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HAS Decline of Annual Bluegrass (Anthracnose)– Turf Tips
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HAS Decline of Annual Bluegrass (Anthracnose)

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Loss of *Poa annua* (annual bluegrass) has traditionally been attributed to direct high temperature kill, or to the natural dying of a winter annual. However, fungicide treatments have recently been used to prevent annual bluegrass from dying during summer heat stress. This suggests that annual bluegrass does not die from these stress factors, but as a result of other causes that can be mitigated by fungicides. Anthracnose, caused by *Colletotrichum graminicola,* has been shown to be the primary cause of annual bluegrass decline during warm summer weather. *Helminthosporium sorokinianum,* the disease organism involved in leaf spot, and senescence also play a part in annual bluegrass decline. The proposed name for this disease complex is HAS Decline (Helminthosporium-Anthracnose-Senescence). Annual bluegrass will grow successfully during the summer stress period if this disease complex is managed through the use of fungicides. It is no longer necessary to try to eliminate annual bluegrass through expensive, time consuming and unsuccessful overseeding programs.

Symptoms

The initial characteristic symptom of HAS decline, is a yellow-bronze coloring of the turf. This color is an indication of senescence and distinguishes it from wilt, which is dark blue to purple in color. Later, the turf darkens and irregular brown to purplish black lesions appear on the leaf blades.

In cool weather, the turf will remain yellow, with little thinning or dying. But when temperatures range

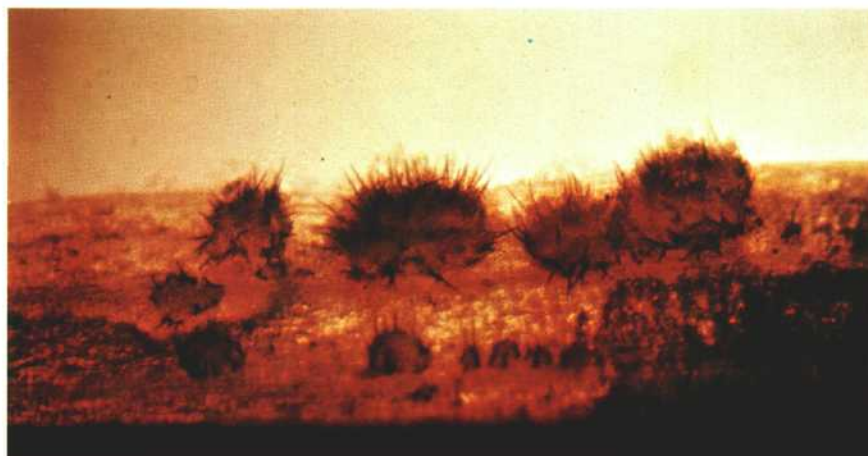Figure 1: HAS decline damage on an annual bluegrass fairway.

Figure 2: Fruiting structure of anthracnose at close observation.

in the 80's, and humidity is high, the yellowish-bronze turf will darken within 48 hours unless fungicides are applied. HAS decline may initially appear as irregular spots one-to-two feet in diameter, but within 24 hours large areas, even an entire fairway, can thin out and die (Fig. 1). It is at this time that the black fruiting structures (acervuli) of the anthracnose

fungus, are visible in the yellow and/or newly killed tissue. The black spines (setae) protruding from the fruiting structure, distinguish the fruiting bodies of anthracnose from the majority of other fruiting bodies produced by saprophytic fungi (Fig. 2). The acervuli can be seen with the aid of a hand lens or dissecting scope.

Occurrence

HAS decline occurs when daytime temperatures are in the 80's for a week or more and is most severe when nighttime temperatures stay above 70 degrees F for three or more nights in a row. HAS decline is most severe when annual bluegrass is under stress; as in compacted areas, heavy traffic, poor soil drainage, and improper nitrogen fertility.

Cultural Management

HAS decline can be prevented, in years of moderate temperature, by proper nitrogen fertility. A nitrogen program of ½ pound of actual nitrogen per 1,000 square feet applied in June, July and August will help repress the disease. This nitrogen fertility program should be supplemented by applying one pound of actual nitrogen per 1,000 square feet in ear-

Table 1. Recommended fungicides for the management of HAS decline of annual bluegrass.

Common Name	Trade Name	Manufacturer
Benomyl	Tersan 1991	duPont
Chlorothalonil	Daconil 2787	Diamond Shamrock
	Proturf 10IV Broad Spectrum Fungicide	O. M. Scott
Maneb + Zinc sulfate	Tersan LSR	duPont
Mancozeb	Fore	Rohm and Haas
	Formec 80	PBI Gordon
Thiophanate-ethyl	Cleary 3336	W. A. Cleary
Thiophanate-methyl	Fungo 50	Mallinckrodt
	Topmec 70W	PBI Gordon
	Proturf Systemic Fungicide	O. M. Scott
Triadimefon	Bayleton	Mobay
Triadimefon	Pro Turf Fungicide 7	O. M. Scott
Thiophanate-methyl + mancozeb	Duosan	Mallinckrodt

ly September and after vertical plant growth has stopped.

Chemical Management

Systemic fungicides (benomyl, triadimefon, thiophanate-methyl or thiophanate-ethyl) applied as a drench at 2 ounces per 1,000 square feet will allow newly infected areas to recover in about ten days. One ounce rates and nondrench applications also work but recovery is longer. However, a one ounce rate is sufficient when ap-

plied as a preventive before the disease occurs. This application should be made around mid-July. Contact fungicides, such as chlorothalonil and mancozeb, can be applied on a preventive basis every seven-to-ten days starting in mid-July also. Table 1 lists the recommended fungicides for the control of HAS decline of annual bluegrass.

NOTICE: Always use pesticides carefully. Follow label directions and avoid misuse. Any use of a pesticide inconsistent with the label is illegal.