

Best Management Practices

Cicadas - Getting Ready for Brood X

This year marks the emergence of Brood X throughout the Mid-Atlantic States. Experts are predicting this year's emergence to be the most numerous in history. These Periodical cicadas (belonging to the genus *Magicicada*) are considered nuisance pests and do not bite, sting, and pose no danger to humans. They belong to a group of insects known as the Homoptera, which include other insects like treehoppers, leafhoppers and spittlebugs.

The loud songs produced by male cicadas are notorious and are specific to each species. These sounds may come from abdominal contortions or wing-banging.

Periodical cicadas may be referred to as "17-year locusts." Early American colonists had never seen periodical cicadas. They were familiar with the biblical story of locust plagues in Egypt and Palestine, but were not sure what kind of insect was being described. When the cicadas appeared by the millions, some of these early colonists thought a "locust plague" had come upon them. Some American Indians thought their periodic appearance had an evil significance. The confusion between cicadas and locusts exists today in that cicadas are commonly called locusts. The term "locust" is correctly applied only to certain species of grasshoppers.

There are six species of periodical cicadas, three with a 17-year cycle and three with a 13-year cycle. The three species in each life-cycle group are distinctive in size, color, and song. The 17-year cicadas are generally northern, and the 13-year cicadas southern with considerable overlap. In fact, both life-cycle types may occur in the same forest (but emerge together every 221 years). Periodical cicadas have red eyes and wing veins and appear in May and June.

Another common cicada is the dog-day cicada (*Tibicen pruinosus*), which appears every July and August in the eastern states. Its life cycle is at least four years and it is a large, black insect with green markings.

Cicadas deposit their eggs in the twigs of trees and shrubs. This usually injures the twig so severely that its terminal end dies. Females will die after depositing eggs. Hatched larvae feed on sap and will eventually drop to the ground and dig downwards in search of a root, their favorites being of perennial plants. They eventually become nymphs that will remain in the ground until their last molt. In the case of periodical cicadas, this period is either 13 or 17 years. The final molt takes place after the nymph climbs a tree (or a wall, garden hose, barbecue, etc) and fastens its claws to the bark. Once secure on a surface, the nymphal exoskeleton or "skin" will split and the adult will climb out, leaving its empty exoskeleton behind still clinging to the surface. Many of these empty nymphal exoskeletons can be seen on trunks of trees, building walls and other vertical surfaces. The adult stage lasts about one month.

Damage done by cicadas occurs primarily during egg laying by the adult females in the twigs and branches of deciduous trees (trees that lose their leaves each fall, such as oaks, maples, or fruit trees). Egg laying will not kill large established trees, however small trees with many small branches may be severely damaged, which could result in death. Adults may suck fluids from deciduous trees, but this usually does not cause damage.

Control

Exclusion strategies are likely the most effective means of control. Young susceptible trees (refer to your local Cooperative Extension Agency for a list of trees at high risk for damage) can be covered with mesh netting that has holes no larger than 3/8-inch diameter. To be effective, netting should be installed prior to cicada emergence in mid-May and should remain in place until the brood disappears toward the end of June.

Suppressing Brood X with the use of TalstarOne™ multi-insecticide: Use of 10.8 to 21.7 oz per 100 gallons of water (equal to 1/4 to 1/2 oz of TalstarOne™ multi-insecticide per 1000 square feet of treatment area) is recommended for control of emerging cicadas. Use the highest rate listed when insect pressure is severe. Treatment should be targeted to tree trunks, branches, and the base of structures to affect nymphs ready to emerge and females looking to deposit eggs. Also spray the lawn adjacent to structures.

Suppressing Brood X with the use of Talstar® Nursery flowable insecticide/miticide; Use of 10 to 20 oz per 100 gallons of water (equal to 1/4 to 1/2 oz of Talstar® Nursery flowable insecticide/miticide per acre) is recommended as a protective treatment to keep cicadas from damaging young shoots and branches when laying eggs. Use the highest rate listed when insect pressure is severe. Thorough coverage is necessary for effective control. Repeat applications as necessary based on insect infestations or local or State programs. Refer to FIFRA 2(ee) Recommendation specific to the following states: DE, DC, GA, IL, IN, KY, MD, MI, NC, NJ, NY, OH, P, TN, VA, WV

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