

YAN KANG, The Linsly School, Wheeling, WV, 26003. Ovipositing Seventeen-Year Cicadas (*Magicicada septendecim*) prefer certain tree species, branch diameters and branch surface positions in a planted campus savanna habitat.

Previous research shows seventeen-year periodical cicadas feed on tree roots as nymphs and adult females oviposit on branches resulting in scars. Most studies evaluating periodical cicada oviposition preferences were conducted in mature forests sites. In this study oviposition preferences were evaluated on a planted savanna habitat at the Linsly campus. While nymphs feed underground on roots of a variety of tree species, where do females oviposit on above-ground branches? Initial observations suggested oviposition scar distribution was not random. This study's objective was to evaluate periodical cicada oviposition preferences regarding tree species, branch diameter and branch aspect in a savanna landscape that included non-native trees. During the fall of 2018 eight trees representing eight species were chosen and for each tree five branches within 3m of the ground were studied as replicates. Within 100 cm standard sampling lengths of the branch, total oviposition scarring length, average oviposition scar length, diameter of branch at the scar, and scar aspect were measured. Ovipositing cicadas showed some species preferences, but used angiosperm species such as the Japanese Scholar Tree, Black Oak, Silver Maple and Red Mulberry heavily regardless of their native or non-native status. White Pine was not used at all. Periodical cicadas favored branches 0.7 to 0.35 cm in diameter. Most tree branches had oviposition scars on bottom surfaces, but some heavily utilized trees had scars on the top and the side, suggesting competition for preferred lower spaces during egg-laying. These patterns suggest females may be selecting oviposition sites to maximize egg survival.