

## First Australian glyphosate resistant broadleaf weed confirmed

Eight populations of flax-leaf fleabane (*Conyza bonariensis*) have been confirmed resistant to glyphosate in northern NSW and southern Queensland. This is the fifth weed species to be confirmed resistant to glyphosate in Australia in the past 10 years, with four being found in the past three years, and is the first glyphosate resistant broadleaf weed found in Australia.

This should ring alarm bells with no-till farmers and road managers whose heavy reliance on glyphosate as their herbicide-of-choice continues unabated.

Steve Walker of the University of Queensland, whose DEEDI team made the discovery, says that growers must be even more vigilant in their spring and summer weed control because these weed seedlings can withstand up to eight times the normal rate of glyphosate. In other words, the glyphosate just won't work!

This species has also developed resistance to glyphosate in South Africa, USA, Brazil, Spain, Colombia and Israel.

Fleabane has become one of the major weeds of no-till farming in Australia through its ability to germinate on or close to the soil surface across a wide part of the year. Fleabane is also a major weed of road shoulders and verges.

In summer it quickly exhibits moisture stress, yet can survive long periods of high temperatures and regrow following rain.

Fleabane can produce over 100,000 seeds per plant, which are easily spread by wind and water. Fleabane seed has been measured travelling up to 500 m from the parent plant; thus resistant plants can easily spread from other areas.

"While small susceptible plants can be well controlled under ideal conditions with glyphosate, control of large fleabane in fallows using glyphosate alone often gives poor control of susceptible plants," says Dr Walker. "Often these plants have germinated in the previous winter crop and are large, woody and stressed when sprayed after harvest."

"Of the herbicides that are registered for weed control in fallows research and farmer experience has shown that the "double-knock" technique where glyphosate plus 2,4-D is applied followed by paraquat 7-10 days apart provides the most consistent commercially acceptable control of this tough weed", Dr Walker said.

Herbicides are more effective on small seedlings, so farmers need to be looking for seedlings following rain to get high levels of control at lower cost.

Using a range of management techniques is always the best option to prevent the development of glyphosate resistance. Cultivation is very effective at controlling seedlings and preventing further germination and can be economic if combined with redistribution of phosphorus or liming. Growing a competitive winter cereal is another effective non-chemical option, especially when combined with spraying small fleabane with a robust rate of post-emergent selective herbicide.

If you suspect glyphosate resistant fleabane on your property contact your relevant state expert. If found on roadsides contact your local council. 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.