

MONSANTO'S SUPERWEEDS COME HOME TO ROOST¹

Charles Margulis[©]

There's been much recent news about Monsanto paying farmers to use its competitors' herbicides, in what many see as a last ditch effort to address the spread of superweeds created by the company's "Roundup Ready" (RR) GMO crops. Environmental scientists warned even before Monsanto's "herbicide tolerant" GMO crops were approved that they would hasten the evolution of resistant weeds. For these scientists, the issue was obvious: introduction of high doses of a single chemical year after year would result in the exact conditions needed to breed resistance: weeds with resistance genes would be the only weeds that could survive and breed, leading to superweeds that are unaffected even by massive herbicide spraying.

Of course, Monsanto denied these early warnings. In a 1997 paper, Monsanto scientists claimed that weed resistance was such a complex genetic phenomena that RR crops would be unlikely to lead to resistant weeds. What's even more troubling, though, is that Monsanto continued to ignore the spread of superweeds for years, and worked to persuade and threaten farmers against strategies to avoid resistance – since those strategies would have cut into the company's sales of Roundup and RR crops.

For example, in a 2003 report, a Monsanto "Roundup technical manager" advised against crop rotation and warned farmers that using chemicals other than Roundup with RR crops would only add an unnecessary expense. Farmers have been growing Roundup Ready soy continuously for eight years, he said, without any resistance problems. Weeds were not resistant, he said, but were exhibiting "differential tolerance." Which means, he said, farmers should simply use more Roundup to kill resistant weeds, because "if it's a dead weed, it won't produce seed."

Which is funny, because two years earlier, scientists in Delaware reported that ten times the recommended amount of Roundup was ineffective on a resistant weed strain (perhaps they should have tried 100 times the label amount). In fact, Monsanto was spreading their "use more Roundup, because dead weeds don't seed" line far and wide. In a 2003 pamphlet on "managing weed resistance" it sent to thousands of farmers, the company advised the growers to use maximum doses of Roundup and warned that switching to rotations with non-GMO crops would cost farmers money.

The Monsanto propaganda was so offensive to weed scientists that one inducted the company's flyer into his "Herbicide Ad Hall of Shame," stating that "Almost all weed scientists agree that the evolution of resistant biotypes is inevitable with the current use pattern of glyphosate. Increased adoption of rotations relying solely on RR crops will greatly enhance the rate that resistance evolves."

But while Monsanto was telling farmers, "don't worry be happy" about resistant weeds, behind the scenes the company was preparing to profit from farmers' weed troubles. In 2001, Monsanto received a patent on mixing herbicides with Roundup for use on RR fields with resistant weeds. Eventually the increasing weed problems across the country forced Monsanto to drop its public opposition to weed management with other toxic chemicals in addition to Roundup. While it is certainly news that Monsanto is paying farmers to spray other companies' chemicals, what most recent reports fail to note is that as early as 2005 Monsanto and others

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were regularly recommending spraying older, more toxic herbicides on RR crops, as outlined in this chart I put together at that time (a list of additional toxic chemicals recommended for use with RR crops would certainly be even longer today).

So the dramatic recent increases in resistant weeds have occurred despite years of urging farmers to use additional chemicals to avoid resistance. Weed scientists now say that superweeds from GMO crops infest over 11 million acres of US farmland – nearly five times more acreage than just three years ago – at a cost to US farmers of \$1 billion a year. What irks many farmers facing superweed problems and rising costs (not to mention consumers facing the prospects of more chemicals sprayed on our food and environment) is that Monsanto markets the use of a single herbicide as the main benefit of its GMO Roundup Ready crops. Even after all the publicity about this GMO failure, the “Council for Biotechnology Information,” a front-group funded by Monsanto and other GMO crop producers, continues to put forth this now laughable claim. The Council’s “Frequently Asked Questions about Biotech Soybeans” website states that in the bad old days,

“Farmers had to use several different kinds of herbicides to control weeds. [But now], biotech soybeans allow farmers to spray less often with a single herbicide, which saves time, money and helps steward the environment.”

In fact, superweeds from Monsanto’s RR crops create more pollution while costing farmers time and money. Thanks to resistant weeds from GMOs, farmers have been forced to return to mechanical tillage: a 2006 report noted that resistant weeds on cotton farms had resulted in a 40% drop in the percentage of Tennessee cotton farms that use conservation tillage. Farmers are even back to hand-weeding, adding more time and labor costs. And of course, thanks to Monsanto, we all face the environmental costs from increased use of chemicals on GMO crops.

But superweeds do create new opportunities for the pesticide companies that make GMO crops. Given Monsanto’s history, it makes you wonder if superweeds are just an unexpected problem from GMOs, or was creating the problem the plan all along?