

GROUP	13	HERBICIDE
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Moderate resistance risk

Globally the number of resistance cases to Group 13 herbicides is extremely low. Resistance to clomazone was first detected in Australia in 1982 in annual ryegrass. It is the only case reported for the Asia Pacific region and occurred at a time when clomazone was still under development. The only other cases of herbicide resistance reported are in barnyard grass in Arkansas in 2008 and in bearded strangletop in California in 2020.

The increased use of Group 13 herbicides in broadacre cropping in Australia will increase the risk of resistant weed populations developing. The risk for Group 13 herbicide resistance is highest where they are used alone, e.g. bixlozone as a pre-emergent herbicide in cereals, therefore to assist in minimizing the risk of development of resistance, additional strategies can be adopted:

1. Where possible, follow the pre-emergent application of a Group 13 herbicide using another herbicide with a different mode of action.
2. Implement agronomic strategies aiming to maximise the crop competitiveness e.g. planting date, competitive crop and/or varieties.
3. Avoid using Group 13 herbicides in the same paddock in successive seasons (back-to-back).

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It is recommended to apply Group 13 herbicides in mixtures with another effective herbicide belonging to a different mode of action group, e.g. bixlozone plus an active ingredient from a Group 15 (e.g. tri-allate) or Group 5 (e.g. atrazine) or clomazone plus Group 3 (e.g. pendimethalin). Mixtures should be applied at full label rates to provide robust weed control.

Where possible, avoid the use of Group 13 herbicides on dense barnyard grass, annual ryegrass or wild radish populations.

The above recommendations should be incorporated into an Integrated Weed Management (IWM) program. In all cases try to ensure surviving weeds from any treatment (chemical or cultural) do not set and shed viable seed to reduce the weed seedbank. Always consult the product label prior to use.

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Chemical family	Active constituent (first registered trade name)
GROUP 13	
Inhibitors of deoxy-D-xyulose phosphate synthase (DOXP inhibitors)	
Isoxazolidinones	bixlozone (Overwatch®), clomazone (Altiplano®*, Command®)

* This product contains more than one active constituent

Notes:

1. The formatting lists chemical families, approved active constituents and, in parenthesis, the trade name of the first registered product or successor. Refer to the APVMA website (www.apvma.gov.au) to obtain a complete list of registered products from the PUBCRIS database.

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