

# Keeping glyphosate resistance rare in Australian cropping

***Tip the scales in your favour to minimise the risk of glyphosate resistance in annual ryegrass***

## **RISK INCREASING**

- Continuous reliance on glyphosate pre-seeding
- Lack of tillage
- Lack of effective in-crop weed control
- Frequent glyphosate-based chemical fallow
- Inter-row glyphosate use (unregistered)
- Frequent croptopping with glyphosate
- High weed numbers

## **RISK DECREASING**

- The double knock technique\*
- Strategic use of alternative knockdown groups
- Full-cut cultivation at sowing
- Effective in-crop weed control
- Use alternative herbicide groups or tillage for inter-row and fallow weed control
- Non-herbicide practices for weed seed kill
- Croptopping with alternative herbicide groups
- Farm hygiene to prevent resistant seed movement

## **All Group M herbicides are glyphosate herbicides**

This guide has been produced by the National Glyphosate Sustainability Working Group, a collaborative initiative aimed at promoting the sustainable use of glyphosate in Australian agriculture, involving the CRC Australian Weed Management, Monsanto, Syngenta, Nufarm, WA Herbicide Resistance Initiative (University of WA), University of Adelaide, Charles Sturt University, University of Melbourne, Queensland DPI&F, Department of Agriculture WA, NSW DPI, CRT/Town & Country, CropLife Australia and the GRDC, 2006.

For more information see: <http://www.weeds.crc.org.au/glyphosate/>

\*The double knock technique is defined as using a full cut cultivation OR the full label rate of a paraquat-based product (**Herbicide Group L**) following the glyphosate (**Herbicide Group M**) knockdown application.

Diagram based on original concept for minimising glyphosate resistance in annual ryegrass in southern Australian grain growing by Paul Neve, WAHRI, University of WA.

Optimal management techniques for other weed species may differ.





# What to do if you suspect glyphosate resistance

**When glyphosate resistance is first suspected we advise that growers contact their local agronomist.**

***The following steps are then recommended:***

1. Consider the possibility of other common causes of herbicide failure by asking:
  - Was the glyphosate applied in conditions and at a rate that should kill the target weed?
  - Did the suspect plants avoid herbicide contact or emerge after the glyphosate application?
  - Does the pattern of surviving plants suggest a spray miss or other application problem?

***If resistance is still suspected:***

2. Contact one of the following members of the national Glyphosate Sustainability Working Group for advice on sampling suspect plants for testing and confirmation of the resistance status:

**SA:** Chris Preston, University of Adelaide; Phone: 08 8303 7237 Fax: 8303 7311  
Email: christopher.preston@adelaide.edu.au

**NSW:** Southern: Rex Stanton, Charles Sturt University; Phone: 02 6933 4037  
Fax: 02 6933 2924 Email: rstanton@csu.edu.au or Northern: Andrew Storrie,  
NSW Department of Primary Industries; Phone: 02 6763 1174 Fax: 02 6763 1222  
Email: andrew.storrie@agric.nsw.gov.au

**Vic/Tas.:** Rex Stanton, Charles Sturt University; Phone: 02 6933 4037  
Fax: 02 6933 2924 Email: rstanton@csu.edu.au  
Chris Preston - see SA

**Qld:** Steve Walker, Queensland DPI&F; Phone: 07 4639 8838 Fax: 07 4639 8800  
Email: steve.r.walker@dpi.qld.gov.au

**WA:** Steve Powles, WAHRI, University of WA; Phone: 08 6488 7870  
Fax: 08 6488 7834 Email: spowles@plants.uwa.edu.au or  
Abul Hashem, Department of Agriculture Western Australia; Phone: 08 9690 2000  
Fax: 08 9622 1902 Email: ahashem@agric.wa.gov.au

3. Ensure suspect plants do not set any seed.
4. If resistance is confirmed, develop a management plan for future years in consultation with an agronomist.

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