Damage from animals trying to find the grubs and enjoy them as a meal can be more severe than the grub damage itself.

Digging for Facts on

White Grubs

By Rick Brandenburg

As our turfgrass industry grows and our clientele’s expectations increase we see a constant evolution of challenges. Research and the development of new products often eliminate some concerns, but higher standards for turf often reveal new problems. For example, if we look solely at insect pest problems in just the Carolinas over the past 25 years, we can identify several problems that have changed during that time.

The major problems that have emerged have been obvious. These include fire ants and mole crickets. These insect pests have become two of the most significant golf course insect pests that we have to battle, but fortunately, we do have access to some excellent management tools for both pests.

More recently it seems an old pest has begun to gain in importance throughout the Southeast. White grubs seem to be appearing more consistently in all types of turfgrass settings including golf courses. These grubs include larvae of the Japanese beetle, Oriental beetle, masked chafer and green June beetle. There are some other species also involved in the mixture of grubs we have observed including ones from a different group called billbugs.

White grubs are the larval stage of certain beetles and most take one year to complete their life cycle and spend most of their life in the grub stage feeding on turfgrass roots. Most species occur as the adult beetle for a short time during summer. Some species, such as Japanese beetles, also feed on various ornamental plants. Japanese beetles and green June beetles fly during the day and we may notice them, while others such as masked chafer fly more in the evening.

While white grubs can be very destructive to turfgrass quality by feeding on the root system and loosening the
soil, other problems can also be associated with grubs. On occasion, various predators such as moles, skunks, raccoons, armadillos, crows and other animals can damage the turfgrass by digging up the grubs as food.

Why do grubs seem to be more of a problem today than 20 years ago? It’s a good question that is hard to answer. One factor may be as simple as the presence of higher quality turfgrass with more irrigation that creates more consistently optimal conditions for white grubs. It is also possible that the use of newer insecticides with more narrow spectrums of control may be more likely to allow white grubs to “slip through.” For example, some of our fire ant, mole cricket, and cutworm insecticides will not have an impact on white grubs.

To help address this emerging concern over white grubs we have initiated a new research program at North Carolina State University. We have several objectives associated with this new recent program. Our objectives include:

1. Determining all of the species of white grubs feeding on both warm and cool season turfgrass,

2. Developing a good understanding of the life cycle and timing of each life stage for each species,

3. Refining the use and timing of current insecticides,

4. Investigating effective alternative (non-chemical) control strategies.

This large project began in May, 2005, and will continue for three years extending from the mountains to the coast. I anticipate the information we obtain will help us manage white grubs in a more consistent, cost-effective manner and allow us to use the newest products with the greatest success.

Our findings will be presented each year at a number of conferences and updates provided for Carolinas Green. Information to assist with timing and control recommendation will also be available on the website www.turffiles.ncsu.edu. With the proper information in hand, white grubs can be effectively managed and I hope we can improve our ability to do even more with this research.

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