A PRACTICAL RESEARCH DIGEST FOR TURF MANAGERS

TURFGRASS TRENDS

Volume 8, Issue 9 • September 1999

ENTOMOLOGY

Scarab Grubs
Sampling and Identification

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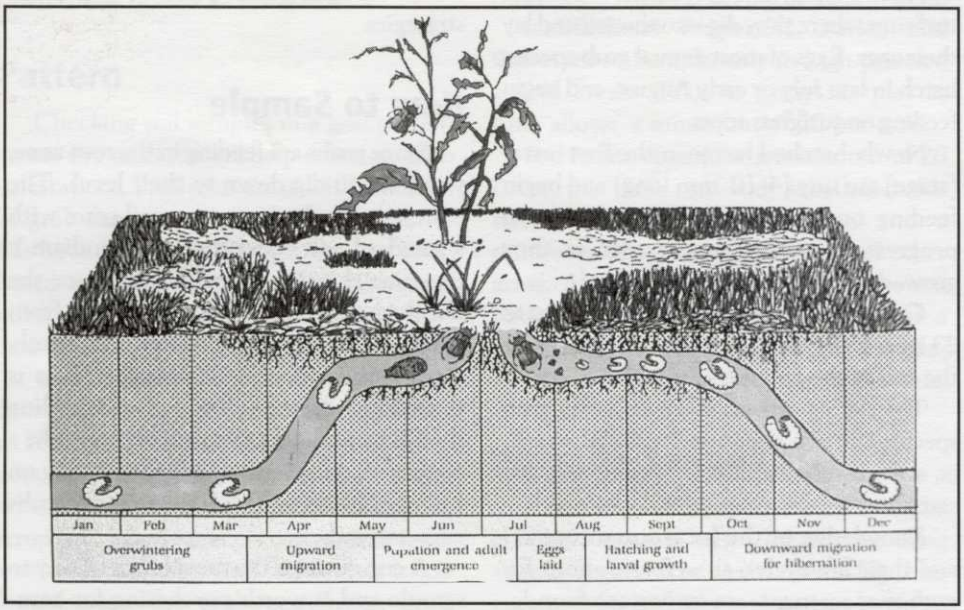
At this time of year, turfgrass managers are concerned about infestations of Scarab grubs in the soil. These insects are present throughout the United States, but their damage tends to be the most ubiquitous and severe in the eastern and central states. Scarabs which are considered pests of turf include the Japanese beetle (*Popillia japonica* Newman), oriental beetle (*Anomala orientalis*), green June beetle (*Cotinis nitida*), Asiatic garden beetle (*Maladera castenea*), May and June beetles (*Phyllophaga* spp.), black turf-



Life Cycle of an Annual Scarab Grub: May - Grubs emerge from hibernation in soil beneath the frost line and tunnel up to warmer soil where they feed on grass roots for 3 to 4 weeks. June - Grubs build a cell where they pupate and emerge from the soil several weeks later as adults. July - Adult beetles fly to foliage and cluster together feeding and mating. Females lay eggs in the soil during their 4 to 6 week life span. Aug - Eggs hatch in 9 to 30 days, generally by mid-August. The young grubs begin feeding on roots near the surface. Control grubs now before their size and appetites are fully developed. Sept - Grubs grow larger and feed more heavily. Visible damage common. Oct - Turf damage more evident, as large grubs have been feeding for months. Nov - As the weather gets colder, grubs burrow deep into the soil for winter hibernation.

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