

## Trifludimoxazin: A new PPO inhibitor that controls PPO resistant weed biotypes

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**Summary** Trifludimoxazin [1,5-dimethyl-6-thioxo-3-(2,2,7-trifluoro-3,4-dihydro-3-oxo-4-prop-2-ynyl-2H-1,4-benzoxazin-6-yl)-1,3,5-triazinane-2,4-dione] is a new inhibitor of protoporphyrinogen IX oxidase (PPO or Protox). This is the first PPO inhibitor containing a triazinone heterocycle. Trifludimoxazin is very active when applied PRE or POST on dicot/broadleaf weeds including PPO resistant *Amaranthus* biotypes which are not controlled by currently registered PPO inhibitors like the diphenylether herbicides (e.g., fomesafen, lactofen, etc.), sulfentrazone, or flumioxazin. Trifludimoxazin has also demonstrated activity on key monocot/grass weeds including *Lolium* spp. The combination of trifludimoxazin plus saflufenacil

improved the burndown and spectrum of weed control over solo trifludimoxazin and therefore will be a key mix partner along with other non-PPO inhibitor chemistries as part of a resistance management strategy. Trifludimoxazin is expected to receive registration in key countries for use in multiple crops and total vegetation management by the early part of the next decade. This presentation will help explain the physicochemical properties of trifludimoxazin that make it such a potent inhibitor of the PPO enzyme in a broad range of weed species.

**Keywords** Trifludimoxazin, resistance, broad-leaf weed, grass weeds.