

The Science of Soil Insect Pests

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In a world that has become conscience of pesticide usage, it is imperative to understand the biology of the targeted pest to achieve the highest level of control with minimum reliance on chemicals. When a product is applied at the appropriate time in the insect's biology maximum damage can be achieved with minimal product. This strategy can reduce the cost of controlling the insect, both monetarily and environmentally.

For effective pest management strategies to be developed we must have an understanding of the pest's biology, behavior, and habitat in which it exists. Acquiring this knowledge becomes increasingly more difficult when the pest in question spends the majority of its time underground. It is not feasible to dig up large areas of earth to learn this information, and while there are various methods for observing subterranean pests that provide insight, they do not tell the whole story. Currently novel approaches to monitoring terrestrial and subterranean pest are being developed using new technologies.

Much is already known about mole cricket biology and behavior, but much is still unknown. We have developed a technique using RFID technology to monitor mole cricket movement. A chip is inserted surgically into the cricket. The cricket is released into treated and untreated plots. The movement of the crickets is monitored and the data collected will be used to confirm avoidance by the crickets to treated soils.

Billbugs have become the hot topic of discussion. Although they are not a problem for every one they are a problem if you have them. Traditionally thought to be a pest of zoysia grass we are finding that they do significant damage in bermuda grass as well. Research projects from the past three summers have resulted in a better understanding of the species presence, life cycle, and control tactics. Additional research will provide product efficacy for control and timing, along with new monitoring approaches.