

“Cicadas”

Cicadas are large, active insects which are known by many different names. Periodical cicada, annual cicada, dog-day cicada, and 17 year locust are all used to describe members of this group. During the summer of 1990, many regions of the Chicago metropolitan area will be acutely aware of the periodical cicada as they will emerge in substantial numbers. Although damage to some plant materials may be severe, noise produced by the males will prove to be the greatest annoyance.

Types of Cicadas

The cicadas in northern Illinois can be broken into two major groups: (1) those with 17 year life cycles, and (2) those with life cycles of 2-5 years. Members of the first group are correctly called periodical cicadas, although they are often known as 17-year locusts. They have black bodies that are slightly over an inch long, and have red or orange eyes, legs, and wing veins. This is the group that will command so much attention during 1990. In our area, 17 years are required to complete the life cycle. Within a given geographic area, all the periodical cicadas emerge as adults at one time. These populations are called broods. Brood emergences occur at 17 year intervals and can be accurately predicted. Thus, the periodical cicadas due to emerge in northern Illinois during 1990 (Brood XIII) will not reappear in our area again until the year 2007.

The second group, balled dog-day cicadas, is named for the time of year their buzzing is heard. They are slightly larger than the periodical cicadas and are colored green and black. Their eyes are black and their legs are tan. Although the exact duration of their life cycle is unknown, it is probably 2-5 years. Unlike the periodical cicadas, the broods of dog-day cicadas overlap, so that some individuals emerge as adults each year. Thus, the term annual cicadas have been applied to this group, although that title is not correct because more than one year is required to complete the life cycle.

Life Cycles

All cicadas have a similar life cycle, other than the time it takes to complete it. Using a saw-like egg laying apparatus, adult females insert their eggs into slits cut into the bark of small twigs. About 25-50 eggs will be laid in each slit. Over the course of her adult life (about 3 weeks), a female will make up to 20 slits and lay up to 600 eggs. It is during this egg laying activity that the damage to woody plants occurs.

After emerging from the eggs, the young nymphs drop to the ground and burrow into the soil beneath the tree. There, they find a small root and begin to feed by inserting their tube-like mouthparts into the root and sucking plant sap. Thus begins an underground existence of 2-5 years for the dog-day cicadas, or 17 years for the periodical cicadas.

After the time required for nymphal development has passed, the nymphs are ready to leave the soil. Beginning in late May or early June, the nymphs will emerge from the ground,

leaving behind a nickel-size hole. The nymphs (Fig. 1) crawl up a nearby vertical object, usually a tree trunk. There, the nymphal case splits along the back, and the adult cicada (Fig. 2) emerges. Adult males possess sound producing organs which produce a loud buzzing noise for the purpose of attracting mates. Only the males sing. Females do not possess sound producing organs. Following mating, the cycle begins again.



Figure 2. A Cicada Adult

Injury

Adult cicadas do not consume plant material. The only harm they do to the plants is a result of their egg laying activities. The adult females insert their eggs into small twigs. The effect is similar to cutting a slit with a small penknife. A few slits do little harm to the twigs. Because of the great number of cicadas that may be present, however, large numbers of slits can be made over short distances. This physical disruption of the twigs can cause them to die. Consequently, the twig foliage will die, resulting in brown flags in an otherwise green tree. On large trees, the loss of small twigs may appear significant, but actually causes little harm to a healthy tree. Where cicadas are numerous, small or newly transplanted trees may be severely injured. The trees will probably not die, but may have significant dieback and scarring of twigs and small branches.

Management

Healthy trees will be able to recover from cicada injury more easily than those in poor condition. Small trees are more at risk because a greater percentage of their branches fall into the size range favored by females for egg laying. Covering small trees with a cherry net or cheesecloth will serve as a physical barrier. On larger trees, little can be done to prevent injury. Spraying is impractical because of the large amounts of pesticides required, and because it will do very little to prevent tree injury. Although the adult cicadas can be easily destroyed with insecticides, in areas where numbers are high, more will soon replace those killed. To prevent the females from laying eggs, sprays would need to be applied too frequently to be practical. In summary, it is our opinion that chemical controls for cicada management will not be needed in most situations.

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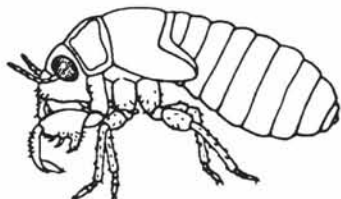


Figure 1. A Cicada Nymph

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