



What is Organic about Cotton?

Chemicals in Cotton



Cotton & The Environment

New Research Findings

Conventional cotton is notorious for being one of the world's most chemically intensive crops. In fact, it **ranks as the third largest user of pesticides in the United States** behind corn and soybeans, using over **68 million pounds of pesticides** in 2019. Commonly used insecticides include organophosphates, pyrethroids, and neonicotinoids, which have all been associated with harmful impacts on the environment. Glyphosate --the active ingredient in the popular herbicide "Roundup®, and categorized as a **"probable carcinogen" by the World Health Organization**--made up more than 1/3 of all pesticide use on cotton in 2019.

But there is also a growing list of other hazardous herbicides increasing in use in response to the emergence of glyphosate-resistant **"super weeds."** For example, the U.S. Environmental Protection Agency (EPA) approved new GMO cotton varieties, Xtend® and Enlist®, which are each resistant to three herbicides: glyphosate, glufosinate and dicamba, and glyphosate, glufosinate and 2,4-D, respectively. These new GMO varieties are expected to replace the traditional Roundup® ready cotton and are anticipated to **increase the amounts of these chemicals used in conventional cotton production**.



Increased use of dicamba and 2,4-D are of particular concern since they are potentially **more toxic than glyphosate and significantly more susceptible to drift**, increasing the risk of contamination to nearby crops as well as human exposure. In addition to **water contamination** and **negative impacts on wildlife**, studies have linked exposure to 2,4-D with potential **human health problems** as well.

The onslaught of chemical use continues well past the farm-gate to conventional textiles, as a wide variety of hazardous inputs are used in conventional cotton processing. These include ammonia, azo and heavy metal-based dyes, flame retardants, formaldehyde, petroleum scours, and softeners.

The good news is that all these chemicals are banned from use in the processing of organic cotton if the product is certified to GOTS!



The Organic Center is a 501(c)(3) non-profit research and education organization based out of Washington D.C. Our mission is to conduct and convene credible, evidence-based science on the environmental and health effects of organic food and farming and communicate the findings to the public.