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One in 10 weeds high risk for glyphosate resistance

Researchers say 23 weed species are now at high risk of developing glyphosate resistance, including several important grasses and damaging environmental weeds like fireweed and parthenium weed.

Andrew Storrie, Australian Glyphosate Sustainability Working Group executive officer says most of the weeds tested are found across Australia and one in 10 weed species have a high risk of glyphosate resistance.

“While resistance to glyphosate in cropping has been making headlines around the world, this study suggests it could become a problem in any Australian weed management situation,” Mr Storrie says.

Two hundred weed species were analysed to determine their innate likelihood to evolve and change in response to continued selection by herbicides in projects funded under the recently completed National Weeds Program managed by Rural Industries Research & Development Corporation (RIRDC), involving Department of Agriculture, Fisheries & Forestry Queensland and a number of other organisations.

The project was also supported by the Cotton Catchment Communities Cooperative Research Corporation. The aims and outcomes of this program strongly compliment Grains Research and Development Corporation (GRDC) investments in managing herbicide resistance.

Project member, David Thornby, Queensland Department of Agriculture, Fisheries and Forestry (DAFF) says weed managers have a range of weed management tactics available to them for each species.

“Where a species is at high risk of developing glyphosate resistance, it is vital not to rely on a single herbicide,” Mr Thornby said.

“Most weed managers have multiple problems competing for scarce resources – labour, time, money and attention – and risk assessments can be used by managers to help them decide how to organise their resources.

“From a resistance management perspective, it makes sense to devote more time to planning and monitoring, and increasing the range of management options, to species that appear to be at the highest risk of evolving herbicide resistance.”

Mr Thornby says it is important to remember there is no relationship between resistance risk and weediness, invasiveness, or ease of control.

“What this study shows is that we need to be thinking about how we use herbicides in every situation, both agricultural and non-agricultural weed control.”

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The top five highest risk weeds were needle burr, sweet summer grass, *Vulpia* species, flaxleaf fleabane and liverseed grass. The latter two species have already evolved resistance to glyphosate in Australia.

“Luckily almost half of all species assessed are at low risk of resistance, and the remainder at moderate risk,” Mr Thornby said.

“Despite being at low risk of resistance, some low-scoring species are nevertheless important and highly prevalent weeds, both to cropping (e.g. nutgrass, bladder ketmia) and non-cropping areas (e.g. salvinia, alligator weed).”

Market research as part of the project has found many land managers are ill prepared to deal with the loss of herbicides through resistance, he said.

The Australian Glyphosate Sustainability Working Group is supported by the GRDC and key R&D based crop protection companies with an interest in the sustainability of glyphosate.

The AGSWG web site also 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.

To download the report, visit www.glyphosateresistance.org.au/articles_media.html or for more information on herbicide sustainability management, visit www.grdc.com.au/weedlinks.

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Caption: Number three on the list of at-risk weeds – flaxleaf fleabane following the harvesting of wheat.

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Media releases and other media products can be found at www.grdc.com.au/media

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