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Damaging Effects of Roundup (and its active ingredient glyphosate)

Glyphosate was patented by Monsanto as the active ingredient in their Roundup brand. Monsanto also introduced genetically modified (GM) "Roundup Ready" (RR) soy, corn, cotton, canola, sugar beets, and alfalfa—all designed to withstand Roundup's normally deadly effect.

Glyphosate by itself is only mildly toxic to plants and doesn't usually destroy weeds directly. As a broad-spectrum chelator,[1] it binds with nutrients, depriving plants of the minerals needed to help them defend against disease. At the same time, glyphosate can stimulate disease-creating organisms in the soil such as fusarium, which then wipe out the weakened plants. Glyphosate also remains in tact in the soil for months or years, and can even be found in the manure of chickens fed RR grains.

Glyphosate also changes soil microbiology in ways that can reduce plant nourishment and vitality, particularly nitrogen fixation; interferes with photosynthesis; reduces water use efficiency; lowers lignin content; damages and shortens root systems; causes plants to release important sugars; and changes soil pH—all of which can negatively affect crop health.

Glyphosate also accumulates in the food portion of Roundup Ready plants, for which allowable residue herbicide thresholds have been increased by up to 200-fold. Glyphosate exposure has been linked to sterility, hormone disruption, abnormal and lower sperm counts, miscarriages, damaged human embryonic and placental cells, placental cell death, birth defects, and cancer. It is also toxic and lethal to amphibians.

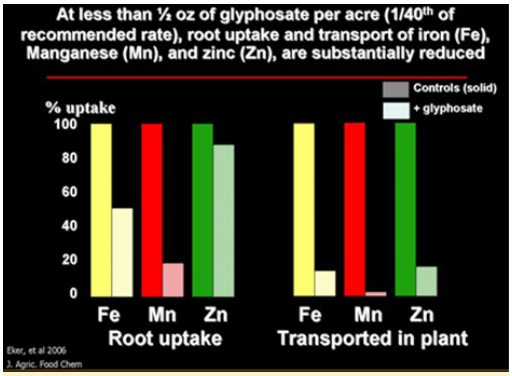
GM crops increase Roundup use

When Monsanto introduced Roundup Ready crops 1996, they boldly claimed that herbicide use would decrease as a result. It did—slightly—for three years. But over the next 10 years it grew considerably. Total herbicide use in the US jumped by 383 million pounds, or about 10%, in the 13 years after GMOs came on the scene. The primary reason for the increase is the accelerating spread of herbicide tolerant weeds. These were reported on 30,000 sites, affecting up to 11.4 million acres, up from 3,251 sites on 2.4 million acres in 2007. The cost for farmers is estimated almost $1 billion each year, or $10-20 per acre.[2]

Farmers are applying significantly more Roundup. Nearly half of the huge 13-year increase in herbicide use took place in just the last 2 years. Although the biotech industry points to a study claiming that GM crops reduce herbicide use, a careful analysis shows how unsupported assumptions and inappropriate methods were used to arrive at this conclusion.

Glyphosate:

- Promotes more than 40 plant diseases, some of which also can produce toxins that are dangerous to animals and humans.
- Removes essential nutrients from crops, which can result in deficiencies in livestock and possibly humans.
- Can adversely affect future crops planted on the same field or treated with glyphosate-ridden manure.



Glyphosate chelates iron, zinc, copper, manganese, magnesium, calcium, boron, nickel and others, essentially removing them from the pool of nutrients available for plants, animals, and humans. Glyphosate-induced mineral deficiencies can easily go unidentified and untreated. Laboratory tests can sometimes detect adequate minerals, but miss the fact that glyphosate has rendered them unusable.

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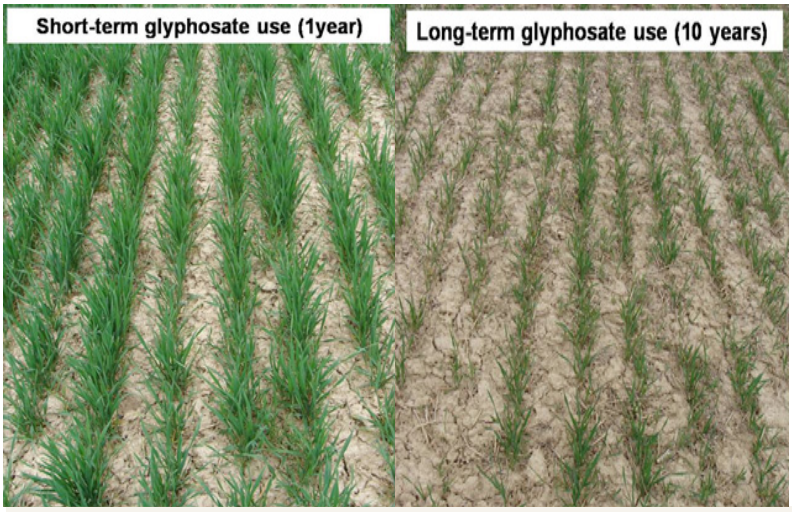
Roundup persists in the environment

Monsanto used to boast that Roundup is biodegradable, claiming that it breaks down quickly in the soil. But courts in the US and Europe disagreed and found them guilty of false advertising. Monsanto's own test data revealed that only 2% of the product broke down after 28 days.

The glyphosate concentration in the soil builds up season after season with each subsequent application. It can also accumulate for 6-8 years inside perennial plants like alfalfa. Glyphosate residues in the soil that become bound can be reactivated by the application of phosphate fertilizers or other methods. US potato growers, for example, have experienced severe losses from glyphosate that has been reactivated.



Wheat affected after 10 years of glyphosate field applications

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[1] A decade before it was patented as an herbicide, glyphosate was patented as a chelator of numerous minerals.

[2] http://www.biosafety-info.net/article.php?aid=799

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