

Periodical Cicada Predicted to Return this Spring



Spectacular broods of periodical cicadas, designated by Roman numerals, emerge at predictable intervals (13 or 17 years) across the eastern United States. Representatives of both occur in Kentucky. The emergence of millions of these insects in an area provides a striking visual image and the sounds they produce can be deafening. The sounds are produced by males using specialized structures on the abdomen. Males fly to high, sunlit branches and sing together in choruses that attract females. Songs of the different species are distinctive and include calling and courtship sounds.

Periodical cicadas have black bodies, red eyes, and red-orange wing veins in two pairs of clear wings that are held roof-like over the abdomen. These clumsy fliers often stay in the upper canopy of trees while they are active from late April through June. Encounters with periodical cicadas can be unnerving to some, but these insects cannot sting and do not harm humans, livestock, and pets.

While periodical cicada broods are predictable and can be forecast decades into the future, there is a bit of uncertainty with a relatively small number of periodical cicadas emerging in off years. These are small groups of individuals emerging one or more years early or late. These individuals are often referred to as stragglers. The maps and tables of periodical cicada emergence are limited to the main emergence of the broods and do not reflect these spurious broods regardless of their size.

Periodical cicadas are potential pests of many trees and woody ornamentals, with the exception of pines and other species that produce gummy substances when damaged. These insects can cause problems in orchards, vineyards, nurseries, home and commercial landscapes. Physical injury or “flagging” occurs after females slit twigs to insert batches of eggs. Twigs break at these weak spots and are left to dangle, turn brown and die. This “pruning” is not a serious problem for large trees but can adversely affect the developing structure of small trees. A more subtle impact can occur several years later as growing nymphs remove sap from roots. New orchard or landscape plantings should be delayed until after periodical cicada activity has ended for the season. Young trees can be covered with netting or cheesecloth to protect the tender twigs. This should be done when the first male singing is heard. Secure the covering around the trunk to prevent cicadas from climbing up to the limbs. The netting should be removed at the end of June or when cicada activity stops. If practical, cicada nymphs can be prevented from feeding on roots of young trees by pruning out twigs with egg slits. This needs to be done within three weeks after egg laying has ended. Although a time-consuming process, it may be a viable alternative considering the production life and long-term value of backyard fruit trees.

Feeding by large numbers of nymphs over several years can reduce the vigor of small trees. Insecticide applications generally are of limited use in protecting trees from damage, especially where cicadas are very abundant. Repeated treatment will be needed to deal with new arrivals. Orchards under a routine spray schedule should be treated about twice a week during peak cicada activity. Spray requirements will vary according to intensity of the outbreak, which can range from a few cicadas in some areas to massive numbers in other areas.

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Mature nymphs begin to emerge when the soil temperature reaches 64°F, usually in late April or early May. It takes about 3 weeks for all of them to come out. Just before leaving the soil, full-grown nymphs dig up to the surface and may build a six to eight inch tall mud "chimney" similar to those formed by crayfish. After leaving the soil, nymphs crawl up any convenient vertical surface and molt to the adult stage, leaving behind an empty brown shell. After struggling out of the nymphal skin, adult cicadas rest for several hours until their bodies and wings have expanded and are dry and hard.

After mating, females lay their small eggs in one-quarter to one-half inch diameter twigs. They tend to select oak, hickory, apple, peach, or pear trees and grapevines, but will use other species with the right twig diameter. A blade-like structure on the end of the abdomen is used to make a longitudinal slice in the selected twig. Eggs inserted in the slit will remain in the twigs for six to ten weeks before hatching. The tiny nymphs fall to the ground and burrow into the soil in search of tree roots. They use their piercing-sucking mouthparts to take sap from tree roots.

There is a high potential for brood XIX, the thirteen year cycle, to be prevalent in the Pennyryle and Green River areas this year. Muhlenberg County is in the Pennyryle area but also borders on the Green River area. All of Kentucky west of the Purchase area has a high potential for emergence in 2025.

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