

## Re-think urged on spraying strategy

Farmers who employ the 'double knockdown' system of killing annual ryegrass may need to revise the time interval between 'knocks'.

According to Dr Chris Preston of the CRC for Australian Weed Management and the University of Adelaide the double knockdown has been promoted as a way of avoiding glyphosate resistance.

"It involves the application of glyphosate followed about seven to 10 days later by an application of paraquat," Dr Preston said.

"The idea is that any individual plant not controlled by glyphosate will be killed by paraquat.

"This will delay resistance by reducing the number of potentially glyphosate-resistant individuals surviving and allowing them to be diluted by untreated susceptible seedlings that emerge after sowing."

Dr Preston said that experimental work using the double knockdown approach conducted at the University of Adelaide had found some antagonism between glyphosate and paraquat treatments on glyphosate-resistant annual ryegrass.

"It is most likely that the glyphosate application is causing stress to the glyphosate-resistant ryegrass plants and inhibiting the performance of paraquat," he said.

"Glyphosate resistance will continue to appear in farming systems that rely only on glyphosate for annual ryegrass control," Dr Preston said.

"This includes areas such as fence lines from where resistant ryegrass can move into cropped areas.

"The least risk strategy for delaying the onset of glyphosate-resistant annual ryegrass is to either rotate glyphosate with other control tactics, or attempt to eliminate survivors of glyphosate.

"Where the double knockdown is to be used to do the latter, it may be better to reduce the time interval between the two herbicides to less than four days to avoid antagonism between the herbicides."

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