



Powles Plain English

Making crops and weeds research interesting, understandable, and accessible to all.

Colleagues,

The massive explosion in glyphosate resistant weeds, especially in US cropping, was a major focus of the recent Global Herbicide Resistance Challenge Conference held in Fremantle, WA in February 2013. Researchers and practitioners from around the world are really worried about the loss of glyphosate to resistance. However, on a more positive note, at the conference and in recent months the Monsanto Company has made public some very limited but alluring results on the potential for the naturally occurring process called RNAi to help glyphosate and, potentially, other herbicides.

Monsanto utilise precise RNA segments directly able to inhibit normal production of the EPSPS protein in plants. EPSPS is the enzyme that glyphosate inhibits. Thus, branded BioDirect™ technology by Monsanto, is a naturally occurring way of improving a herbicide. Particularly interesting and important is that under experimental conditions it appears that BioDirect™ when combined with a herbicide reverse resistance. It is possible to specifically target the RNA to a resistant weed. The potential of this technology is very considerable and obviously much research is proceeding at Monsanto and other organisations.

The potential for BioDirect™ technology was a subject of considerable hallway conversation at the Global Herbicide Resistance Challenge Conference. Whether or not BioDirect™ technology as a herbicide will come to commercial fruition is very difficult for me to judge at this time. Some experts at the conference believe that BioDirect™ technology will be introduced whereas others are much more circumspect. I find it difficult to know because there is little hard data available but I realise that Monsanto would only make public comment if they are relatively confident. I fervently hope that BioDirect™ technology will come to commercial fruition because we need all the tools we can muster to battle weeds and resistance. However, I consider even if RNAi technology comes to commercial fruition it will be years away and if commercialised for weed and resistance control it will not be as good as glyphosate. Thus, I am reminded of an expression my Mum often used - "a bird in the hand is worth two in the bush". We have glyphosate now and given the absence of new herbicides do everything you can to help preserve glyphosate. Keep glyphosate sustainable through diversity is my mantra!

Go to the [AGSWG website](#), [WeedSmart website](#) and [AHRI website](#) for further information on helping glyphosate and other herbicide sustainability.

Thank you,

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