(Disease Summer '87 cont'd.)

firm that Rhizotonia was definitely involved, but the symptoms were described as "classical brown patch". As with Pythium, unfavorable weather conditions and high disease pressure, combined with low application rates reduced the residual efficacy of these products.

Many highly effective fungicides are available for preventative and curative control of brown patch, including both contact and systemic products. If a systemic sterol inhibiting fungicide such as Bayleton or Rubigan provides inadequate control, switch to a product with a different mode of action (e.g. benzimidazoles, PCNB, iprodione). Dependence on a single fungicide for long term, broad spectrum disease control is a risky business in difficult years like 1987.

What about Anthracnose?

In the last two years, I have often been asked if anthracnose is really a disease — i.e. is the fungus a primary pathogen or a secondary invader? My answer has always been a qualified "yes, it is a pathogen, but..." The fungus, **Colletotrichum graminicola,** is a facultative parasite that normally colonizes weakened or heat stressed **Poa annua**, and sometimes bentgrass. However, in 1987 I found anthracnose causing serious problems on otherwise healthy **Poa annua** at putting green height, beginning in mid-April and continuing through August. In fact, I received more calls regarding diagnosis and control of anthracnose than for any other disease in 1987.

Two or three different types of disease scenarios appear to be associated with anthracnose on golf turf. A common occurrence around Chicagoland is leaf infections on stressed **Poa annua** in mid summer. Leaves of stressed plants turn shades of yellow to orange, and **C. graminicola** fruiting structures (acervuli) can be found on senescent leaves and sheaths. In this case the fungus is probably operating in a opportunistic, secondary mode. It is difficult to say how important the fungal infection is in contributing to the death of weakened plants.

A more serious situation develops when **C. graminicola** invades the stem base of **Poa**, just above the crown, and attacks juvenile and mature tissues, instead of senescent cells. Infected plants show similar leaf discoloration as before, but few, if any, leaf lesions and acervuli develop. This type of infection readily kills entire shoots of **Poa** and seems to be less related to high temperature or other stresses, although inadequate N and P fertility are contributing factors. Disease occurs in small, irregular spots (½ - 2" in diam.), which coalesce and turn dark orange to brown in terminal stages. Since the pathogen is primarily internal in the culm or crown area, field diagnosis is difficult (if not impossible) with a low magnification hand lens or field microscope.

Control of anthracnose on **Poa** proved difficult, at best, in 1987. Contact fungicides such as Daconil 2787 and the systemic Bayleton (2 oz. rate) are among the products normally recommended for control of the leaf lesion phase. However, these products provided no relief from the stem base/flower leaf sheath infection that was frequently encountered in the summer of '87. The best control of this more serious type of anthracnose was gained by applying 2 oz. of a benzimidazole type systemic fungicide such as Tersan 1991 (benomyl), Fungo 50 (thiophanate methyl), and Cleary's 3336 (thiophanate ethyl). In addition, light to moderate fertilizer applications (.1-.2 lb. soluble N) appeared to promote recovery.

Typically, anthracnose is restricted to **Poa annua**. Any bentgrass or other species in the stand will be unaffected, which gives us a clue as to the causes of the disease. However, in some cases, bentgrass is preferentially attacked by **C. graminicola**, leaving healthy **Poa** behind. This may actually be a different strain or biotype of **C. graminicola**, one that is pathogenic to bentgrass, but not **Poa.** Anthracnose on bent most frequently occurs in late summer or early fall, when cool, moist conditions prevail. It doesn't appear to be a serious problem at this time.

1988 Pesticide Training and Certification Clinics

March 8 — Glencoe — Chicago Botanic Garden, Lake-Cook Rd., east of I-94, 8:00 a.m., $5.00 registration. Pre-registration required, call (312) 991-1160.

March 15 — Joliet — Holiday Inn, Larkin Ave. & I-80. 8:00 a.m., $5.00 registration. Pre-registration required, call (815) 727-9296.

March 29 — Crystal Lake — Hob Nob II Restaurant, Junc. Rt. 14 & 31, 8:00 a.m., $5.00 registration. Pre-registration required, call (815) 338-3737.

April 13 — Rockford — Clock Tower Hotel, I-90 & Bus. 20, 8:00 a.m., $10.00 registration.

April 13 — Wheaton — DuPage Co. Fairgrounds, Manchester Rd., 8:00 a.m., $5.00 registration.

April 19 — Glencoe — Chicago Botanic Garden, Lake-Cook Rd., east of I-94, 8:00 a.m. $5.00 registration.

TESTING ONLY

No Training Will Be Given

March 30 — Duquoin — Duquoin State Fairgrounds, on Rt. 51, 8:00 a.m. - noon. All Tests Available.

June 2 — Wheaton — Dupage Co. Fairgrounds, Manchester Rd., 8:00 a.m. - noon. All Tests Available.

March 9 — Glencoe — Chicago Botanic Garden, Lake-Cook Rd. east of I-94, 8:00 a.m., $5.00 registration. Pre-registration required, call (312) 991-1160.

March 16 — Joliet — Holiday Inn, Larkin Ave. & I-80, 8:00 a.m., $5.00 registration. Pre-registration required, call (815) 727-9296.

April 14 — St. Charles — Kane Co. Extension Office, N. of Rte. 38 on Randall Rd., 8:00 a.m., $5.00 registration. Pre-registration required, call (312) 584-6166.

April 20 — Glencoe — Chicago Botanic Garden, Lake-Cook Rd. east of I-94, 8:00 a.m., $5.00 registration.

One-day Urban Clinics in northeastern Illinois (Glencoe, Joliet, St. Charles) are preceeded, on the day before by a General Standards Clinic listed above.