Control of Leaf-Cutter Ants

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Marianne Frederick contacted ECHO with a vivid description of problems of leaf-cutter ants in Guyana. She said that farmers even tried building water filled moats around plants but the ants built leaf bridges and crossed right over. She wonders if there are controls that do not involve commercial insecticides.

Dr. Keith Andrews at Zamorana in Honduras told us of a technique using freshly cut leaves of jack bean *Canavalia ensiformis*. The following comes from "The use of jackbean as a biological control for leaf-cutting ants" in Biotropica, vol 11(4) 1979 pp 313,314. Five to 15 kg of leaves were placed nightly on top of and around mounds covering an area of 25 to 100 square meters for three consecutive nights. All the leaves disappeared by the following morning, the ants apparently preferring them over the plants surrounding the colony ...[including citrus, cashew and mango trees]. A single three-night treatment usually resulted in complete cessation of ant activity for periods ranging from four months to five years (when observation ended). Infrequently, very small black ants (possibly forms of the same species) would appear 2-3 weeks following treatment of the colonies. Because of their random and disorganized activity, they were controlled with small doses of insecticide.

"It is presumed that the effect of jackbean on leaf-cutting ant colonies is due to the action of fungicides such as demethyl homopterocarpin contained in jackbean leaves on the ants' fungus gardens." The ants carry the leaves into the mound where they are normally transformed by fungal activity into the food upon which they depend. That's about all the article reported, and no data was included.

Tom Post had trouble establishing neem trees in Belize because of leaf-cutter ant damage. "They would strip whole trees. I planted jack bean around the trees. When the plants got about a foot tall all damage stopped. But there was no evidence that they were stripping jackbean leaves. In fact, we placed leaves on their trails and on the mound and ants would not pick them up. A project in El Salvador likewise found they would not pick up leaves spread on the trail or the mound."

Dr. Warwick Kerr in Brazil writes that "One recent research revealed that sesame, *Sesamum indicum*, protects the plantations against leaf-cutter ants, *Atta sexden*. The ants bring it to the ant hill and it stops growth of fungi."

This is a serious problem. Let us know if you try jack bean or sesame control, or if you have another method. There are too many unanswered questions to recommend the method with much conviction. This would be a good research

project for some of the scientists among our readers.

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