

Description of Papers on Glyphosate

Paper #1 (**Organic diet intervention significantly reduces urinary glyphosate levels in U.S. children and adults**)—Typically people carry a significant body burden of glyphosate, but this is the case only because our daily diet contains a substantial amount of glyphosate. This study showed that by shifting to foods that contain little or no glyphosate, one can eliminate glyphosate from the body in just a few days.

Paper #2 (**Glyphosate Body Burden Increasing with Ag Use**)—This short paper documents that levels of glyphosate in the human population increased in parallel with the extent of use of glyphosate in agriculture. Based on other research, we know that this increase is primarily due to increased consumption, not due to increased exposure from the environment.

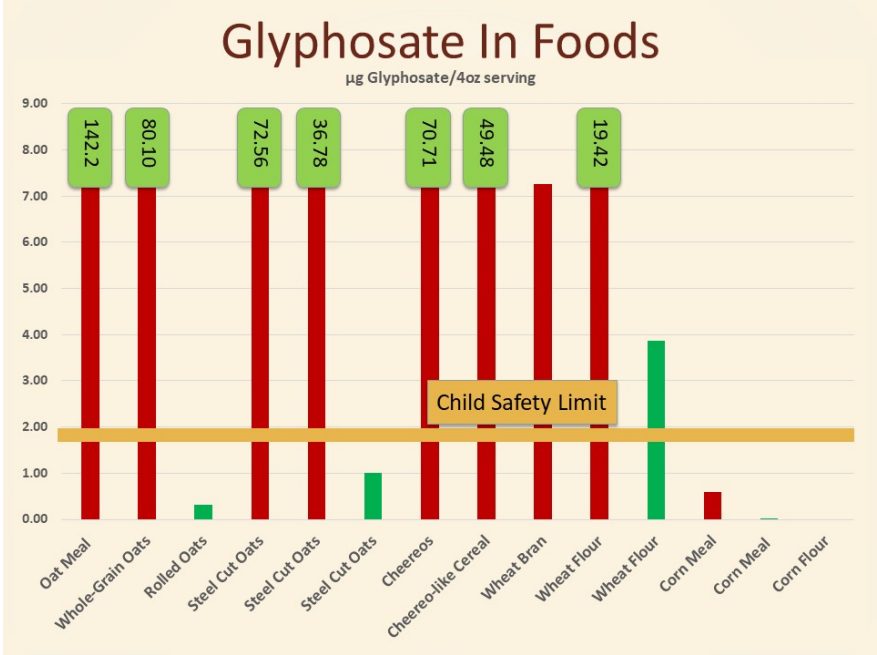
Papers #3 & #4 (**Impact of Glyphosate on Development & Reproduction**) (**Glyphosate impacts the microbiome**)—These papers are the most recent papers examining the effects of glyphosate on health. One shows that glyphosate at a level that the US EPA considers safe has adverse effects on the microbiome of rats. The other paper shows that glyphosate has substantial effects on development and reproduction of rats. These are pilot studies in preparation for large, long term studies of glyphosate's toxicity.

Paper #5 (**Glyphosate & GMO Corn Carcinogenicity**)—This is a pioneering paper establishing the carcinogenicity and toxicity of glyphosate and of genetically modified corn.

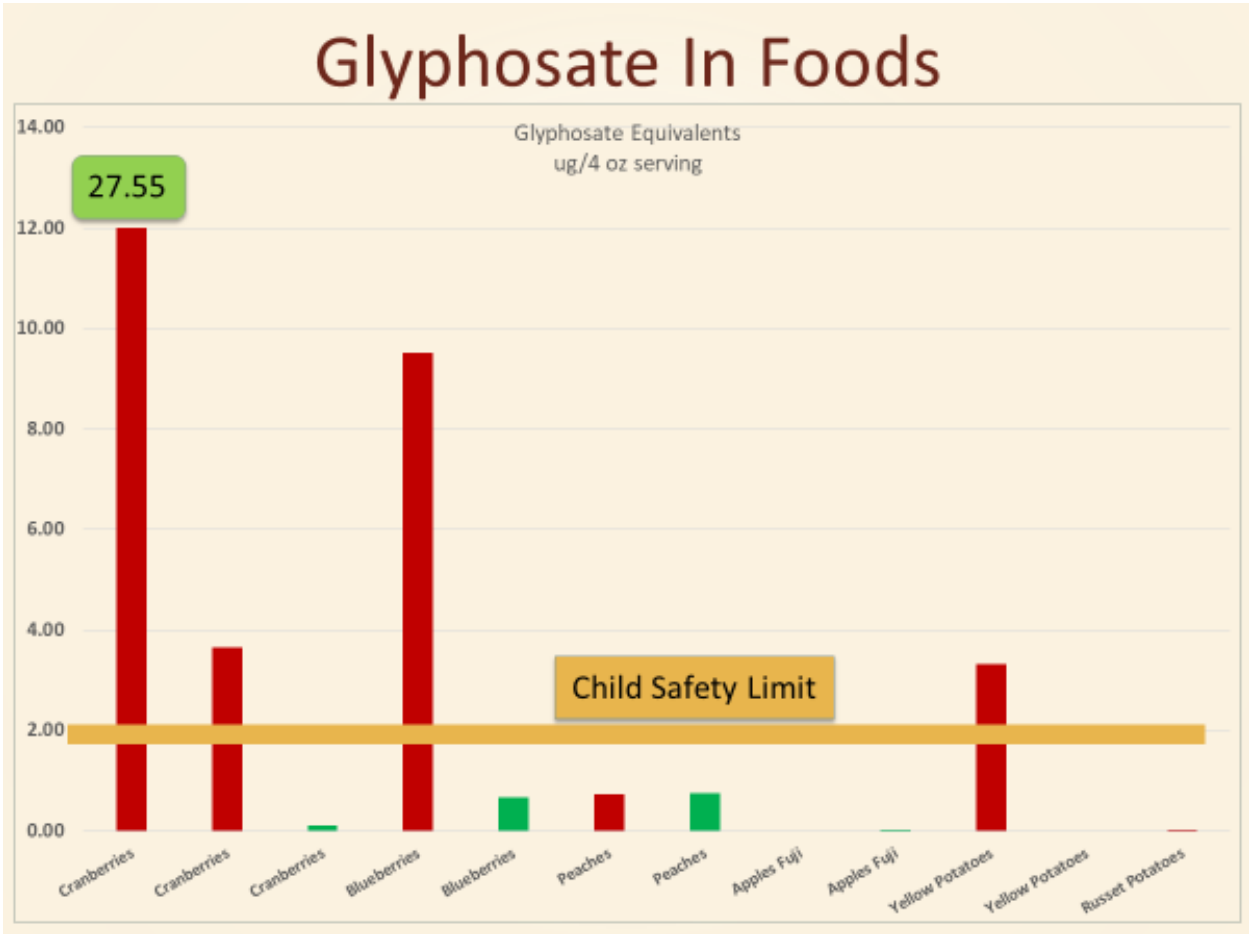
Paper #6 (**Glyphosate Causal Factor in NAFLD**)—This is the paper that provides the evidence in Table 1 showing that extremely low levels of glyphosate can trigger Non-Alcoholic Fatty Liver Disease in rats. It is highly likely that glyphosate has effects at similar levels in humans. There is a literal epidemic of NAFLD in the US and Europe. At present, scientists do not understand the cause of this epidemic. They claim it is linked to obesity, but there are many people who are not overweight who have NAFLD. The rise in glyphosate levels in the diet and in people's physiologies could be an important contributor.

Some Examples of Glyphosate Levels in Foods

This graph presents data for grains and similar foods. Glyphosate levels are very high in many grains (and also legumes) because glyphosate is used to desiccate the crop shortly before harvest. Many times, it doesn't even rain between the time of spraying and the time of harvest. Therefore, there can be a very high level of glyphosate contamination on the crop. Notice that the levels in the organic crops (green bars) are much lower.



This graph presents glyphosate levels in a few more foods. Red bars are conventional foods and green bars are organic foods.



The following graph compares levels of glyphosate in conventional and organic foods. Green is organic, orange is conventional. Most of the organic foods have lower glyphosate levels than the Child Safety Limit described in Table 1. This means that by eating organic foods, you are protected from most risks of glyphosate. There are a few products with levels that exceed the threshold but most of those are still quite low. But once in a while you encounter a product, like the blue bar in this graph, which is an organic product with high glyphosate. Why is there ANY glyphosate in organic? Because it is so pervasive in the environment that cross-contamination is almost unavoidable.

