How to delay herbicide resistance and evolution of superweeds

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

Back in 2006, Researchers from the University of Illinois were investigating the first reports of glyphosate resistant waterhemp in the USA. As they travelled around they saw completely weed free fields, while other fields had glyphosate resistant waterhemp exploding out of the top of the crop. They set out to discover why. They examined nearly 500 site years of data from 105 fields. They looked at everything from environment, to soil, to landscape and management.

They found that the difference was due to management, specifically, growers that have used full rates of herbicides in mixes. They concluded that mixing herbicides is better than rotating between them to prevent herbicide resistance.

Pat summed it up perfectly by saying ‘rotating herbicides buys you time, mixing buys you shots’. Using herbicides in mixes at full rates may be the key for herbicides to ‘live hard, die old’.

Why does this work?

Essentially, it’s very rare for a single weed to be resistant to two herbicides before herbicide selection. If a weed gains a random mutation that gives resistance to a herbicide, and it is sprayed with two herbicides, at full rates, it will die and not set seed.

Is mixing the complete answer?

The researchers in this study also concluded that herbicide mixing is not a universal panacea, but it will delay the evolution of resistance.

Herbicide rotation is still a good idea, but perhaps we need to put more emphasis on mixes of products at full rates. Mix and rotate is the answer, but not the entire answer. We need to team it up with non-herbicide tools as well.

Read full, original post: Keith Richards, not Jimi Hendrix