Control Strategies for Black Turfgrass Ataenius

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The black turfgrass ataenius or Ataenius beetle is considered a serious insect pest of golf course turf. In the Maryland and Northern Virginia area numerous golf courses over the past ten years have experienced damage from the larval or grub stage of this insect.

The Ataenius beetle was first discovered in 1932 to cause turf loss on fairways and greens in Minnesota. Little information about its pest status was mentioned in the literature until the 1970s when numerous reports began to appear from several of the eastern and mid-western states. My first experience with diagnosing damage from this insect occurred in 1979 where extensive turfgrass loss occurred to annual bluegrass-perennial ryegrass fairways in late June.

The black turfgrass ataenius is in the same family (scarab beetles) as the Japanese beetle, masked chafers, and the May or June beetle. Damage to the turfgrass stand is caused by the root-feeding activity of the grub or larva. The hose plants are annual bluegrass, Kentucky bluegrass, and the bentgrasses. Damage is often noticed first on annual bluegrass in mixed stands. This is believed to be due to differences in rooting depth of annual bluegrass compared to other hosts. Diagnosing Ataenium beetle damage may be somewhat confusing since it resembles blighting by such diseases as brown patch and pythium which also may be active during this time period. One quick way to differentiate between the two pest types is to check the root system of the plant. If the plants can be easily pulled up then small third instar grubs (1/3" in length) will be seen.

An understanding of the Ataenius beetle life cycle is important for effective control. The beetle will have two generations per year with the larval instars occurring in the mid-May-June period and in the late July-August time period. The third instar stage of the grub is considered to be the most destructive and will be present in mid-June for the first generation and mid-august for the second generation. Observations made last year at different golf courses for the appearance of the Ataenius beetle are listed in Table 1.

The adult beetle will overwinter in protected areas during the winter and will begin to emerge in early April in our area. Egg laying by these overwintering adults will occur by early May and is timed to the flowering of the horse chestnut and the Vanhoutte spirea.

Control strategies for black turfgrass ataenius may be geared to either adult (preventative approach) or for larval control (curative approach). Work by Niemczyk on preventative control demonstrated that excellent results could be achieved if sites were treated in early May when overwintering adults were depositing their eggs into the turf. Timing of the preventative approach was shown to follow closely with other phenological events such as flowering of the horse chestnut and the Vanhoutte spirea. Insecticides used for this method must stay in the upper thatch layers and therefore only light watering (several minutes) is recommended.

Curative control for this insect occurs in early to mid-June when a majority of the eggs have hatched and second and third instar grubs are present. Insecticide application must be followed by deep watering (1/2") in order to place the insecticide into the soil where the grubs are feeding. If damage is seen in August from second generation larva, then control actions can be applied to stop further damage.

Insecticide choice, Proxol, Turcam, Oftanol, Dursban, Sevin, or Triumph will depend on whether a preventative or curative control strategy will be used. Insecticides that can move through thatch and into the soil quickly will provide acceptable larva control while insecticides remaining in the surface litter will provide good adult control.

Appearance of Ataenius beetles at local golf courses in 1991

Date	Life Stage	Location
May 26	Larva - 1st gen.	Pine Ridge Golf Course - Fairways
June 11	Larva - 1st gen.	Hobbits Glen Golf Course - Fairways
June 13	Larva - 1st gen.	Norbeck - Greens
July 20	Adults - 2nd gen.	UMCP Golf Course - Greens, Collars
July 26	Adults & Larva - 2nd gen.	Burning Tree Golf Course - Fairways, Collars
Aug 2	Larva - 2nd gen.	Leisure World - Collars, Fairways
Aug 19	Larva - 2nd gen.	Holly Hills - Collars, Fairways