

GMO-Organic-Natural

Did God mean healthy eating to be so confusing?

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And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat. Genesis 1:29 (KJV)

Then God said, "Let the land produce vegetation: seed-bearing plants and trees on the land that bear fruit with seed in it, according to their various kinds." And it was so. The land produced vegetation: plants bearing seed according to their kinds and trees bearing fruit with seed in it according to their kinds. And God saw that it was good. Genesis 1: 11-12

This week a report from the National Academy of Sciences stated that GMO food products pose no more or less health risk than organic products. There is no scientific consensus on the safety of GMO in North America. Nineteen European countries, Turkey, Peru, Venezuela, Saudi Arabia, Australia, Japan, Zimbabwe and other African countries currently have bans on certain GMO seeds being grown in their country. Much pressure is being applied to allow GMO food to be sent as humanitarian aid to countries in need.

What does GMO mean? GMO stands for genetically modified organism. A plant that has DNA from another species added to give it an advantage such as the ability to make its own pesticide or be resistant to an herbicide. The most common we think of in North America include Monsanto's Roundup Ready seeds. The seeds are implanted with DNA that makes the plant resistant to the herbicide glyphosate (Roundup). This is based on the principle that once the plants from these seeds grow, the field can be sprayed with Roundup and the weeds die but the GMO plants survive. Other plants have the gene to have the plant makes its own pesticide bacterium *Bacillus thuringiensis* (called *Bt corn* and *Bt soy*) that kills pests that would otherwise consume the crop. This theoretically decreases farmer costs although the farmer must buy GMO seeds every year. GMO seeds are the property of the parent company. They cannot be saved for later years as they are patented.

Why GMO in the first place? Traditional/heirloom/organic plant breeding to improve plant properties is time consuming (2-10 years) and does not cross beyond different species. Traditional farming cannot provide enough food to feed the world. GMO crops give higher yields and offer lower costs to consumers.

PESTICIDE	A substance or agent used to kill pests, such as unwanted or harmful insects, rodents,
HERBICIDE	A substance used to destroy or inhibit the growth of plants, especially weeds.
NATURAL	A sales marketing term that has no meaning
HEIRLOOM	Seeds passed around for generations locally
ARTIFICIAL	Does not exist without being caused or created by people
USDA	United States Department Agriculture
MONOCULTURE	One type of crop in a given field

DID YOU KNOW?

In the US, the most common GMO crops

- 95% sugar beets
- 94% soybean
- 93% canola
- 90% cotton
- 88% corn

Are used to make: corn syrup, corn starch, soy protein isolate, hydrolyzed vegetable protein, canola oil, cottonseed oil, food additives, thickeners, flavorings



High School Biology: KINGDOM-PHYLUM-CLASS-ORDER-FAMILY-GENUS-SPECIES

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One problem with obtaining a consensus is that for example, if you wanted to test if GMO sugar beets are nutritionally the same and as safe as organic, there are not enough non GMO sugar beet seeds in the world to even conduct a long term scientific study properly. Non GMO advocates warn of this danger of monoculture. Lessons from history on lack of diversity:

- 1830-1840's Irish Lumper potato had very similar genes. Disease (mold) destroyed so much of the crop that many died, starved or immigrated to other countries.
- 1945 US Victoria Oat blight. Victoria oats bred to resist rust disease, but those same genes made it susceptible to a fungus that caused major losses.

M D G F I Q E R E O I Y P S L
 O E A E T N E D R C G X E D A
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ALLERGIES
 CANCER
 CERTIFIED
 CREATION
 DNA
 GENETIC
 GLYPHOSPHATE
 GMO
 GMOPROJECT
 GOD
 HERBICIDE
 UGLY

LAWS
 MONOCULTURE
 NATURAL
 ORGANIC
 PESTICIDE
 SAFETY
 SCIENCE
 SEEDS
 TASTE
 TESTING
 INGREDIENTS
 USDA

Product	Label
95-100% organic	USDA Organic seal
70% organic	No USDA Organic seal
Less than 0.9% GMO	Non GMO project seal

How can I afford to eat organic so I can avoid pesticides that might cause allergies or cancer? Organic agriculture does not mean that no pesticides and herbicides are used. It means no synthetic pesticides and herbicides are used on plants, or **artificial** hormones are given to animals. The USDA National Organic Program CFR part 205 outlines the natural based chemical pesticides and herbicides that can be used in USDA Organic labeled products. These can include insecticidal soaps, Bt powder, neem, potassium bicarbonate, Rotenone, etc. which degrade quicker and are less harmful for the environment long-term (Stewardship of the Earth).

TIPS for saving money and avoiding stress of the GMO debate

- Find a local produce shop to support local businesses and know your food source. AFFORDABLE
- SAVE \$\$\$\$\$ by buying "ugly" produce from your markdown bin at your local grocery store. In the US, 13 billion pounds per year of produce is thrown out because it is not "grocery store pretty"
- Reduce waste from markdown bin or produce that is not as firm/peak as you prefer
- Freeze the good portions for future smoothies Make jelly or fruit preserves
- Puree and freeze to make bread
- Make soup or sauce and freeze
- Choose non-produce staples that are minimally processed (no fake sweeteners, colors, preservatives) with ingredients you can understand. Brands include Bob's Red Mill, Annie's Homegrown, Beyond Meat, Nature's Path Environkidz , Earth Balance, Melt Organic (spread), Blue Diamond, Apple&Eve, Back To Nature Celestial Seasonings, Post GrapeNuts, KIND, Barilla, Alexia, Cascadian Farm, Gardein, Kashi, Stoneyfield Organic, California Olive Ranch, Carrington Farms
- Use white vinegar in a spray bottle to clean produce before cutting
- Keep heirloom and non GMO seeds to keep the plant diversity God intended for the Earth