Insecticide Mixtures and Resistance Management Updated Guidance
IRAC Statement

August 30th 2023

IRAC
Insecticide Resistance Action Committee
**IRAC Statement: Insecticide Mixtures**

Insecticide* mixtures (tank-mix or pre-formulated mixture) are used for many different reasons. When used as part of a rotation program, mixtures may provide an additional benefit for resistance management.

- The following considerations are important when using insecticide mixtures for insecticide resistance management (IRM):
  - Insecticide mixtures should contain active ingredients with different modes of action (MoA) for a resistance management benefit to occur.
  - Mixtures with active ingredients that have a different product brand name, but the same IRAC MoA classification are not suitable for resistance management.
  - For tank mixes follow the label instructions for each of the mixture components.
  - Individual insecticides selected for use in mixtures should each be effective against the targeted insect life stage.
  - Simultaneous exposure of the target insects to both insecticides is required.
  - There should be limited or no cross-resistance** between the two or more insecticides used within the mixture.
  - Mixtures will be most effective if resistance in the target insects to both active ingredients is absent or very low.

- IRAC does not support the repeated use of the same mixture as the sole method of pest control.

- All insecticide applications should only be made when necessary and should be carried out as part of an IPM (Integrated Pest Management) program.

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* Including acaricides

** Resistance conferred by the same mechanism of resistance to two or more insecticide modes of action.