GRDC scholar identifies herbicide-resistant weed

The world’s first populations of glyphosate-resistant wild radish have been identified and tested after survivors were found in fallows treated with glyphosate.

These populations were confirmed to have moderate levels of resistance, exhibiting high rates of survival (63 and 86 per cent) following label rate glyphosate application on two-leaf plants,” he said.

The third population was identified following an AHRI survey in 2010 and 2011 of 239 paddocks in WA’s northern and central grainbelt. Mr Ashworth said the glyphosate resistant wild radish plants also exhibited resistance to other important herbicides.

Mr Ashworth said the history of herbicide use where the three populations were discovered was likely to have been a major factor in the evolution of glyphosate resistance. “The first two populations were believed to have been exposed to at least one and often two glyphosate applications annually over two decades,” he said.

Mr Ashworth said that finding the populations early meant growers had the opportunity to adopt proactive control strategies. “Herbicides alone should not be used to control wild radish; growers and agronomists should use a range of tactics to control wild radish populations,” he said.

“The aim should be to control weed survivors, eliminate weed seed set and maximise diversity of control strategies. “GRDC funded research has proven the effectiveness of non-herbicide tools, including crop competition and harvest weed seed control used as part of an integrated weed management approach. “HWSC has been shown to be very effective for controlling wild radish, as this weed tends to hold on to its seed at harvest.”

Information about sustainable IWM practices is available at ahri.uwa.edu.au, weedsmart.org.au and glyphosate-resistance.org.au.