

# Landscape & Ornamental

Department of Entomology

## PERIODICAL CICADA IN INDIANA

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In Indiana most broods of the periodical cicada appear once every 17 years. However, two broods come out every 13 years. Periodical cicadas are usually referred to as “17-year or 13-year locusts.” They are about 1-1/2 to 2 inches long and have black bodies, reddish legs, wing margins, and eyes.

### LIFE HISTORY

Cicadas have an interesting life cycle. They appear in the last part of May and during June. The incessant cadence of high-pitched, shrill sounds announces their presence. Only the males make this noise. It is produced by vibrating membranes on the underside of the first abdominal segment. The females have no sound-producing organs.

A female cicada has a knife-like organ that she uses to slit or puncture twigs of woody plants in which she lays her eggs. In about 6 weeks, the eggs hatch, and the nymphs drop to the ground, dig into the soil, and feed by sucking sap from tree roots.

Females will only lay eggs in twigs between 3/16” and 7/16” in diameter. At the end of 13 or 17 years, depending upon the brood, the nymphs come out of the ground. They crawl up tree trunks, posts, or other objects, shed their last shell, and emerge as winged cicadas. These adults live about one month. During this time they mate, and each female lays 400-600 eggs. Cicadas are abundant only in areas where trees harbored the eggs of the previous generation. Cicadas can be very numerous in some areas and absent in woodlots nearby.

### DAMAGE TO TREES AND SHRUBS

While some people consider the mass emergence of cicadas one of nature’s many wonders, others find it a nuisance. In urban areas, heavy infestations can make the sidewalks and roads slick with dead insect carcasses. In fruit orchards and nurseries, cicadas can seriously damage young trees whose main stems and branches are between 3/16” and 7/16” diameter.

Female cicadas cause damage when they puncture or slit the twigs of trees and shrubs to lay their eggs. Infested branches appear as if the eggs have been stitched in by a sewing machine. These branches will turn brown, die, and sometimes break off. Female cicadas have been reported to

lay eggs on over 200 woody tree species and are common on oak, hickory, flowering fruit trees, mountain ash, and grape.

### CONTROLLING ADULT CICADAS

#### Cultural Control

The first step in managing cicadas is to familiarize yourself with their expected emergence periods. These are listed in Table 1. In this way, you can avoid damage by good planning.

When possible, avoid planting new trees in the fall before or during the spring that cicadas will emerge. This could be especially helpful in fruit orchards or woody plant nurseries. Also, delay pruning until the cicadas have disappeared. The injured branches can then be removed after cicadas have stopped flying.

Small trees and shrubs (<10’ tall) can be protected by covering them with no larger than 1/2” mesh screening for the 6-weeks that adult cicadas are present. In most cases, with the exception of densely planted orchards or nurseries, netting is more cost effective than spraying insecticides.

#### Biological Control

There are many natural enemies of cicadas. Birds, and squirrels will feast on cicadas during a mass emergence. However, the large number of cicadas are likely to outstrip the capacity of these animals to control the problem.



Periodical cicadas -- *Magicicada* spp. (There are six known species, five of which have been reported in Indiana.)  
(Photo by: Arwin Provonsha, Dept. of Entomology, Purdue Univ.)

**Chemical Control**

Although not as effective as netting, applications of pesticides during adult flight can substantially reduce injury to small trees.

Pesticides are not recommended to protect large trees. If you choose to use pesticides to protect your small trees, you will need to apply them every 3–4 days to prevent injury or every 7-10 days to reduce injury. The labeled pesticides will kill beneficial insects and likely result in a spider mite problem that will need to be managed for the rest of the season.

Several insecticides can be used by homeowners to protect ornamental and fruit trees, and shrubs. Their active ingredients (commonly available product names) are as follows:

- Zeta-cypermethrin (GardenTech Sevin)
- Gamma-cyhalothrin (Spectracide Triazicide for Lawns and Landscapes Concentrate)
- Permethrin (Bonide Eight)

Brood Number	Race	Year to Appear	Where They Will Appear
VI	17-year	2034	Reported in all Indiana counties in 2017, but may be a “shadow brood” of brood X.
X	17-year	2021	In all counties, but heaviest in south-central Indiana; largest of the 17-year broods.
XII	17-year	2023	Allen and Orange counties; scarce in Indiana.
XIII	17-year	2024	Lake, LaPorte, and Porter counties.
XIV	17-year	2025	40 counties, but heaviest in southwestern Indiana; dense swarms expected in Brown and Warrick.
XIX	13-year	2024	8 western counties, from Posey and Warrick on the south to Newton and Jasper on the north.
XXIII	13-year	2028	21 counties mostly in southwestern Indiana, with Fountain, Tippecanoe and Fayette the northern limits.



Adult periodic cicada (side view)  
(Photo credit: Gary Michel)



Adult periodic cicada (top view)  
(Photo credit: Gary Michel)

Genus	Common Name	Genus	Common Name
<i>Acer</i>	Maples	<i>Malus</i>	Apple, Crabapple
<i>Amelanchier</i>	Serviceberry	<i>Nyssa</i>	Sour gum
<i>Castanea</i>	Chestnut	<i>Ostrya</i>	Hophornbeam
<i>Apple, Crabapple</i>	Katsura tree	<i>Oxydendrum</i>	Sourwood
<i>Cercis</i>	Redbud	<i>Prunus</i>	Cherries, Peaches & Plums
<i>Chionanthus</i>	Fringe tree	<i>Quercus</i>	Oaks
<i>Cornus</i>	Dogwood	<i>Rosa</i>	Roses
<i>Cotinus</i>	Cotinus	<i>Sorbus</i>	Mountain Ash
<i>Cotoneaster</i>	Cotoneaster	<i>Tilia</i>	Basswood
<i>Crataegus</i>	Hawthorn, Cockspur	<i>Ulmus</i>	Elmwood
<i>Fraxinus</i>	Ash	<i>Weigela</i>	Weigela
<i>Hamamelis</i>	Witch-hazel		

**Table 3. Plants with moderate and low susceptibility to cicada damage.**

Genus	Common Name
<i>Ilex</i>	Hollies
<i>Laburnum</i>	Golden chain tree
<i>Phellodendron</i>	Corktree
<i>Betula</i>	Birch
<i>Carpinus</i>	Hornbeam
<i>Magnolia</i>	Magnolia
<i>Chamaecyparis</i>	Cedar

### Web Links For More Information

Raupp, M. J. 2021. [Return of the Periodical Cicadas in 2021: Biology: Plant Injury and Management](#)

[Cicada Mania](#)

[Periodical Cicada Emergence in Tippecanoe County 2004](#)



Periodic cicada eggs in stems (Photo credit: J. Obermeyer)



Adult periodic cicada (Photo credit: J. Obermeyer)



Dieback on oak trees caused by cicada egg laying (Photo credit: J. Obermeyer)



Periodic cicada damage to stems (Photo credit: J. Obermeyer)

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

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