

Ground Pearls in Turfgrass ¹

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Ground pearls (Hemiptera: Margarodidae) are scale insects that suck fluids from the roots of bermudagrass, bahiagrass, carpetgrass, St. Augustinegrass, and zoysiagrass, but prefer centipedegrass. They may be associated with acidic soil. Infested grass yellows, browns, and dies, especially in hot, dry weather. Weeds tend to invade infested areas. They occur throughout Florida.

Biology and Behavior

Clusters of pinkish-white eggs, covered in a white waxy sac, are laid in the soil from March to June. Tiny crawlers or nymphs attach to roots and cover themselves with a hard, yellowish to purple, globular shell (Figure 1). These “pearls” range in size from a grain of sand to about 1/16 inch. They may occur as deep as 10 inches in the soil (Figure 2). The adult female is 1/16 inch long, pink in color, with well developed forelegs and claws. Adult males are rare, tiny, gnat-like insects. Females emerge from cysts in the spring, move around a little, then dig several inches into the soil, and secrete a waxy covering around themselves. One generation may last from 1 to 2 years.



Figure 1. Ground pearl feeding on a root. Credits: J. Castner, University of Florida

Detecting Infestations

Symptoms attributed to ground pearl injury are first a yellowing of the grass, followed by browning. Ground pearl damage becomes most noticeable when the grass is under stress due to drought, nutritional deficiencies, etc. Under stress conditions, the grass may not be able to tolerate ground pearl feeding damage, and the grass may die. On the other hand, properly watered and otherwise well managed lawns often do not show noticeable damage, even though

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Figure 2. Ground pearls collected in soil (match stick used for size comparison). Credits: J. Castner, University of Florida

they may be heavily infested with these insects. There are other factors, such as disease, nutritional unbalances, drought and nematodes (especially in centipedegrass) that can cause off-color areas in lawns. The lawn should be carefully examined to determine what corrective measures are needed.

Control

No management strategies, including biological and chemical controls, are currently available for ground pearls. Minimize plant stress and maintain proper fertility and irrigation to help grass tolerate the damage. Removal of the top few inches of soil or herbiciding the grass in an infested area are also not enough to reduce ground pearl infestations. The waxy coating surrounding the nymph helps it to survive almost any adverse condition.

One viable alternative is to redesign the area without turf to eliminate the ground pearl's food source.

For More Information

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