

TURF DISEASES (Commercial)

Stephen Vann and Gene Milus

Disease	Product	Active Ingredient	FRAC Code*	Rate/1,000 sq ft	Comments
Brown Patch	Heritage 50WG	azoxystrobin	11	0.2 - 0.4 oz	Apply in 2 - 4 gals water/1,000 sq ft every 14 - 28 days as a preventative during warm, humid weather favorable for the disease. Use the higher rate and shorter interval if disease is evident and conditions are very favorable.
	Insignia 20WG	pyraclostrobin	11	0.5 - 0.9 oz	
	Compass 50WG	trifloxystrobin	11	0.15 - 0.25 oz	14 day interval at first sign of disease.
	Pennstar 10G	PCNB	14	2 - 7.5 lb	Apply every 3 - 4 weeks as a preventative. Lightly water granules in after application. Use high rate in severe disease situations.
	Defend 10G	PCNB	14	2 - 7.5 lb	
	Endorse 2.5WP	polyoxin D	19	4 oz	Apply in a minimum of 0.5 gal/1,000 sq ft. Repeat on a 7 - 14 day interval as needed.
	Medallion 50WP	fludioxonil	12	0.25 - 0.5 oz	Begin applications before disease development and repeat on 7 - 14 day intervals. May be used with Banner Maxx for extended control of various leaf spots.
	Daconil WeatherStik	chlorothalonil	M5	3 - 7 fl oz	Apply in 2 - 5 gals water/1,000 sq ft at 7 - 10 day intervals for greens, tees and lawns as a preventative (before disease is noticed). Use high rate on 7 day schedule once disease is evident. See label for fairway rates.
	Daconil Ultrex	chlorothalonil	M5	1.8 - 3.25 oz	See label. Protectant qualities.
	Chipco 26019 50W	iprodione	2	1.5 - 2 oz	Apply in 2 - 5 gals water/1,000 sq ft at 14 - 21 day intervals as a preventative. See label for restrictions.
	Eagle 40WSP	myclobutanil	3	0.6 - 1.2 oz	
	Fore 80W	mancozeb	M3	4 - 8 oz	Apply in 3 - 5 gals water/1,000 sq ft every 7 - 14 days as a preventative. A non-ionic surfactant should be used. Use 7 day interval if disease is severe.
	Fore Flowable	mancozeb	M3	6.4 - 12.8 fl oz	
	Banner MAXX	propiconazole	3	1 - 2 fl oz	Apply in 2 - 5 gals water/1,000 sq ft at 7 - 21 day intervals as a preventative. Can be tank-mixed with certain contact fungicides – see label for details. Do not exceed 2 fl oz rate on bermudagrass and St. Augustinegrass.
	Concert	propiconazole + chlorothalonil	3 + M5	3 - 5.5 oz	Begin applications in May or June before disease is present.
	Spectro 90WDG	chlorothalonil + thiophanate-methyl	M5 1	3 - 8 oz	Not for homeowner use. Best applied when conditions favor disease. Repeat as needed at 14 - 21 days as indicated on label.
Cleary's 3336F	thiophanate-methyl	1	2 - 4 oz	Apply in 3 - 5 gals water/1,000 sq ft every 7 - 14 days at first sign of disease. Shorter intervals should be used when disease is present.	
(continued)	26/36 Fungicide	iprodione + thiophanate-methyl	2 + 1	2 - 4 oz	See label.
	FungoFlo	thiophanate-methyl	1	1 - 2 oz	10 - 14 day intervals at first sign of disease.

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Brown Patch <i>(cont.)</i>	Terraclor, Engage	PCNB	14	7 - 10 oz	Apply preventively in fall or spring followed by a second application in 3 - 4 weeks.
	Prostar 70WP	flutolanil	7	2 - 3 oz	Apply in 2 - 5 gals water at first sign of disease with a non-ionic surfactant. Repeat as needed every 14 - 21 days.
	Bayleton 50WSP	triadimefon	3	0.5 - 1 oz	
	Tartan	trifloxystrobin + triadimefon	11 + 3	1 - 2 oz	Begin applications prior to or in early stages of disease onset. 14 - 28 day interval.
Rhapsody	<i>Bacillus subtilis</i>	44	2 - 10 oz	2 gals/1,000 sq ft. Begin when conditions are conducive for disease. Can be used for organic production.	
Dollar Spot	Daconil WeatherStik	chlorothalonil	M5	3 - 7 fl oz	Apply in 2 - 5 gals water/1,000 sq ft at 7 - 10 day intervals for greens, tees and lawns as a preventative (before disease is noticed). Use high rate on 7 day schedule once disease is evident. See label for fairway rates.
	Chipco 26019 50W	iprodione	2	1.5 - 2 oz	Apply in 2 - 5 gals water/1,000 sq ft at 14 - 21 day intervals as a preventative. See labels for restrictions.
	Eagle 40WSP	myclobutanil	3	0.6 - 1.2 oz	
	Fore 80W	mancozeb	M3	4 - 8 oz	Apply in 3 - 5 gals water/1,000 sq ft every 7 - 14 days as a preventative. A non-ionic surfactant should be used. Use 7 day interval if disease is severe.
	Fore Flowable	mancozeb	M3	6.4 - 12.8 fl oz	
	Banner MAXX	propiconazole	3	1 - 2 fl oz	Apply in 2 - 5 gals water/1,000 sq ft at 7 - 21 day intervals as a preventative. Can be tank-mixed with certain contact fungicides – see label for details. Do not exceed 2 fl oz rate on bermudagrass and St. Augustinegrass.
	Spectro 90WDG	chlorothalonil + thiophanate-methyl	M5 1	3 - 8 oz	Not for homeowner use. Best applied when conditions favor disease. Repeat as needed at 14 - 21 days as indicated on label.
	Cleary's 3336F	thiophanate-methyl	1	2 - 4 oz	Apply in 3 - 5 gals water/1,000 sq ft every 7 - 14 days at first sign of disease. Shorter intervals should be used when disease is present.
	Insignia	pyraclostrobin	11	0.9 oz	Suppression only. 14 - 28 day interval.
	Tartan	trifloxystrobin + triadimefon	11 + 3	1 - 2 oz	Begin applications prior to or in early stages of disease onset. 14 - 28 day interval.
	Emerald	boscalid	7	0.13 - 0.18 oz	Begin applications prior to or in early stages of disease onset. 14 - 28 day interval.
	Trinity	triticonazole	3	0.5 - 2 oz	See label. Apply in 1 - 5 gals/1,000 sq ft.
Rhapsody	<i>Bacillus subtilis</i>	44	2 - 10 oz	2 gals/1,000 sq ft. Begin when conditions are conducive for disease. Can be used for organic production.	
Junction DF	mancozeb + copper hydroxide	M3 + M1	2 - 4 oz	Begin at disease onset, then at 5 day intervals. See label.	

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Rhizoctonia Large Patch (zoysia and bermuda)	Heritage 50WG	azoxystrobin	11	0.4 oz	Apply in 2 - 5 gals water/1,000 sq ft between September 20 and October 10 and again between March 15 and April 15. In very severe instances, an addi- tional application may be made about 4 weeks after the first fall application. Follow label directions closely. Usually one late fall application.
	Prostar 70WP	flutolanil	7	3 oz	
	Eagle 40WSP	myclobutanil	3	1.2 oz	
	Bayleton 50WSP Instrata	triadimefon chlorothalonil + propiconazole + fludioxonil	3 M5 3 12	1 oz 8 - 10 oz	
Fairy Ring (suppression)	Prostar 70WP	flutolanil	7	2.2 - 4.5 oz	Apply in 3 - 5 gals water/1,000 sq ft at first sign of disease and repeat in 28 days if necessary.
	Heritage 50WG	azoxystrobin	11	0.4 oz	
	Insignia	pyraclostrobin	11	0.9 oz	Apply as soon as possible after initial symptoms. Reapply after 28 days if needed.
	Headway	azoxystrobin + propiconazole	11 + 3	3 oz	Apply at 4 gals/1,000 sq ft at first disease evidence.
	Tourney	metconazole	3	0.37 oz	Apply at 4 gals/1,000 sq ft. Reapply at 21 days.
Pythium Blight (also Pythium Root and Crown Rots)	Heritage 50WG	azoxystrobin	11	0.4 oz	Apply in 2 - 4 gals water/1,000 sq ft every 10 - 14 days as a preventative. Use the 10 day interval during prolonged hot, wet weather. Do not make more than 2 sequential applications.
	Koban 30W Terrazole 35WP	etridiazole	14	2 - 4.5 oz	Apply to established turf in 5 gals water/1,000 sq ft every 5 - 10 days as a preventative. Water in immediately.
	Chipco Aliette Signature Prodigy	fosetyl-Al	33	4 - 8 oz	Apply in 5 gals water/1,000 sq ft every 5 - 10 days at the first sign of disease and when conditions favor the dis- ease. See label for tank-mixing suggestions.
	Fore 80W	mancozeb	M3	8 oz	Apply in 1 - 5 gals water/1,000 sq ft every 14 - 21 days as a preventative when hot, wet conditions persist. Use high rate and 14 day interval when disease is present. Allow foliage to dry before watering or mowing.
	Subdue MAXX	mefenoxam	4	0.5 - 1 fl oz	Apply to established turf every 10 - 21 days in 3 - 5 gals water/1,000 sq ft as a preventative during hot, wet weather. See label for tank mix information.
	Banol 66.5L	propamocarb	28	1.33 - 4 fl oz	Apply in 2 - 5 gals water/1,000 sq ft every 7 - 21 days as a preventative during hot, wet weather.
	Alude	salts of phosphorus acid	33	5 - 10 oz	Apply at 14 - 21 day intervals. See label.
	Junction DF	mancozeb + copper hydroxide	M3 + M1	2 - 4 oz	Begin at disease onset, then at 5 day intervals. See label.
	Stellar	fluopicolide + propamacarb	43 + 28	1.2 fl oz	Apply when conditions favor disease development.
Leaf Rust Gray Leaf Spot (St. Augustinegrass, ryegrass, tall fescue)	Heritage 50WG	azoxystrobin	11	0.2 - 0.4 oz	Apply at first sign of disease and repeat every 2 - 4 weeks until conditions become less favorable. See label on all products listed for further information. Apply at first sign of disease, then at 14 day intervals.
	Compass 50WG	trifloxystrobin	11	0.15 - 0.25 oz	
	Banner MAXX	propiconazole	3	2 - 4 fl oz	
	Fungo 50, Cleary's 3336F	thiophanate-methyl	1	4 - 8 oz	
	Daconil Ultrex	chlorothalonil	M5	1.8 - 3.25 oz	
	Bayleton 50WSP	triadimefon	3	0.5 - 1 oz	

TURF DISEASES (Commercial) – continued

Disease	Product	Active Ingredient	FRAC Code*	Rate/1,000 sq ft	Comments
Leaf Spots	Heritage 50WG	azoxystrobin	11	0.2 - 0.4 oz	Apply at first sign of disease and repeat every 2 - 4 weeks until conditions become less favorable.
	Compass 50WG	trifloxystrobin	11	0.15 - 0.25 oz	
	Insignia	pyraclostrobin	11	0.5 - 0.9 oz	Apply as above but on a 1 - 2 week schedule. Apply as above but on a 2 - 3 week schedule. Apply as above but on a 2 - 3 week schedule. See label.
	Fore 80W	mancozeb	M3	4 oz	
	Banner MAXX	propiconazole	3	2 - 4 fl oz	
	Chipco 26019 50WP	iprodione	2	2 oz	
	Eagle 40WSP	myclobutanil	3	0.6 oz	
Southern Blight	Prostar 70WP	flutolanil	7	1.5 oz	Apply at first sign of disease and repeat in 4 weeks.
	Heritage 50WG	azoxystrobin	11	0.2 - 0.4 oz	
Spring Dead Spot (bermuda only; provides suppression)	Heritage 50WG	azoxystrobin	11	0.4 oz	Make one application in early fall (two if disease history is very severe) in 2 - 4 gals water/1,000 sq ft. Use lower rate in September, higher rate in October-November to help prevent symptoms the following spring. Apply 1 - 2 months before dormancy. Irrigate 0.25 - 0.50 in. after application. 1 - 3 applications begin Sept./Oct. See label. For prevention. Apply in fall and spring. See label.
	Eagle 40WSP	myclobutanil	3	1.2 oz	
	Rubigan	fenarimol	3	4 - 6 oz	
	Disarm 480SC	fluoxastrobin	11	0.36 oz	
	ProPensity 1.3ME Torque	propiconazole tebuconazole	3 3	4 oz 0.6 oz	
Summer Patch	Heritage 50WG	azoxystrobin	11	0.2 - 0.4 oz	Apply in 2 - 4 gals water/1,000 sq ft every 14 - 28 days as a preventative starting in late spring. Use the higher rate in areas with severe disease history.
	Compass 50WG	trifloxystrobin	11	0.15 - 0.25 oz	
	Eagle 40WSP	myclobutanil	3	0.6 - 1.2 oz	
	Insignia 20WG	pyraclostrobin	11	0.5 - 0.9 oz	
Take-All Patch	Heritage 50WG	azoxystrobin	11	0.4 oz	Apply two applications in the fall and two in early spring at 28 day intervals. Apply in 2 - 4 gals water/1,000 sq ft. See label. Apply at 28 day intervals. For prevention. Apply in fall and spring. See label.
	Rubigan	fenarimol	3	4 oz	
	Eagle 40WSP	myclobutanil	3	1.2 oz	
	Insignia	pyraclostrobin	11	0.9 oz	
	Disarm 480SC	fluoxastrobin	11	0.36 oz	
	Torque	tebuconazole	3	0.6 oz	
Yellow Patch (cool season brown patch)	Heritage 50WG	azoxystrobin	11	0.2 - 0.4 oz	Apply one application in late fall (two at 28 day intervals if severe disease history). Apply at first sign of disease and repeat as needed. Apply at first sign of disease and repeat as needed. Apply at first sign of disease and repeat as needed. Apply at first sign of disease and repeat as needed. Apply at first sign of disease and repeat as needed.
	Prostar 70WP	flutolanil	7	1.5 oz	
	Daconil 2787 4F	chlorothalonil	M5	3 - 11 fl oz	
	Daconil 2787 WDG	chlorothalonil	M5	1.75 - 6.5 oz	
	Daconil Ultrex	chlorothalonil	M5	1.8 - 7.4 oz	
	Fore 80W	mancozeb	M3	4 oz	
	Fore Flowable	mancozeb	M3	6.4 fl oz	
Parasitic Nematodes	Curfew**	1,3-dichloropropene	---	5 gal/acre	Golf turf, athletic fields. Should be applied in the absence of other stressful factors. Custom application by only Dow-certified chemical applicators.

* **FRAC Code** – Fungicides with the same FRAC Code have the same mode of action. See <http://www.frac.info/frac/index.htm> for an explanation of the FRAC Codes. Rotation of fungicides with different FRAC Codes could minimize the development of fungicide-resistant strains.

** **Restricted-use pesticide.**

CAUTION: Chlorothalonil is prohibited on home lawns (turf).