

Comunicado 142  
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## IPN researchers propose agroecological pest management

- **CEPROBI studies** the use of infochemicals or behavioral modifiers as a non-toxic and environmentally friendly pest control strategy
- Infochemicals can be obtained from the extraction of glands or the adhesion of volatile compounds emitted by insects, said Dr. Norma Robledo Quintos

As an alternative to the use of pesticides, researchers from the National Polytechnic Institute (IPN), led by Dr. Norma Reyna Robledo Quintos, from the Center for the Development of Biotic Products (CEPROBI), propose the agroecological management of pests in crops of economic interest, through the use of behavioral modifiers, which involve the communication between specific insects and their host plant.

Robledo Quintos explained that behavioral modifiers are infochemicals, such as sexual pheromones, to attract mates and copulate; aggregation pheromones, when added to your host plant by their conspecifics, or kairomonas, which are compounds emitted by host plants, which attract insects for lodging and / or food.

The member of the National System of Researchers (SNI) explained that infochemicals can be obtained from the extraction of glands or the adsorption of volatile compounds emitted by insects, in a solid phase (Super Q polymer), from which an extract of pheromones or kairomonas is obtained to perform biological tests that can be electroannography , olfactory, wind tunnel or directly in greenhouses or in the field.

With regard to kairomonas, she explained that together with her team, which also involves Master's and Doctoral students, they have analyzed the volatiles of the entire plant (flower, leaves and root), to look for volatile chemical compounds and determine the attraction. They have also studied other factors such as diet, age, sex and insects sexual maturity.

She pointed out that in the Laboratory of Chemical Ecology and Insects, of the Department of Plant-Insect Interactions, of CEPROBI, several species of agricultural importance have been studied, such as the papaya fruit fly (*Anastrepha curvicauda*), the group of beetles known as blind hen (*Phyllophaga obsoleta*, *Cyclocephala lunulata* and *Cyclocephala barrerae*), the cabbage



heartwood (*Copitarsia decolora*) , the tuberose and agave weevil (*Scyphophorus acupunctatus*), the corn budworm (*Spodoptera frugiperda*) and the leaf-footed bedbug (*Leptoglossus zonatus*).

The polytechnic teacher highlighted that some of the methods of insect management, developed by this research group, have already been tested experimentally by some producers in the area or surrounding places, with positive results, in agricultural and ornamental crops of economic interest, with which the populations of pest insects have successfully decreased.

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