



New Genetically Engineered Crop Will Sharply Increase Use of Toxic Pesticide, “Probable Human Carcinogen”

Biotech Industry Inaugurates New Era of Pesticide-Promoting Agriculture

Washington D.C. (August 29, 2013) -- The U.S. Department of Agriculture has quietly approved the first of a new generation of genetically engineered (GE) crops resistant to more toxic herbicides. The first crop to pass the low regulatory bar was a Bayer soybean variety genetically engineered to withstand direct application of the herbicide isoxaflutole (IFT), which according to the Environmental Protection Agency (EPA) is a [“probable human carcinogen.”](#)

“Bayer’s new GE soybeans represent the next wave in agricultural biotechnology – crops that dramatically increase farmers’ use of and dependence on toxic herbicides,” said Bill Freese, science policy analyst at Center for Food Safety (CFS).

IFT is presently a minor corn pesticide, used on just 7% of the nation’s corn. In [detailed scientific comments submitted to USDA \(.PDF\)](#), CFS projects at least a four-fold rise in national use of this toxic herbicide thanks to these new GE soybeans, and a host of related human health and environmental harms.

Dubbed FG72, these GE soybeans were developed by Germany-based Bayer CropScience, the second-largest agrichemicals firm in the world. Bayer is also the maker of Balance herbicides, the major commercial formulations of isoxaflutole (IFT). Bayer is marketing the soybeans as a false solution to massive weed resistance spawned by first-generation Roundup Ready crop systems sold by Monsanto.

IFT has many of the qualities that make a pesticide harmful: toxicity, persistence, presence in surface and groundwater sources of drinking water, and environmental impacts. IFT is an EPA-designated “probable human carcinogen” based on induction of liver and thyroid tumors in rats, and liver tumors in mice, that were fed low levels of the substance over time. It also exhibited developmental (fetal) toxicity in rabbits. IFT and its primary breakdown product DKN persist in the environment, and have been found [in over three-fourths of samples tested from Iowa rivers](#). IFT is toxic to many aquatic organisms, and to wild plants and many crops (e.g. vegetables) that can be harmed by direct application, water contamination, or spray drift.

IFT is so toxic that three corn-growing states – [Wisconsin](#), [Michigan](#) and Minnesota – rejected the Bayer-EPA label for this herbicide as insufficiently protective of human health, the environment, and neighboring crops susceptible to drift damage from this potent herbicide. Thus, IFT is not registered for use in those states.

“What’s so incredible is that the U.S. and world media have entirely missed the biotechnology industry’s game plan, even though the facts couldn’t be plainer,” said Freese.

Herbicide-resistant crops make up roughly 90% of U.S. biotech crop acreage. [Sixty percent of pipeline GE crops \(10 of 17\) are herbicide-resistant \(HR\)](#). Herbicides comprise 2/3 of U.S. pesticide use, and USDA data show conclusively that [herbicide use has increased substantially where HR varieties have become dominant](#).

“Generation One herbicide-resistant (HR) crops are Monsanto’s Roundup Ready (RR) varieties, resistant to the herbicide glyphosate. Skyrocketing use of glyphosate with RR crops has made biological deserts of our fields,” said Freese.

Glyphosate has virtually wiped out milkweed, the Monarch butterfly host plant, in many Midwestern corn and soybean fields, and this is an important factor [in the precipitous decline in Monarch populations](#) in North America. Glyphosate formulations are [extremely toxic to frogs](#), and likely one cause of the worldwide decline in amphibian populations.

“Roundup Ready crop systems have also driven [an epidemic of glyphosate-resistant weeds](#) found in [half of farmers’ fields](#). These resistant weeds are now serving as pretext and marketing ploy to sell farmers on the new wave of ‘next-generation’ herbicide-resistant crops that fill the industry’s product pipeline,” added Freese.

“It’s quite ironic that supposedly ‘cutting-edge’ biotechnology is taking American agriculture a half-century and more *backwards* into a more toxic past,” continued Freese.

Dow AgroSciences is awaiting USDA approval of [2,4-D-resistant corn and soybeans](#). 2,4-D is one of the oldest herbicides, introduced in the 1940s. It formed part of Agent Orange used in the Vietnam War. Medical scientists have linked [2,4-D exposure to an often fatal immune system cancer in farmers](#); and there is suggestive evidence linking 2,4-D and related chlorophenoxy herbicides to [adverse reproductive impacts](#). CFS projects that 2,4-D use in agriculture will increase ***four-fold or more, to well over 100 million lbs./year***, if Dow’s crops are approved.

“It’s not only Dow. The pipeline includes [Monsanto soybeans and cotton resistant to dicamba](#), which was introduced in the 1960s,” said Freese.

Epidemiological studies have found evidence linking dicamba [to increased risk of cancer in farmers](#), while other studies show potential developmental and neurotoxicity. BASF, another chemical company, has soybeans resistant to a class of herbicides known as [imidazolinones, one member of which \(imazethapyr\) has been linked to bladder and colon cancer](#). Syngenta has soybeans resistant to HPPD inhibitors, a class of herbicides that includes isoxaflutole and which inhibit a liver enzyme with potentially toxic consequences. Most of these crops will come “stacked” with resistance to glyphosate and glufosinate.

“The biotech industry is bringing on a veritable ‘herbicide Armageddon,’ with ever increasing use of herbicides on HR crops that will likely drive [evolution of ever more intractable weeds resistant to multiple herbicides](#).

“Don’t listen to the industry hype,” Freese concluded. “Biotechnology means toxic, unsustainable agriculture. We need to evolve our agriculture beyond antiquated, pesticide-promoting GE crops towards cutting-edge agroecological techniques for managing weeds instead of eradicating them. [Organic agriculture](#) is one path, [low-input systems that minimize pesticide use](#) is another.”