

Press Release

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Glyphosate resistant Windmill grass foiling weed-free fallows

Windmill grass from no-till fallow paddocks in central NSW has been confirmed to have developed resistance to the important herbicide glyphosate. Windmill grass joins awnless barnyard grass and liverseed grass as the third weed species confirmed to be glyphosate resistant in the GRDC northern grain region since 2007.

Dr Chris Preston, University of Adelaide and Chair of the Australian Glyphosate Sustainability Working Group (AGSWG) says this development poses huge threats to no-till farming systems in summer dominant rainfall areas of Australia. "Windmill grass has been an increasing problem in summer fallows across Australia, and the development of glyphosate resistance will make management of this weed even more challenging" he said.

Windmill grass (*Chloris truncata*) is a native annual or perennial grass that has become an increasingly important weed in summer fallows and along roadsides across Australia. It is becoming more common in fallows due to the widespread adoption of no-till farming to conserve soil moisture and reduce erosion risk, which relies heavily on the use of glyphosate.

In many regions storing soil moisture during summer is critical to reliable crop production and windmill grass readily removes the soil water farmers are trying to preserve for the next crop. Research in Western Australia has shown that an uncontrolled infestation of windmill grass in a summer fallow can reduce yields in the following wheat crop by up to 25%.

Agronomist Maurie Street from Grain Orana Alliance in central west NSW, feels this is a challenge his members can do without. "The limited management options for windmill grass highlights the need for more research to keep our no-till farming system operating," Mr Street says. "Growers need to be checking their weed control and taking early action to prevent its spread. This is easier said than done if those plants are resistant to glyphosate."

Like any summer growing weed, high levels of control can be difficult to achieve because of high temperatures, low humidity and periods of moisture stress at the time of spraying. The weed's spread is aided by seed heads breaking off and blowing across paddocks. It produces large numbers of seed which readily establish as seedlings following 10-20 mm of rain.

Windmill grass' ability to have seedlings establish after each fall of rain, makes control expensive and difficult. Even with glyphosate-susceptible windmill grass, seedlings are best controlled when small, as the level of control declines rapidly with increasing size.

Touchdown® HiTech at 2 L/ha is currently the only glyphosate formulation registered in Australia for control of windmill grass. Current research suggests that the best control of glyphosate-susceptible seedling windmill grass is achieved with the double knock technique using glyphosate followed by a robust rate of paraquat.

Widespread use of glyphosate to control weeds on roadsides has seen windmill grass become a common species on many Australian roadsides. It is then spread by slashing, vehicles and wind. Once established on roadsides seed heads can easily be blown into adjacent paddocks.

If you suspect glyphosate resistant weeds on your property or roadsides contact the relevant state expert. Details of who to contact in each state are available from the Australian Glyphosate Working Group web site - <http://www.glyphosateresistance.org.au/suspect%20glyphosate.htm>

The Australian Glyphosate Sustainability Working Group is supported by the Grains Research & Development Corporation and key R&D based crop protection companies with an interest in the sustainability of glyphosate. Their web site has a range of information about glyphosate resistance including a register of glyphosate resistant weed populations and guides and links for management of glyphosate resistance in different crops and management situations.