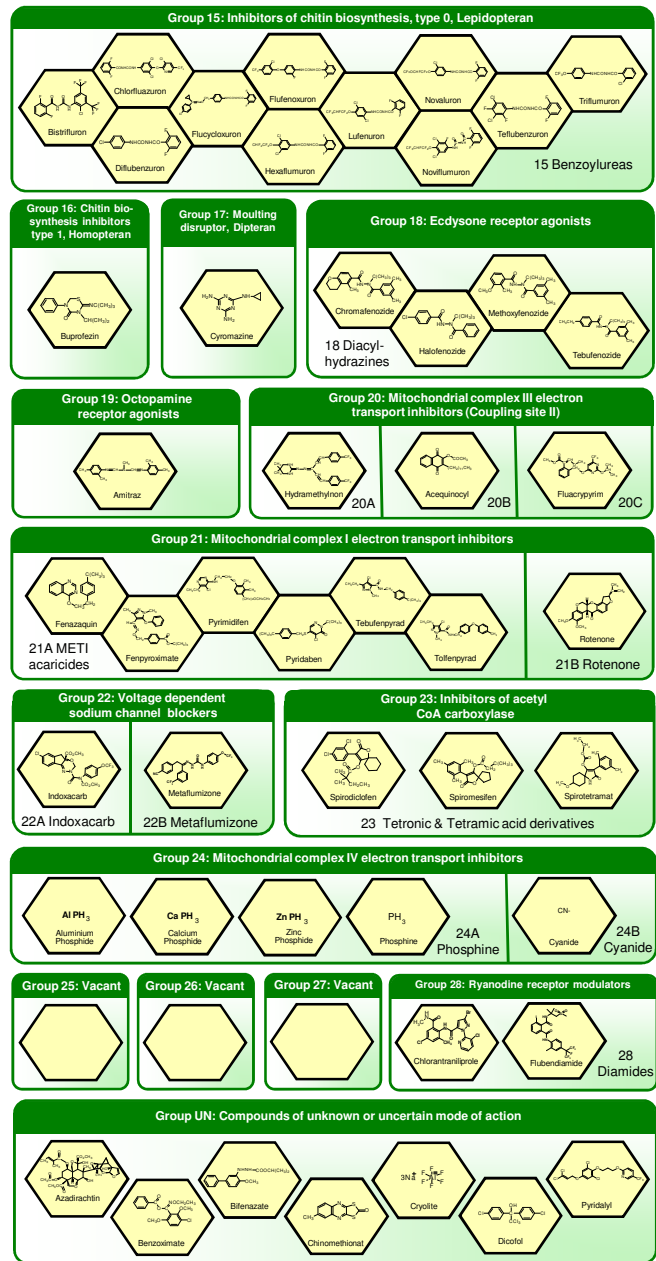
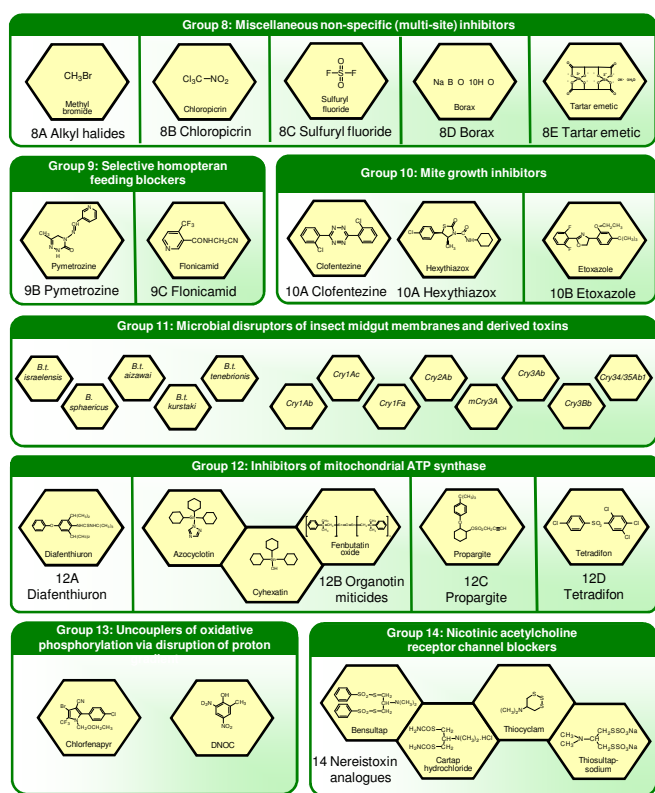


Mode of Action Classification

Insecticide Resistance Action Committee

The Key to Resistance Management

More information on IRAC and the Mode of Action Classification is available from: www.irc-online.org or enquiries@irc-online.org



Guidance on the use of Sub-Groups:

- Represent distinct structural classes believed to have the same mode of action
- Provides differentiation between compounds that may bind at the same target site
- Are structurally different such that risk of metabolic cross-resistance is lower than for close chemical analogs
- Are likely to be metabolized by different enzymes - may bind differently enough within the target site that the chance of selection for metabolic/target-site resistance is reduced compared to close analogs.

- In the absence of other alternatives, it may be possible to rotate compounds between sub-groups if it is clear that cross resistance mechanisms do not exist in the target populations.
- Not all of the current groupings are based on knowledge of a shared target protein. For further information please refer to the IRAC Mode of Action Classification document.
- 1A & 1B - If there are no other alternatives, compounds may be rotated in situations where cross-resistance mechanisms are known to be absent in the insect populations to be treated.

- 3A & 3B - If there are no other alternatives, compounds may be rotated in situations where cross-resistance mechanisms (e.g. kdr) are known to be absent in the insect populations to be treated. DDT is no longer used in agriculture and therefore this is only applicable for the control of human disease vectors such as mosquitoes, because of a lack of alternatives.
- 10A - Clofentezine & Hexythiazox are grouped because they commonly exhibit cross-resistance even though they are structurally distinct, and the target site for neither compound is known.
- 22A & 22B - Although these compounds are believed to have the same target site, they have been sub-grouped because they are chemically distinct, and current evidence indicates that the risk of metabolic cross-resistance is low.