

Genetically Engineered Foods: Environmental Implications



Ohio Ecological Food and
Farm Association

Since their market debut in 1996, genetically engineered (GE) foods, also referred to as genetically modified organisms (GMOs), have become commonplace on supermarket shelves. GE refers to a set of technologies used to change the genetic makeup of cells to produce novel organisms that exhibit a desired trait, such as pesticide resistance. Research has linked GE crops to environmental problems, yet public policy has failed to adequately regulate GE technology.

Environmental Impacts of GE Foods

Increases the Use of Toxic Chemicals

GE seeds are directly responsible for the increased use of pesticides and herbicides. GE crops require 26 percent more pounds of pesticides per acre than conventional varieties, contributing to contamination of soil and water, and damaging public health. A recent example is the introduction of dicamba-resistant soybeans, which has led to increased use of dicamba, threatening neighboring non-GE soybean crops and contributing to pollution.

Encourages Super Weeds

Much like the overuse of antibiotics has created antibiotic-resistant super germs, the pervasive use of glyphosate has created weeds resistant to the herbicide, including pigweed, horseweed, and giant ragweed. Farmers are now having to resort to more labor-intensive weed management strategies and more toxic and complex mixtures of herbicides to combat these weeds, creating a dangerous chemical treadmill. A 2016 study, the largest of its kind to date, analyzed data from 5,000 GE soybean and 5,000 GE corn farmers in the U.S. from 1998 to 2011 and found strong evidence that weeds are becoming more resistant to herbicides and farmers are having to use additional chemicals as a result.

Threatens Soil Integrity and Biodiversity

Microbial activity in the soil is affected by repeated use of the agrochemicals associated with GE crops. Fertilizers only replace a few of the many essential elements that plants need to thrive; over time, the microscopic life in the soil disappears. Further, a GE variety of cotton was found to decompose at different rate from conventional cotton, possibly impacting the proper functioning of nutrient recycling and overall soil ecosystem health. Further research is required to determine long-term implications.

Additionally, GE crops have proven in some cases to be toxic to beneficial insects. Although refuge crops should be planted, this practice is not always followed properly, and the result has been a loss of beneficial insect life.

Take Action Today!

*Support organic, diversified,
and sustainable agriculture!*

Vote with Your Dollars

You can influence corporate decisions by buying local and organic products.

Rulemaking

As rules are made regarding GE/GMO labeling and the regulation of biotechnology, your input can influence the process! Make your voice heard!

Engage with OEFFA

Stay connected with OEFFA members on GE issues. Visit our website at policy.oeffa.org/gelabeling and contact OEFFA at policy@oeffa.org.

