EXPERIENCES WITH CONTROLLING THE ATAENIUS BEETLE AND ANTHRACNOSE

Roger Barton
Golf Course Superintendent
Blythefield Country Club
Grand Rapids, Michigan

GRUB PROBLEM: HISTORY

In 1932 the Ataenius Grub problem was discovered at a golf course near St. Paul, Minnesota. Larvae were feeding on roots, killing both greens and fairways. The next reported damage was in 1969, when golf course fairways in Monroe County, N.Y. were damaged. I think the problem has been present for some time, but it went unnoticed until our maintenance practices became more intense. I don't think we noticed the problem on non-watered fairways and at that time the height of cut was generally higher, not creating the stress.

The real crunch came in July, 1973 on fairways and greens in Cincinnati, Ohio. 1973 and 1974 were very bad years in that area. Superintendents began to examine dead or wilted patches of turf more closely. Now there is more than 18 states affected.

DAMAGE

The larvae feeds on the roots of annual bluegrass, creeping bentgrass, and Kentucky bluegrass. I noticed my biggest problem was with the "Poa" fairways and green collars, partly because of the thatch in these two areas. The thatch is a perfect place for the eggs to develop into larvae. Annual bluegrass being short rooted, shows stress very fast when any part of the root has been cut off. I found the population is there in the Kentucky bluegrass areas on the course, but it doesn't show up as fast because there is a better root system. I didn't have any damage on the putting surface, but I did have a small population in the top inch of soil. In May, we put an application of chlordane on greens mainly for cutworms, but we found great numbers of the beetle coming out of the turf on the green. The chemical made the adult beetle groggy, but didn't kill many of them. You can usually see the adult larvae on the greens, on sunny afternoons in April and May. There was just as many on the fairways, but they are hard to see because of the longer turf.

LIFE CYCLES

Ohio State University has been studying the life history of the Ataenius Beetle on Cincinnati, Ohio golf courses for the past two years. The studies show the insect over winters as an adult, 1-2 inches deep in well drained soil at the edges of wooded areas near the golf courses. They start flying around in April, but don't start the egg laying until May or June.

At Blythefield, the first population of larvae started doing damage around the first of July in 1976, but came a little earlier in 1977. I noticed some damage the 15th of June. I think everything started earlier last year, with the temperatures in the 90s in May.

In July, the larvae burrow 1-2 inches into the soil to pupate and form adults, and in turn they lay eggs. We got another generation in mid-August. We found, at Blythefield, the second crop of larvae didn't give us as much damage as the first one in July. I think the only reason for this is the temperature, and the annual bluegrass isn't under as much stress. The results of tests done by Harry Niemczyk show the insect is resistant to the following chemicals: cyclodiene insecticides, aldrin, dieldrin, heptachlor, and chlordane.

CONTROL OF LARVAE

At Blythefield Country Club, our soil is sandy with a gravel base. We have a high population of grubs. The golf holes along the river seem to be affected the worst. This is where I discovered the annual bluegrass going out in July, 1976, my first season at Blythefield. The areas started showing damage in irregular patches with slight yellowing. A lot of the damage was along sprinkler lines. This really had me puzzled, because we had been spraying on a program for our regular turf diseases. Some of the patches looked like Anthracnose. One evening while playing golf I got to the 12th hole and started digging around in the wilted areas. I found you could pick up the turf very easy. There was a very high population of larvae, about 8-12 grubs per 2 sq. inches. The next morning, very early, we sprayed the 5 holes on the low ground with proxal 80, 7 lbs. of material per acre. We had good results with the material because we sprayed very early in the morning, when the dew was heavy. We didn't get any drying of the leaves of the plants. The minute we got one of the fairways sprayed, we watered in the material with two ten minute sets. We followed this process for 5 holes. I was worried that the fairways were going to be too wet for play, so I didn't water the 5 holes we sprayed the night before. I used this same method of spraying in the evening on some other holes and found I couldn't keep the chemical from drying on the foliage. We got poor results. This past season, we sprayed earlier (June) and got good fairway control. I had a problem on green collars, getting the chemical to the root zone.

This next season, we are going to try granular Diazinon in some areas early in the season, to see if we can kill some of the adult larvae.

CONTROLLING ANTHRACNOSE

Controlling Anthracnose at Blythefield Country Club hasn't been hard to achieve the last two years.

My tough experience at Dearborn Country Club with the fungus has taught me to be very aware of the symptoms and the types of weather which are typical of the disease.

We started a fairway spraying program as follows:

The first of May- contact fungicide application, usually T.G.F.
The first of June- Tersan 1991, 1 oz/1000.
July 1st or before, depending on weather conditions- we apply another contact. Acti-dione Thiram, at 2 oz/1000 sq ft.
The end of July- apply another oz of systemic fungicide.
Around Labor Day- Daconil 2787 at the rate of 3 qts/acre.

This gave excellent control of dollar spot and Anthracnose on Poa fairways. We noticed Anthracnose was present in July where the Poa was under stress; such as edges of fairways, and in front of greens. During stress periods we sprayed Tersan 1991 at 2 oz/1000 sq ft, along with a wetting agent to help in water penetration on the edges. This worked very well. For excellent playing conditions, you have to sell your Board of Directors on the cost of your spray program. I don't think you can grow Poa fairways and tees without a good program like you have for greens. The cost for controlling Ataenius Beetle and Anthracnose on the greens, tees, and fairways this year was $8200.00. Our total Chemical Budget for the year was $9700.00.