

DISEASE REFERENCE

Yellow spot (algae, cyanobacteria)

Oscillatoria spp, Phormidium spp.

DAMAGE CAUSED

Symptoms of damage:

Initial symptoms are yellow spots that can expand to encompass large areas.

Severe symptoms can result in large declining areas with algal scum at the surface of the thatch

Plants attacked:

Low mown turfgrasses including poa, bentgrass and bermudagrass.

Pests/conditions that cause similar damage

High soil salts (salinity)

Traffic damage

Heat or drought stress

Localized black layer

Geographic distribution:

Worldwide

PREDICTING DISEASE

Threat temperature

Spring and summertime, once average air temperatures exceed 60F (16C) for 5 consecutive days

Conducive environmental conditions:

Shade

Average air temperatures greater than 60 F(16C)

Low mowing height

Use of organic fertilizers

Compaction

Traffic

Poor drainage

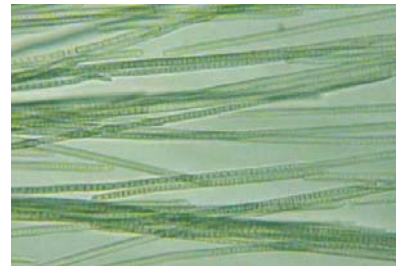
Symptoms on A4 bentgrass



Algae on leaf tips after 48 hr incubation in dark



Oscillatoria trichomes under microscope



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MONITORING TECHNIQUES:

Monitor air temperatures. When average air temperatures exceed 60F (16C), begin scouting turf for early symptoms.

Focus scouting efforts on shady areas with a history of algae. This is where symptoms are likely to occur earliest.

Collect a cup cutter sample and incubate in a plastic bag (closed) in the dark for 48 hours. Opening the bag will release a musty odor and the leaf tips will be colonized by a dark slimy film of cyanobacteria.

THRESHOLDS:

Curative: Monitor for characteristic small, yellow spots; apply fungicides curatively once spots appear

Preventive: In shady areas with a history of algae, periodic preventive applications of fungicides, made during the spring and summer, may be needed to prevent decline

MANAGEMENT STRATEGIES:

The products below have demonstrated good activity in research field trials on cyanobacteria. Always consult the most recent version of all product labels before use.

TYPE	TIMING	PRACTICE	
Cultural	N/A	<ul style="list-style-type: none">• Adequate nitrogen (0.1 – 0.2 lb nitrogen / 1000 ft² / wk [0.5 – 1.0 g nitrogen/ m² / wk] during season), but do not exceed 20 ppm total nitrogen in soil• Maintain soil salinity below 3.0 dS/m for cool season turf• Raise mowing heights as much as possible.• Avoid use of organic fertilizers• Regularly topdress greens with sand	
Biological	None known		
Chemical	Curative: Apply after a few spots appear on a green. Only treat affected greens. Preventive: Apply once average air temperatures exceed 60F (16C) in areas with history of infestation	Active Ingredient (Product)	Label signal word
		Chlorothalonil (Daconil Weatherstik)	Caution
		Mancozeb (Fore 80WP)	Caution
