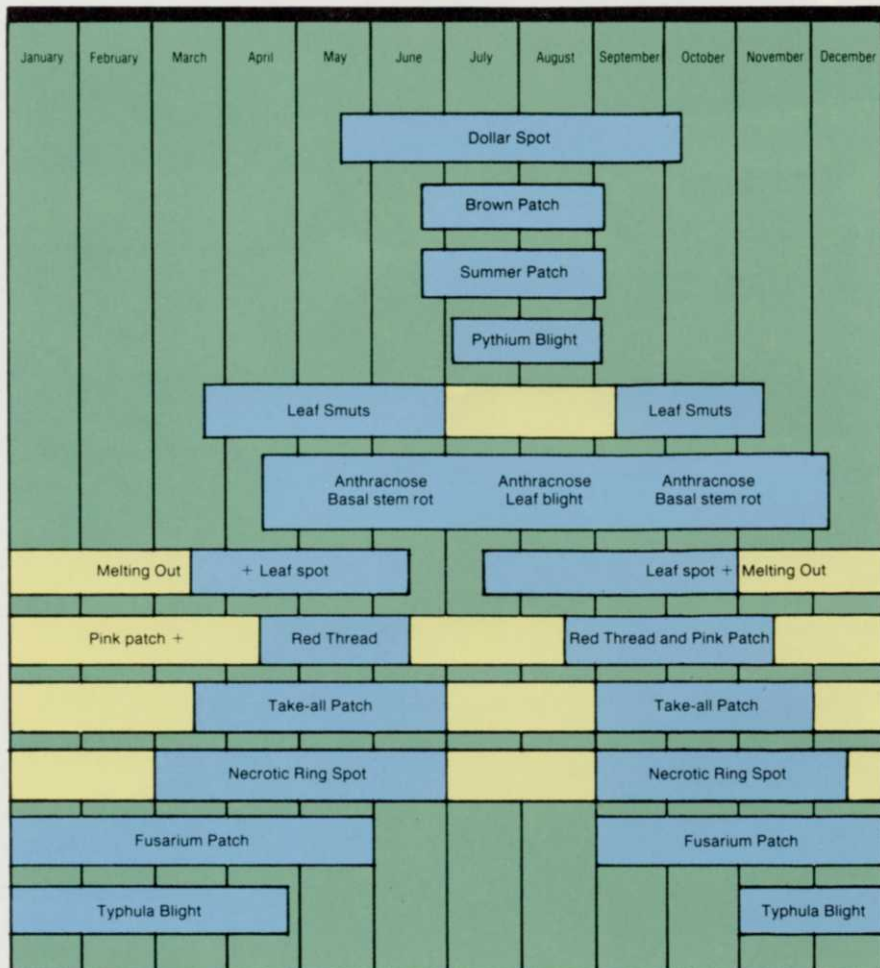
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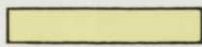
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## (COOL-SEASON)

### Common Diseases of Cool-Season Turf

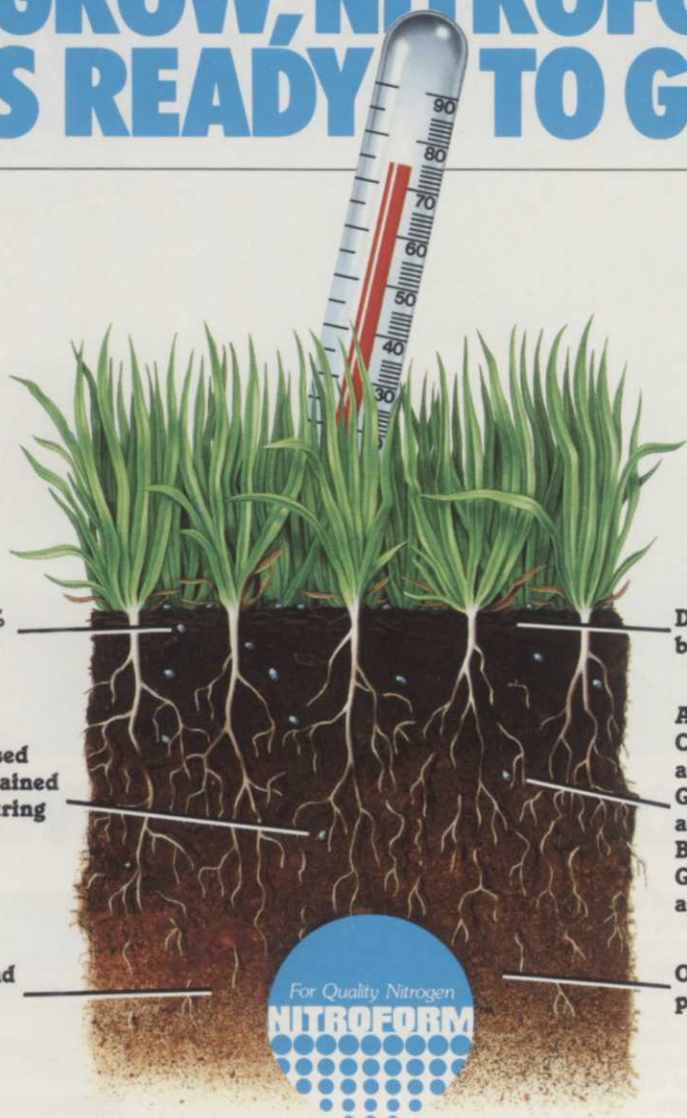


  
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