

Saflufenacil (Sharpen® WG Herbicide): new crop topping herbicide for the control of seed set of wild radish (*Raphanus raphanistrum* L.) in wheat (*Triticum aestivum* L.)

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Summary Saflufenacil (Sharpen® WG Herbicide) is a broadleaf herbicide of the Protoporphyrinogen Oxidase Inhibitors (PPOI) mode of action group. Saflufenacil was tested as a potential crop topping herbicide to be used in wheat (*Triticum aestivum* L.) crops to reduce the seed set in wild radish (*Raphanus raphanistrum* L.). Eighteen small plot field trials were conducted between 2013 and 2015 in Victoria, South Australia and Western Australia. The efficacy and crop safety of saflufenacil was compared against 2,4-D, glyphosate, diquat and triasulfuron. The applications were made between flowering and maturity stage of the crop and when the wild radish was at early to late flowering stage. The crop topping applications of saflufenacil significantly reduced the number of set pods when compared to the untreated control. Even

though the number of seeds per pod was not affected by the applications. Moreover, the germination tests of wild radish seeds collected after an earlier application of saflufenacil showed significant reductions in viable seeds. The combination of reduced number of pods and then reduced germination of those pods that were present at harvest provides a significant reduction in wild radish seed that is able to contribute to the weed seed population in a field for following seasons. Low level of phytotoxicity observed on the wheat, and generally no significant negative effect on grain yield, showed that saflufenacil has an excellent technical fit in early crop topping applications.

Keywords Saflufenacil, crop topping, seed set, wild radish, wheat.