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Technical Bulletin – 0001/2025

IRAC
Comitê de Ação à Resistência a Inseticidas
Brasil

**TECHNICAL BULLETIN:** Evolution of Resistance of *Dalbulus maidis* (Corn Leafhopper) to Pyrethroids (Group 3A) and Neonicotinoids (Group 4A) in Brazil

**To the Agricultural Community,**

The Insecticide Resistance Action Committee (IRAC-BR) emphasizes the importance of employing an integrated approach with various control tactics for managing *Dalbulus maidis* (corn leafhopper) in Brazil. Studies conducted at the Laboratory of Arthropod Resistance to Control Tactics of the "Luiz de Queiroz" College of Agriculture (ESALQ/USP), utilizing internationally recognized methodologies recommended by IRAC-BR, have reported cases of resistance evolution of *D. maidis* to certain insecticides belonging to the chemical groups of pyrethroids and neonicotinoids in populations collected from various regions of the country. These studies have been published in the journal Pest Management Science with public access to the titles, authors and abstract accessed through the following links:

Is insecticide resistance a factor contributing to the increasing problems with Dalbulus maidis (Hemiptera: Cicadellidae) in Brazil? - Machado - 2024 - Pest Management Science - Wiley Online Library

Is insecticide resistance a factor contributing to the increasing problems with Dalbulus maidis (Hemiptera: Cicadellidae) in Brazil? - PubMed

Considering this information, IRAC-BR reinforces the significance of integrated management and resistance strategies to slow the evolution of insecticide resistance in *D. maidis*, including the following recommendations:

1. Eliminate volunteer corn plants and monitor plants that serve as shelters for the corn leafhopper.
2. Avoid growing corn outside the agroclimatic zoning and refrain from successive crops of corn in the same area or nearby.
3. Avoid sequential corn planting to reduce corn leafhopper dispersal between crops.
4. Utilize hybrids that are tolerant to the Corn Stunt disease complex, following technical recommendations for each region.
5. Continuously monitor the presence of corn leafhoppers in the field, particularly during the V0 to V10 stages of the corn crop.
6. Use seeds treated with systemic insecticides to protect plants during the early development stages. When necessary, apply foliar insecticides after the emergence of the corn plants.
7. Apply only insecticides that are registered for corn leafhopper control adhering to the recommended dosage and rotating modes of action according to the application window scheme recommended by IRAC-BR.

For more information, please access the Corn Leafhopper Resistance Management Folder at: https://www.irac-br.org/folhetos.

Sincerely,
IRAC-BR