

Pesticide - a substance used to prevent, destroy, or repel pests. Pests can be insects, weeds, fungi, or microorganisms like bacteria and viruses. Pesticides can also be used to kill organisms that cause diseases. Many cleaners and disinfectants, including chlorine, are pesticides. Many plants produce their own insecticides.

Bt (*Bacillus thuringiensis*) - a bacteria found naturally in soil. Organic farms use Bt as a biological pesticide to control larvae and caterpillars of budworms, gypsy moth, Japanese beetles, and other insect pests. These insects destroy plants by eating them.

Herbicide tolerant - A plant that is genetically modified so it's not harmed by one specific type of herbicide. This allows the farmer to kill weeds, but not the crop.

Glyphosate - (gly-fo-sate) An herbicide that destroys a specific enzyme found only in growing plants. Because of the way it works, it is non-toxic to animals and insects.

Organic farming - Farms that are certified by USDA as organic cannot use man-made pesticides or fertilizer or plant GMO seeds. Organic farmers do use biologically derived pesticides and fertilizer including manure.

Natural - Occurring in nature. Natural does not mean safe. Mercury, lead and bacteria like E.coli are all natural.



WASHINGTON FRIENDS of Farms & Forests

PO Box 7644
Olympia, WA 98507
360.705.2040
info@wafriends.org

Visit our website: www.wafriends.org

Become a fan and follow us on Facebook!

For references and more information see:

foodintegrity.org

geneticliteracyproject.org

GMOanswers.com



GMO WHAT DOES IT MEAN?



A Simple Explanation of Genetic Terms Used in Agriculture



GMOs and Food

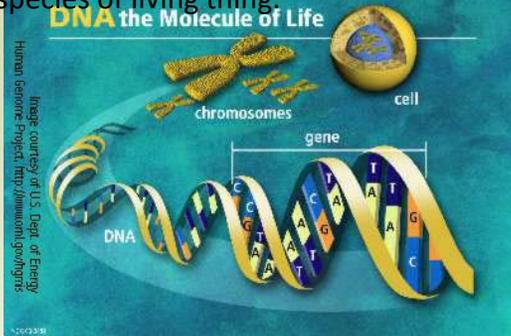
GMO - Genetically Modified Organism

A GMO is a plant or organism developed by copying one or more small pieces of genes from one plant or organism and placing them in another plant or organism. The eight GMO crops grown commercially in the U.S. are soybeans, corn, canola, cotton, alfalfa, sugar beets, papaya, and summer squash. The GMOs currently on the market were developed to help farmers control pests and diseases and reduce the use of pesticides.

Gene - Genes link together to form chains of DNA. Genes are the basic unit of heredity. Each gene has a specific job. Humans have about 21,000 genes. Grapes have about 30,000 genes. More genes doesn't mean more complexity.

DNA - deoxyribonucleic acid is present in all living things. It contains the genes that determine what offspring will look like.

Transgenic - a living thing containing a gene or genes transferred from another species of living thing.



GMOs and sugar – Much of the sugar produced in this country comes from sugar beets. Most sugar beets are genetically changed to resist herbicides. When the beets are processed into sugar, only the pure sugar molecule is saved. 100% of the genetic material is discarded. There is no genetically modified material in sugar made from sugar beets.



How do we know GMOs are safe?

- 1) The vast majority of scientific organizations including the American Medical Association, Royal Society of Medicine, World Health Organization, and the Center for Science in the Public Interest support the safety of GMOs.
- 2) Over 100 billion farm animals who have been fed GMO grain have been studied and compared with animals not fed GMO grain. The study found no evidence of any negative effects on animal health or productivity.
- 3) Humans have consumed GMO foods for over 20 years with no reported illness, allergy or negative health effects ever observed. Reports that appear to link GMOs to a wide range of human illnesses have been rejected by the overwhelming majority of scientists worldwide.

What about allergies and GMO foods?

Of thousands of proteins in our diet, only a small fraction cause allergies. They have unique, identifiable properties. The U.S. Food and Drug Administration requires companies to show scientific evidence that no potential allergen was introduced in the process of developing GMOs.

What happens when we eat food made with GMO ingredients?

As with all food, our digestive system breaks it down into components our bodies can use. The elements our bodies cannot use are excreted.

GMOs and cheese

Enzymes are proteins made by living things. Commercial cheese



is made using an enzyme called chymosin. (ky-mo-sin) Nearly all chymosin is made with the aid of genetically modified organisms. The chymosin-producing gene is removed from calf stomachs then transferred to a growth medium such as bacteria or yeast. This transfer to another species is genetic modification. Once growth is complete, the chymosin is separated from the bacteria or yeast. No genetically modified material ends up in the cheese. The chymosin is added to the milk to turn it into cheese. This fermentation-produced chymosin is identical to that naturally produced in calf-stomachs, but it is produced in a more efficient way. This type of chymosin has been on the market since 1990 accounting for 80% of global cheese production.