

MEDIA RELEASE

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Survey discovers roadside glyphosate resistance time bomb

Managing roadside vegetation has never been easy but it is about to get a lot harder with the discovery of 136 glyphosate resistant populations of annual ryegrass and fleabane along roadsides from Queensland to Western Australia. This was approximately 50% of all populations tested during the first ever roadside weed survey that was conducted in 2011. Australia has 612,000 km of roads considered at risk of developing weeds with glyphosate resistance, so the potential problem is huge. Also market research has found many land managers are ill prepared to deal with the looming crisis. This discovery was part of a project looking at the management of glyphosate resistant weeds in non-agricultural areas funded under the just completed National Weeds Program managed by Rural Industries Research & Development Corporation.



Figure 1. Glyphosate resistant annual ryegrass on SA roadside 2011

“The glyphosate resistance problem comes about because many land managers rely on glyphosate for their weed control with no plans in place to manage any potential resistance,” stated project leader Associate Professor Chris Preston from the University of Adelaide and chair of the Australian Glyphosate Sustainability Working Group which is strongly supported by the GRDC. “Glyphosate is an excellent herbicide that helps keep management costs down, however there are no easy replacement options currently available. The rapid development of glyphosate resistant weeds and species shift to glyphosate tolerant species will have a large impact on budgets and logistics.”

Other areas where glyphosate resistant weeds were discovered included irrigation channels, fences, rail tracks and around buildings.

While annual ryegrass and fleabane were the most common glyphosate resistant weed species found, resistant awnless barnyard grass was also found in channels and drains in NSW and Queensland.

Apart from the physical surveys and resistance testing, market research was conducted to discover what land managers were thinking and doing about glyphosate resistance under their watch.

Unfortunately, glyphosate resistance was not on-the-radar for many until they had been approached by project members. Generally there were low levels of understanding about herbicide resistance and what to do about it. This is not surprising as no herbicide resistance awareness programs have targeted this herbicide using sector.

Professor Preston says the best approach is to actively monitor for weeds that survive glyphosate applications and ensure they do not set seed by whatever means is suitable for the particular situation.

“On roadsides and rail tracks weed survivors are easy to spot, but there needs to be a system in place within the organisation so everyone on the team, from financial controllers to sprayers, all work to prevent resistance developing.”

There are a few other herbicides with different modes-of-action that can be used instead of glyphosate, however switching to another herbicide without a monitoring program for spray survivors and some non- herbicide management strategies just delays the problem.

“Everything is going to be more expensive than a glyphosate-based weed control program”, added Professor Preston, “Therefore the ideal weed program is to keep glyphosate as an effective herbicide by using a range of tactics including monitoring and follow-up control”.

Resistant weeds start in small patches. These can be treated by hand-pulling, spot spraying with another mode-of-action herbicide or even propane flaming in some situations.

In wetter areas and seasons, slashing of road shoulders and around roadside furniture will be expensive and unlikely to kill the weeds. Slashing can also spread weeds rather than control them. Research has shown that for slashing to change the weed species present it needs to be done more often than road managers can afford. However, more research is needed to identify useful solutions for all users.

A system of mapping, monitoring, encouraging low-growing species, and combining herbicides with mechanical controls such as slashing may be the best long term solution.

With the information gathered in this project, training and management packages are being developed to meet the needs of this currently neglected sector of glyphosate users.

The national project consisted of three parts; where a team surveyed and collected suspect resistant weeds from non-agricultural areas and tested them for resistance to glyphosate; conducted market research to ascertain knowledge and needs of land managers and conducted a risk assessment of weeds of concern.

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