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EC86-1862 Nebraska Commercial Turfgrass Disease Control Guide For Profession Turfgrass Managers

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Nebraska
**COMMERCIAL
TURFGRASS DISEASE
CONTROL GUIDE**

John E. Watkins
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and
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Turfgrass Specialist

**For
Professional
Turfgrass
Managers**



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TURFGRASS



Leaf Spot

(Helminthosporium Diseases)



Melting-out



Necrotic Ring Spot

(Fusarium Blight Syndrome)



Summer Patch



Stripe Smut



(A. Bruneau)



(B. Joyner)

Dollar Spot



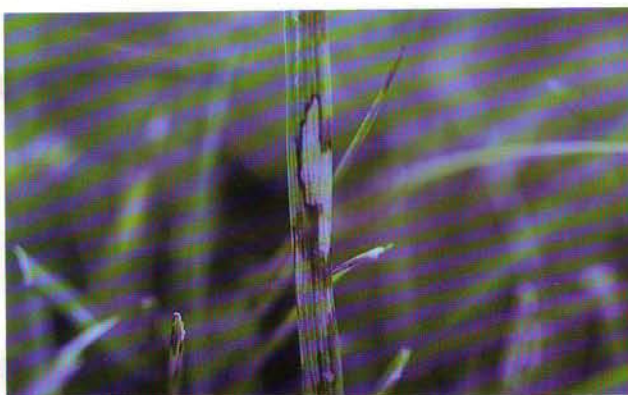
DISEASES I



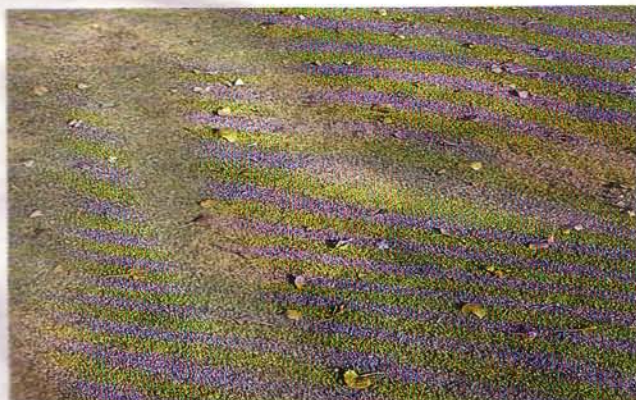
Pythium Blight



Rhizoctonia Blight (Brown Patch)



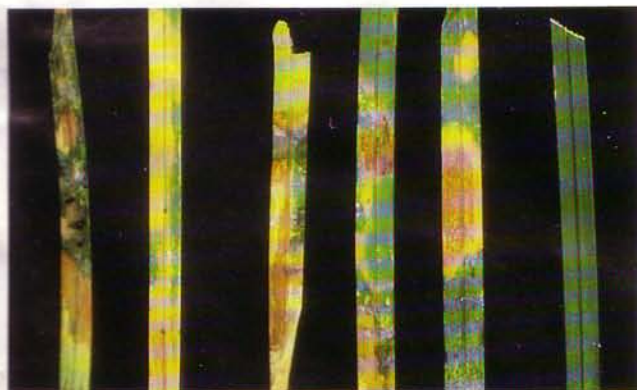
(D. Kopec)



Yellow Patch



Nematode Injury (B. Partyka)



(M. Shurtleff)

Anthracnose



(M. Shurtleff)

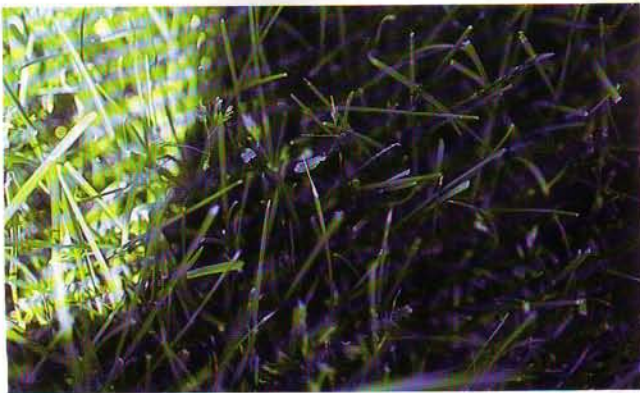
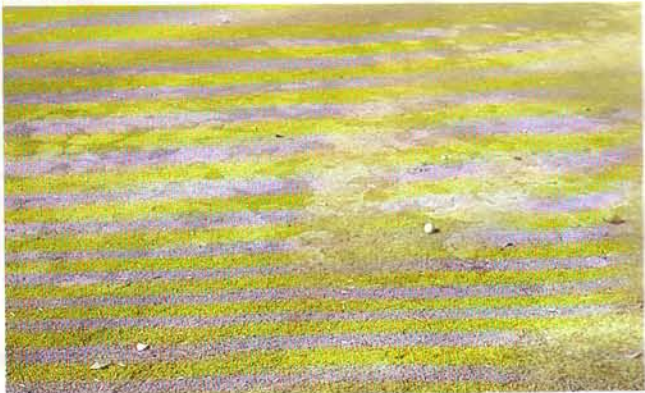
TURFGRASS



**Fusarium Patch
(Pink Snow Mold)**



**Typhula Blight
(Gray Snow Mold)**



Ascochyta Leaf Blight



Rust



(E. Kerr)

DISEASES II

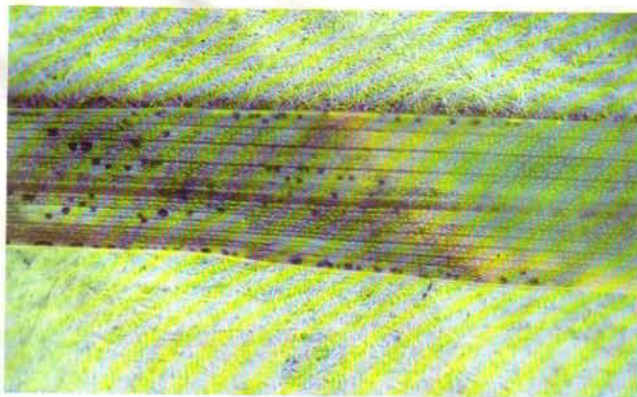


(S. Jensen)

Slime Mold



Fairy Ring



Septoria Leaf Spot (E. Kerr)



Phythium Damping-off



Powdery Mildew (J. Fischbach)

Table 1. Disease occurrence calendar¹ and fungicide spray schedules²

Diseases	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Helminthosporium diseases			1	2	1			1	1		
Leaf smuts (Stripe and flag)				1					2		
Ascochyta leaf blight ³											
Necrotic ring spot (Fusarium blight syndrome)				1	1	1					
Pythium damping-off			1								
Septoria leaf spot ³											
Dollar spot				1	1	1	1				
Fairy ring ⁵											
Powdery mildew				1	1			1			
Anthracnose					1	1	1				
Pythium blight					1	2	1				
Rhizoctonia blight (Brown patch)					1	2	1				
Summer patch (Fusarium blight syndrome)					1	2					
Slime molds ³											
Nematodes ⁴					1						
Rusts						1	2				
Yellow patch (Cool season brown patch) ⁵											
Fusarium patch (Pink snow mold)	1									1	1
Typhula blight (Gray snow mold)	1									1	1

¹Months in which disease is usually active. ²The number of sprays will vary depending upon the product used, disease activity and desired level of control. ³Ascochyta leaf blight, Septoria leaf spot, and slime molds are usually not serious enough to need fungicide treatment. Generally, the broad spectrum products and spray schedule list for Helminthosporium diseases will provide adequate control. ⁴Treatment of nematodes on established turf. ⁵No chemicals are known to control fairy ring or yellow patch.

Table 2. Fungicides for control of turfgrass diseases.

<i>Disease</i>	<i>Fungicide Common Name</i>	<i>Some Names</i>	<i>Remarks</i>
HELMINTHOSPORIUM DISEASES <i>Bipolaris sorokiniana,</i> <i>Drechslera spp.</i>	Anilazine	Dyrene, Lescro Professional Lawn Disease Control, Lescorene	
	Chlorothalonil	Daconil 2787, Lawn Fungicide 2787, Lebanon Fungicide Type D, Ornathal, Liquid Lawn Disease Control	
	Cycloheximide	Acti-dione TGF	
	Cycloheximide + PCNB	Acti-dione RZ	
	Cycloheximide + thiram	Acti-dione Thiram	
	Iprodione	Chipco 26019, ProTurf Fungicide VI	Delay mowing for 24 hours after application.
	Mancozeb	Dithane M-45, Fore, Formec 80, Lescro 4	
	Maneb	Dithane M-22, Dithane FZ, Maneb 4	
	Maneb + zinc	Dithane M-22 Special, Lescro 4 Flowable with zinc, Manex, Manzox, Tersan LSR	
	Quintozene (PCNB)	PCNB, Terraclor, Turfcide, Lawn Disease Preventer, Lescro PCNB-10% Granular Soil Fungicide	
	Thiophanate-ethyl	Cleary 3336	
	Thiophanate-ethyl + thiram	Bromosan	
	Thiophanate-methyl + iprodione	ProTurf Fluid Fungicide	
	Thiophanate-methyl + mancozeb	Duosan	
	Thiram + cadmium compounds	Cad-Trete, Cleary's Granular Turf Fungicide, Kromad, Lebanon Fungicide Type T, Lescro Snow Mold Turf Fungicide	For use only on golf courses.
	Zineb	Zineb	
LEAF SMUTS			
STRIPE SMUT <i>Ustilago striiformis</i>	Benomyl	Benomyl, Lebanon Fungicide Type B, Tersan 1991	
FLAG SMUT <i>Urocystis agropyri</i>	Fenarimol	Rubigan	
	Quintozene (PCNB)	PCNB, Terraclor, Turfcide, Lawn Disease Preventer	
	Thiophanate-ethyl	Cleary 3336	
	Thiophanate-methyl	Fungo 50, ProTurf Systemic Fungicide	
	Triadimefon	Bayleton, ProTurf Fungicide 7	

Table 2. Cont.

<i>Disease</i>	<i>Fungicide Common Name</i>	<i>Some Trade Names</i>	<i>Remarks</i>
ASCOCHYTA LEAF BLIGHT <i>Ascochyta</i> spp.	No fungicides are presently registered for control of Ascochyta leaf blight.		
NECROTIC RING SPOT (FUSARIUM BLIGHT SYNDROME) <i>Leptosphaeria korrae</i>	Benomyl	Benomyl, Lebanon Fungicide Type B, Tersan 1991	Use rates recommended for Fusarium blight on product label. Drench benomyl into the soil. Delay mowing for 24 hours after application.
	Iprodione	Chipco 26019	
PYTHIUM DAMPING-OFF <i>Pythium</i> spp.	Metalaxyl	subdue, ProTurf Granular Pythium Control	Apply immediately after planting.
SEPTORIA LEAF SPOT <i>Septoria</i> spp.	No fungicides are presently registered for control of Septoria leaf spot.		Most Helminthosporium disease fungicides control Septoria diseases.
DOLLAR SPOT <i>Lanzia</i> spp. and <i>Moellerodiscus</i> spp.	Anilazine	Dyrene, Lesco Professional Lawn Disease Control, Lescorene	Delay mowing for 24 hours after application.
	Benomyl	Benomyl, Lebanon Fungicide Type B, Tersan 1991	
	Cadmium compounds	Caddy, Cadminate	
	Chlorothalonil	Daconil 2787, Lawn Fungicide 2787, Lebanon Fungicide Type D, Ornathal, Liquid Lawn Disease Control	
	Cycloheximide	Acti-dione TGF	
	Cycloheximide + PCNB	Acti-dione RZ	
	Cycloheximide + thiram	Acti-dione Thiram	
	Fenarimol	Rubigan	
	Iprodione	Chipco 26019, ProTurf Fungicide VI	
	Mancozeb	Dithane M-45, Fore, Formec 80, Lesco 4	
	Maneb	Dithane M-22, Dithane FZ, Maneb 4	
	Maneb + zinc	Dithane M-22 Special, Lesco 4 Flowable with zinc, Manex, Manzi, Manzox, Tersan LSR	
	Quintozene (PCNB)	PCNB, Terraclor, Turfcide	
	Thiophanate-ethyl	Cleary 3336	
	Thiophanate-ethyl + thiram	Bromosan	
Thiophanate-methyl	Fungo 50, ProTurf Systemic Fungicide, Lawn Disease Preventer		
Thiophanate-methyl + iprodione	ProTurf Fluid Fungicide		

Table 2. Cont.

Disease	Fungicide Common Name Some Trade Names		Remarks
	Thiophanate-methyl + mancozeb	Duosan	
	Thiram	Thiram, Spotrete, Lesco Thiram 75W, Thiramad	
	Triadimefon	Bayleton, ProTurf Fungicide 7	
	Vinclozolin	Vorlan	
FAIRY RING Many soil fungi	There are no effective chemical controls for fairy ring.		
POWDERY MILDEW <i>Erysiphe graminis</i>	Cycloheximide	Acti-dione TGF	
	Cycloheximide + PCNB	Acti-dione RZ	
	Cycloheximide + thiram	Acti-dione Thiram	
	Triadimefon	Bayleton, ProTurf Fungicide 7	
ANTHRACNOSE <i>Colletotrichum graminicola</i>	Thiophanate-methyl	Fungo 50, ProTurf Systemic Fungicide	
	Thiophanate-methyl + iprodione	ProTurf Fluid Fungicide	
	Thiophanate-methyl + mancozeb	Duosan	
	Triadimefon	Bayleton, ProTurf Fungicide 7	
PYTHIUM BLIGHT <i>Pythium</i> spp.	Chloroneb	Chloroneb, ProTurf Fungicide II, Teremec SP, Terraneb SP	
	Ethazol	Koban, Terrazole	
	Fosetyl Al	Aliette Fungicide	Aliette, Subdue, and Banol must be applied before Pythium blight is active.
	Metalaxyl	Subdue, ProTurf Granular Pythium Control	
	Propamocarb	Banol	
RHIZOCTONIA BLIGHT (BROWN PATCH) <i>Rhizoctonia solani</i>	Benomyl	Benomyl, Lebanon Fungicide Type B, Tersan 1991	
	Captan	Captan 50	
	Chlorothalonil	Daconil 2787, Lawn Fungicide 2787, Lebanon Fungicide Type D, Ornathal, Liquid Lawn Disease Control	
	Cycloheximide + PCNB	Acti-dione RZ	
	Cycloheximide + thiram	Acti-dione Thiram	
	Fenarimol	Rubigan	
	Iprodione	Chipco 26019, ProTurf Fungicide VI	Delay mowing for 24 hours after application.

Table 2. Cont.

<i>Disease</i>	<i>Fungicide Common Name</i>	<i>Some Trade Names</i>	<i>Remarks</i>
	Mancozeb	Dithane M-45, Fore, Formec 80, Lesco 4	
	Maneb	Dithane M-22, Dithane FZ, Maneb 4	
	Maneb + zinc	Dithane M-22 Special, Lesco 4 Flowable with zinc, Manex, Manzi, Manzox, Tersan LSR	
	Quintozene (PCNB)	PCNB, Terraclor, Turfcide, Lawn Disease Preventer, Lesco PCNB-10% Granular Soil Fungicide	
	Thiophanate-ethyl	Cleary 3336	
	Thiophanate-ethyl + thiram	Bromosan	
	Thiophanate-methyl	Fungo 50, ProTurf Systemic Fungicide	
	Thiophanate-methyl + iprodione	ProTurf Fluid Fungicide	
	Thiophanate-methyl + mancozeb	Duosan	
	Thiram	Thiram, Spotrete, Lesco Thiram 75W, Thiramad	
	Thiram + cadmium compounds	Cad-Trete, Cleary's Granular Turf Fungicide, Kromad, Lebanon Fungicide Type T, Lesco Snow Mold Turf Fungicide	
	Thiram + PMA (phenylmercuric acetate)	ProTurf Broad Spectrum Fungicide	For use only on golf courses.
SUMMER PATCH (FUSARIUM BLIGHT SYNDROME) <i>Phialophora graminicola</i>	Benomyl	Benomyl, Lebanon Fungicide Type B, Tersan 1991	Use rates recommended for Fusarium blight on product label. Rubigan, Chipco 26019, and Bayleton applied as foliar sprays. Benomyl, Fungo 50, and Cleary 3336 should be drenched into soil immediately after application. Delay mowing of iprodione-, fenarimol-, or triadimefon- treated turfs for 24 hours after application.
	Fenarimol	Rubigan	
	Iprodione	Chipco 26019	
	Thiophanate-ethyl	Cleary 3336	
	Thiophanate-methyl	Fungo 50	
	Triadimefon	Bayleton	
SLIME MOLDS <i>Fuligo</i> spp., <i>Mucilago</i> spp., <i>Physarum</i> spp., other <i>Myxomycetes</i> spp.	Slime molds are not plant pathogens; therefore, chemical control is not necessary.		
NEMATODES	Ethoprop	Mocap	Liquid formulation restricted. Not for residential lawns or public recreational turf, except golf course. Restricted-use product.
	Fenamiphos	Nemacur	
	Fensulfothion	Dasanit	

Table 2. Cont.

<i>Disease</i>	<i>Fungicide Common Name</i>	<i>Some Trade Names</i>	<i>Remarks</i>
RUSTS (LEAF, STEM, STRIPE, OTHER RUSTS) <i>Puccinia</i> spp., <i>Physopella</i> spp., <i>Uromyces</i> spp., <i>Uredo</i> spp.	Chlorothalonil	Daconil 2787, Lawn Fungicide 2787, Lebanon Fungicide Type D, Ornathal, Liquid Lawn Disease Control	
	Cycloheximide	Acti-dione TGF	
	Cycloheximide + PCNB	Acti-dione RZ	
	Cycloheximide + thiram	Acti-dione Thiram	
	Mancozeb	Dithane M-45, Fore, Formec 80, Lesco 4	
	Maneb	Dithane M-22, Dithane FZ, Maneb 4	
	Maneb + zinc	Dithane M-22 Special, Lesco 4 Flowable with zinc, Manex, Manzi, Manzox, Tersan LSR	
	Thiophanate-methyl + mancozeb	Duosan	
	Triadimefon	Bayleton, ProTurf Fungicide 7	
	Zineb	Zineb	
YELLOW PATCH (COOL SEASON BROWN PATCH) <i>Rhizoctonia cerealis</i>	No chemicals are known to control yellow patch.		
FUSARIUM PATCH (PINK SNOW MOLD) <i>Fusarium nivale</i>	Benomyl	Benomyl, Lebanon Fungicide Type B, Tersan 1991	
	Chlorothalonil	Daconil 2787, Lawn Fungicide 2787, Lebanon Fungicide Type D, Ornathal, Liquid Lawn Disease Control	
	Cycloheximide + thiram	Acti-dione Thiram	
	Fenarimol	Rubigan	
	Mancozeb	Dithane M-45, Fore, Formec 80, Lesco 4	
	Mercury chlorides	Calo-Clor, Calo-Gran	For use only on golf courses.
	Phenylmercuric acetate (PMA)	PMAS	For use only on golf courses.
	Quintozene (PCNB)	PCNB, Terraclor, Turfcide, Lawn Disease Preventer, Lesco PCNB-10% Granular Soil Fungicide	
	Thiophanate-ethyl + thiram	Bromosan	
	Thiophanate-methyl	Fungo 50, ProTurf Systemic Fungicide	
	Thiophanate-methyl + mancozeb	Duosan	
	Thiram + cadmium compounds	Cad-Trete, Cleary's Granular Turf Fungicide, Kromad, Lebanon Fungicide Type T, Lesco Snow Mold Turf Fungicide	
	Thiram - PMA	ProTurf Broad Spectrum Fungicide	For use only on golf courses.
	Triadimefon	Bayleton, ProTurf Fungicide 7	
	Vinclozolin	Vorlan	

TYPHULA BLIGHT
(GRAY SNOW MOLD)

Typhula spp.

Anilazine	Dyrene, Lescro Professional Lawn Disease Control, Lescroene	
Cadmium compounds	Caddy, Cadminate	
Chloroneb	Chloroneb, ProTurf Fungicide II, Teremec SP, Terraneb SP	
Chlorothalonil	Daconil 2787, Lawn Fungicide 2787, Lebanon Fungicide Type D, Ornathal, Liquid Lawn Disease Control	
Cycloheximide + thiram	Acti-dione Thiram	
Fenarimol	Rubigan	
Iprodione	Chipco 26019, ProTurf Fungicide VI	Delay mowing for 24 hours after application.
Mercury chlorides	Calo-Clor, Calo-Gran	For use only on golf courses.
Quintozene (PCNB)	PCNB, Terraclor, Turfcide, Lawn Disease Preventor	
Phenylmercuric acetate (PMA)	PMAS	For use only on golf courses.
Thiophanate-ethyl + thiram	Bromosan	
Thiram	Thiram, Spotrete, Lescro Thiram 75W	
Thiram + cadmium compounds	Cad-Trete, Cleary's Granular Turf Fungicide, Kromad, Lebanon Fungicide Type T, Lescro Snow Mold Turf Fungicide	
Thiram + PMA	ProTurf Broad Spectrum Fungicide	For use only on golf courses.
Triadimefon	Bayleton, ProTurf Fungicide 7	

¹Fungicides listed in Table 2 represent the best information available. No criticism is intended of products not listed, nor is endorsement by the University of Nebraska given to those listed. Read and follow all product label directions for mixing and application.