



Biotechnology...
Fields of Benefits

Biotechnology... Fields of Benefits

The biotech crops we grow today — such as canola, corn, soy and cotton — have enormous benefits. Plant biotechnology contributes to sustainable agriculture by increasing food production without harming or depleting the Earth's limited natural resources.

Websites for More Information:

Biotechnology Industry
Organization (BIO):
www.bio.org

The Council for
Biotechnology Information:
www.whybiotech.com

Food and Drug
Administration:
www.foodsafety.gov

USDA (APHIS):
[www.aphis.usda.gov/ppq/
biotech/](http://www.aphis.usda.gov/ppq/biotech/)

American Dietetic Association
(ADA): www.eatright.org

Food and Agricultural
Organization (FAO) of the
U.N.: www.fao.org

Council for Agricultural
Science and Technology
(CAST):
www.cast-science.org

Pew Initiative on Food and
Biotechnology:
<http://pewagbiotech.org/>

Alliance for Better Foods:
<http://www.betterfoods.org/>

Canola

Enhanced Canola Helps Farmers Conserve Soil and Save Fuel

Thanks to new canola varieties improved through biotechnology, farmers can more frequently practice conservation tillage — a method of weed control that reduces their need to plow. Less plowing means less erosion, less run-off and fewer trips across the field.

Enhanced canola also allows farmers to make fewer herbicide applications. This further reduces the number of trips they need to make, which lowers their consumption of fuel. These savings can be significant. In one year alone, farmers using conservation tillage practices with herbicide-resistant canola reduced their use of fuel by more than 14 million gallons. *

*Canola Council of Canada

Corn

Plant Biotechnology Helps Enhance the Safety of Corn for Animal and Human Consumption

One of the benefits of crops improved through biotechnology such as corn, is enhanced grain quality that helps to ensure food and feed safety. Research shows that the reduction of insect damage with use of these improved corn varieties results in lower levels of grain contamination by mold and mycotoxins. Molds can produce dangerous fumonisin, one class of mycotoxins hazardous to animals and humans. Plant biotechnology helps the crop be resistant to certain insects and suppress fumonisin concentrations. Furthermore, reduced insect damage to these improved varieties also means the healthier corn plants may utilize soil nutrients more efficiently.

Soybeans

Plant Biotechnology Helps Farmers Better Manage

Their Weeds Throughout North America, Europe and other parts of the world, herbicides are used to keep weeds from robbing agricultural crops of the sunlight, moisture and nutrients they need to grow. In soybeans, for example, weeds are the greatest limiting factor for a successful crop. It's no wonder then that American farmers have used herbicides on more than 95 percent of their soybean fields.

Now farmers can reduce the amount of chemicals they put on their fields by planting crops improved through biotechnology. Herbicide-tolerant soybeans, for example, allow farmers to control their weeds with a single, broad-spectrum herbicide they can apply without fear of damaging their beans.

Cotton

Enhanced Cotton Helps Farmers Spray Less

Pesticides Plants that can protect themselves against harmful insects allow farmers to control pests with less reliance on chemical pesticides. These plants are able to fight off certain insects because they produce a protein that isn't tolerated by pests — such as the cotton bollworm.

The gene that allows them to produce this protein comes from a common microbe, called *Bacillus thuringiensis* (Bt), which is naturally present in soil. This microbe has been widely used for over sixty years with no ill effects and it has been found to be harmless to humans, fish, wildlife and beneficial insects.

Built-in protection from harmful insects provides farmers with a way to reduce their use of pesticides and offers them a more sustainable, ecologically friendly approach to pest control.

