

## Topramezone (Frequency® Herbicide), a new flexible tool for weed control in winter cereals across Australia

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**Summary** Frequency® is a new herbicide for the Australian cereal market containing the active ingredient topramezone, an inhibitor of 4-hydroxyphenylpyruvate dioxygenase (HPPD). The efficacy and crop safety of topramezone was tested across the major cereal growing regions of Australia from 2013 to 2017 seasons. Topramezone, when applied post emergence in combination with bromoxynil, provides high level control of a wide range of broadleaf weeds, including species known to be resistant to other mode of action herbicides, such as wild radish (*Raphanus raphanistrum* L.), milk thistle (*Sonchus oleraceus* L.) and flaxleaf fleabane (*Conyza bonariensis* L.). Moreover, excellent weed control was obtained from the tank mix with other mode of actions herbicides:

MCPA, picolinafen, diflufenican, and metsulfuron allowing high levels of use flexibility in managing varying weed spectrums and resistant populations. In addition to broadleaf weed control, topramezone has shown a significant level of reduction in wild oat (*Avena sterilis* L.) seed set introducing a new mode of action as a tool in managing this important grass weed of northern cropping areas. Due to the high level of control on a wide range of species, along with good crop safety and flexibility of tank mix partners, topramezone (Frequency® Herbicide) represents a significant new tool for weed control in the Australian cereal production industry.

**Keywords** Topramezone, cereals, broadleaf weed, wild oats, resistance.