

Weedkiller Glyphosate for GM Crops Pollutes Air, Rain and Rivers across America

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Two new studies by the U.S. Geological Survey reveal the pervasive spread of the biocide, glyphosate, mostly used as a weedkiller for crops genetically engineered to resist it.

Used in formulations by Monsanto, Bayer, Dow and others, glyphosate has, according to several reports, been linked to [spontaneous abortions](#) in livestock, [birth defects](#) in humans, [insect resistance](#), and [weed resistance](#).

Worse, regulators have known for years of these links, [Earth Open Source reported](#).

In early August, [Dr. Mercola](#) reported:

"The first report was recently issued on ambient levels of glyphosate and its major degradation product, aminomethylphosphonic acid (AMPA), in air and rain. Glyphosate is the most widely used herbicide in the U.S.

"Weekly air particle and rain samples were collected during two growing seasons in agricultural areas in Mississippi and Iowa. Rain was also collected in Indiana. The frequency of glyphosate detection ranged from 60 to 100 percent in both air and rain."

Weeks after Mercola's report, the USGS just issued a [press release](#):

"Glyphosate is used in almost all agricultural and urban areas of the United States. The greatest glyphosate use is in the Mississippi River basin, where most applications are for weed control on genetically-modified corn, soybeans and cotton. Overall, agricultural use of glyphosate has increased from less than 11,000 tons in 1992 to more than 88,000 tons in 2007.

"Though glyphosate is the mostly widely used herbicide in the world, we know very little about its long term effects to the environment," says Paul Capel, USGS chemist and an author on this study. "This study is one of the first to document the consistent occurrence of this chemical in streams, rain and air throughout the growing season. This is crucial information for understanding where management efforts for this chemical would best be focused."

The Environmental Protection Agency, the USDA and FDA continue to permit our land, air and waters to be polluted by this highly toxic agrochemical, despite a growing body of scientific evidence of its lethality to the biosphere.

Mercola explains:

"A couple of years ago, a [French court found Monsanto guilty of falsely advertising its herbicide](#) as "biodegradable," "environmentally friendly" and claiming it "left the soil clean." The truth is that Roundup is anything BUT environmentally friendly. Monsanto's own tests showed that only two percent of the herbicide broke down after 28 days, which means it readily persists in the environment!

"Glyphosate is the most commonly reported cause of pesticide illness among landscape maintenance workers in California, and researchers have now linked it to Sudden Death Syndrome (SDS), a serious plant disease, in many fields around the world. [Numerous studies](#) have also shown that glyphosate is contributing not only to the huge increase in SDS, but also to the outbreak of some 40 different plant and crop diseases! It weakens plants and promotes disease in a number of ways, including:

- Acting as a chelator of vital nutrients, depriving plants of the nutrients necessary for healthy plant function
- [Destroying beneficial soil organisms](#) that suppress disease-causing organisms and help plants absorb nutrients
- Interfering with photosynthesis, reducing water use efficiency, shortening root systems and causing plants to release sugars, which changes soil pH
- Stunting and weakening plant growth

"The herbicide doesn't destroy plants directly; instead, it creates a unique "perfect storm" of conditions that activates disease-causing organisms in the soil, while at the same time wiping out plant defenses against those diseases. So the glyphosate not only weakens plants, it actually *changes the makeup of the soil* and boosts the number of disease-causing organisms, which is becoming a deadly recipe for crops around the globe."

Another problem with aerial application of herbicides is aerial drift. Citing a Canadian [report from 1998](#) on the environmental fate of glyphosate, Mercola quotes:

"Aerial drift of the herbicide will cause injury to nontarget plants... Minute quantities of mist, drip, drift or splash of glyphosate onto nontarget vegetation can cause severe damage or destruction to the plants or other areas on which treatment was not intended."

Indeed, earlier this year, [Food Freedom](#) reported that the Mississippi Rice Council (MRC) sounded a national alarm over damage caused by aerial drift of glyphosate, calling for severely restricted aerial application:

MRC president Mike Wagner [recently told](#) crop dusters at this year's Mississippi Agricultural Aviation Association annual meeting that glyphosate is wreaking havoc on the natural rice industry....

Wagner reported that, "Rice specialists noticed that rice that had no obvious damage through the growing season would yield and mill poorly and would exhibit the classic trait associated with late glyphosate drift — the kernel would be shaped like a parrot beak instead of its normally elongated, symmetrical shape."

[Field studies](#) run in 2007 and 2008 by the University of Arkansas showed reduced rice yield by up to 80% from glyphosate, as well as glufosinate, an herbicide produced by Bayer. On top of reduced yield, both herbicides burned the leaves and stunted the growth of rice plants.

Glyphosate needs to be banned outright and the industrial monoculture system needs to be converted to mixed farms that work with nature instead of against it.

Studies:

Feng-Chih Chang, Matt F. Simcik, and Paul D. Capel, "Occurrence and Fate of the Herbicide Glyphosate and Its Degradate Aminomethylphosphonic Acid in the Atmosphere," *Environmental Toxicology and Chemistry*, Vol. 30, No. 3, pp. 548-555, 2011 (Reproduced [here](#).)

Richard H Coupe, Stephen J Kalkhoff, Paul D Capel, and Caroline Gregoire, "Fate and transport of glyphosate and aminomethylphosphonic acid in surface waters of agricultural basins," *Pest Manag Sci* (2011). (Reproduced [here](#).)

Rady Ananda specializes in Natural Resources and runs the sites, [Food Freedom](#) and [COTO Report](#).

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