

Insecticide Mixtures and Resistance Management Updated Guidance IRAC Statement

August 30th 2023



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.

If not stated differently, the above recommendations are made for the use of mixtures for resistance management in a single target pest scenario and for combinations of compounds that don't act synergistically.

* Including acaricides

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

