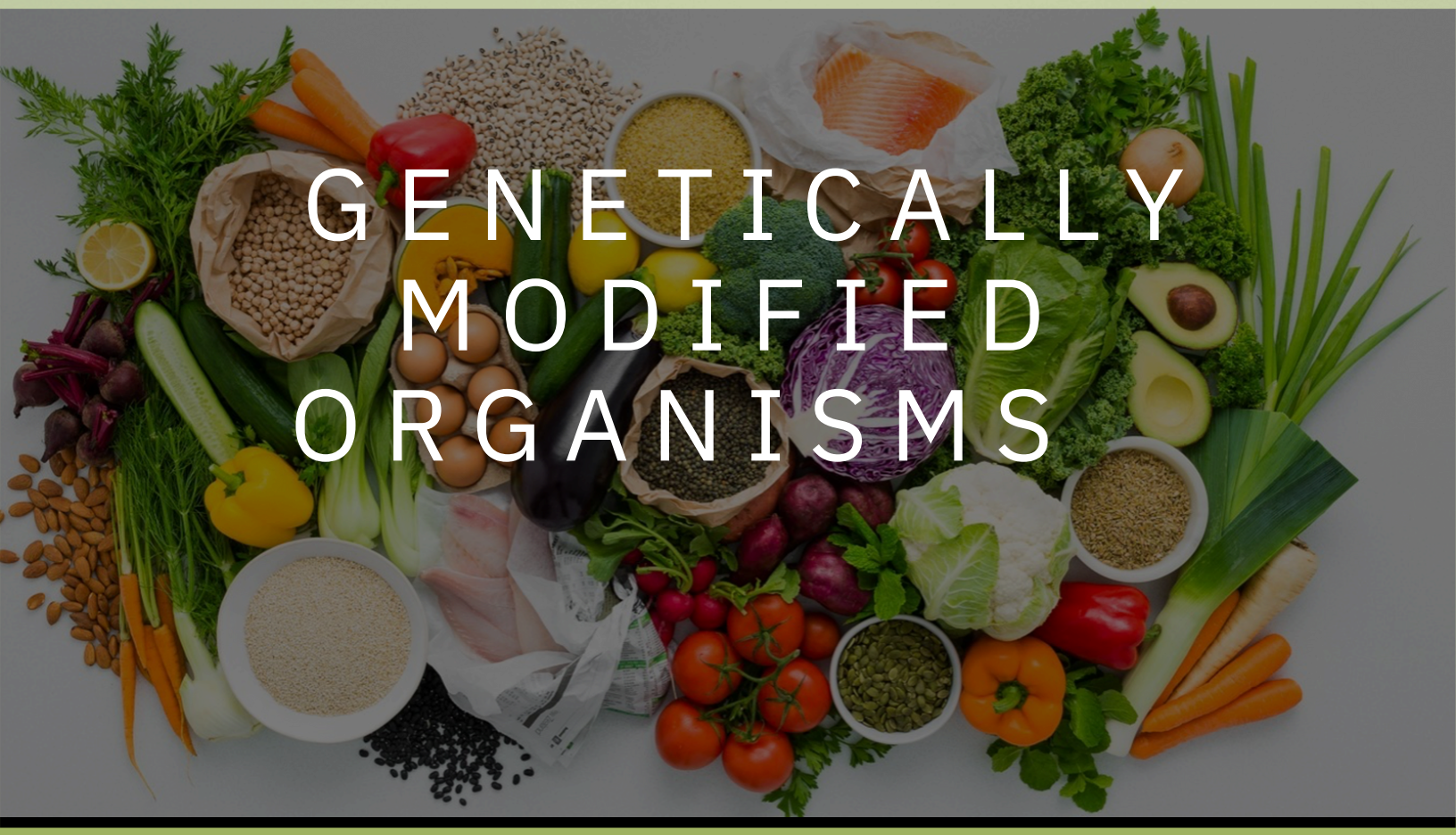


GENETICALLY MODIFIED ORGANISMS

Presented by

The Medical Paraclete

What is GMO?

A genetically modified organism(GMO) is a plant, animal, microorganism, or other organism whose genome has been artificially manipulated using genetic engineering. Genes are modified in a way that does not occur naturally by mating and/or natural recombination.

Why GM Food?

Most of the genetically modified (GM) crops grown today were developed to help farmers prevent croploss.The three most common traits found in GM cropsare:

**Resistance to insect damage

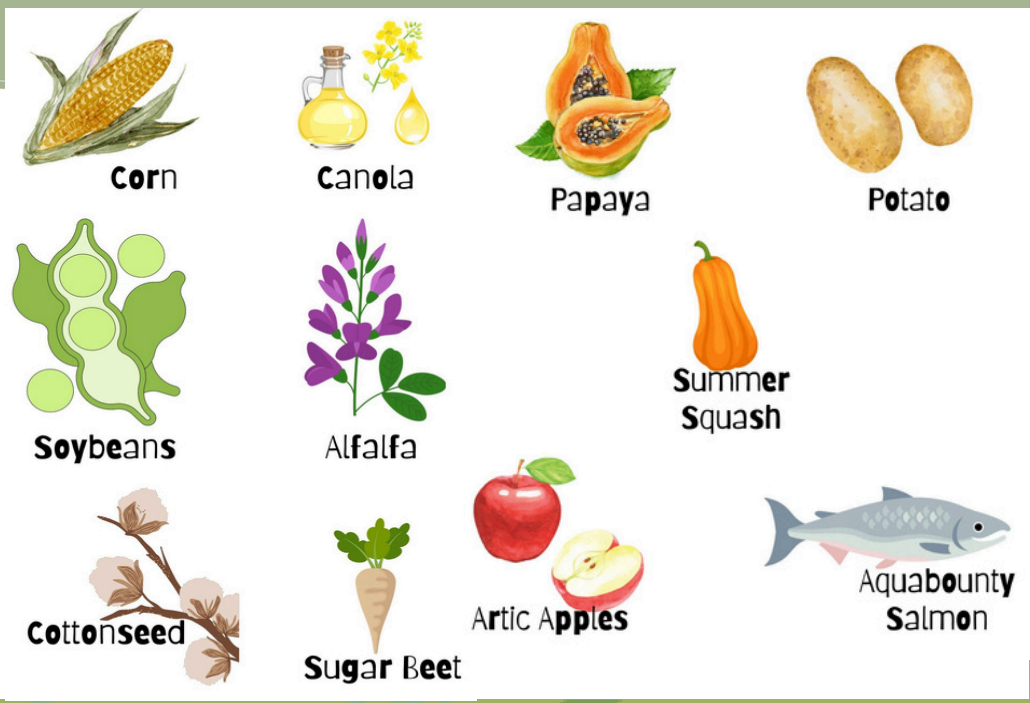
**Tolerancetoherbicides

**Resistancetoplantviruses

Despite biotech industry promises, there is no evidence that any of the GM produce currently on the market offer increased yield, drought tolerance, enhanced nutrition, or any other consumer benefit.

GMO Products

Here are the approved list of foods that can be genetically modified by the United States of America and Canada:



GMO Products: Corn

Corn is a carbohydrate,high in starch, with an above average glycemic index and a poor ratio of Omega-6 to Omega-3 fatty acids.

Most GMO corn is created to resist insect pests or tolerate herbicides. While a lot of GMO corn goes into processed foods and drinks, most of it is used to feed livestock, like cows, and poultry, like chickens.

Corn

Most GMO crops are made into ingredients which we consume from drinks and packaged foods.

**Corn Flour
**Corn Meal
**Corn Oil
**Corn Syrup
**Corn Starch
**High Fructose Corn Syrup

GMO Products: Canola

According to the FDA,"GMO canola is used mostly to make cooking oil and margarine. Canola seed meal can also be used in food for animals. Canola oil is used in many packaged foods to improve food consistency. Most GMO canola is resistant to herbicides and helps farmers to more easily control weeds in their fields."

Canola

Canola Oil is the merchandise from canola seeds that we currently see on shelves at the grocery stores.

Canola oil is a rich source of Omega-6 polyunsaturated fattyacids, or PUFA, which within limits are beneficial to human health. However, studies show that excessive consumption of this

strain of fatty acids can lead to high incidence of cardiovasculardisease, hypertension, obesity, non-insulin-dependentdiabetes and cancer

GMO Products: Soybeans

In the US, about 94% of all planted soybeans are genetically modified. Moreover, most GMO soy is used for food for animals, predominantly poultry and livestock, and making soybean oil. It is also used as ingredients (lecithin, emulsifiers, soy flour, soy isolate and soy proteins) in processed foods.

In the case of GMO soybeans, there have been incidents of an allergic reaction. According to the September 2016 review published in Food Science and Human Wellness, GMO soybeans enriched with methionine, an amino acid from Brazil nuts, can cause allergic reactions in those with the nut allergy.

GMO Products:
Alfalfa

Alfalfa is a highly nutritious, perennial legume that contains high concentrations of vitamins B, C, D, and E. Most of the alfalfa grown in the United States is used as feed, particularly for dairy cattle.

Alfalfa was genetically modified (GM) so it can be resistant to the weedkiller Roundup, which means alfalfa farmers can use the chemical on the plant, which saves time, labor and money on weeding.

However, genetically modified alfalfa is a threat to organic farmers because it is pollinated by bees and other insects that travel great distances and grows wild near roads, ditches, and yards. This means GM alfalfa will contaminate organic alfalfa and potentially, there will not be organic Alfafa.

GMO Products: Cottonseed

Cotton was genetically engineered to reduce insect pests so farmers could reduce their chemical dependence on pesticides and buy less of them. Additionally, GM cotton was designed to be resistant to herbicides so that weed killers could be liberally sprayed on crops without worrying about killing the cotton plants.

However, recent reports show GM cotton requires more doses of chemical pesticides and herbicides to control pests which are mutating faster than even their worse case scenarios had envisioned and becoming resistant to the genetic modifications found in GMO cotton.

Cottonseed

Furthermore, cottonseed oil is derived from cotton and is acommon ingredient in baked goods and margarine. It is also used to fry processed foods such as potato chips.

GMO Products:
Sugar beet

GMO sugar beets are resistant to herbicides, growing GMO sugar beets helps farmers control weeds in their fields.
Sugar beets are used to make granulated sugar.
Sugar beets account for slightly more than half of US sugar production. Sugar produced by GM sugar beets may be included in products ranging from candy to breakfast cereal to bread.

GMO Products:
Papaya

Papayas in Hawaii had been suffering from PRSV, the Papaya Ringspot Virus, since the 1930's. The virus can be identified by the spots on the papaya skin that look like rings. At one point in time, it killed nearly all papaya trees, and nearly all the industry and economy reliant on papayas.

Scientists had an idea to work on a genetically modified papaya, so that it could withstand the PRS virus and hopefully save the industry and thousands of jobs. The primary downside to using genetically modified papayas, and other engineered foods, is that they have not been proven safe over the long term.

GMO Products:
Potato

Goals of modification include introducing pest resistance, tweaking the amounts of certain chemicals produced by the plant, and to prevent browning or bruising of the tubers.

GMO Products:
Summer Squash

GM summer squash (yellow squash and green zucchini) is grown at low quantity. It was introduced to reduce resource use and prevents food waste.
Summer squash can be attacked by viruses that can turn the sunny-yellow vegetables into a mottled, sickly green harvest.
Zucchini yellow mosaic virus is the most prevalent of the viruses. This virus is transmitted primarily by aphids and causes infected plants to grow small, unhealthy fruit. It is closely related to the ringspot disease in papayas.
Overall, with any genetically engineered crop, the summer squash pose the risk that its new genes might turn its relatives into virus-resistant weeds by interbreeding with them.

GMO Products:
Artic Apple

A few varieties of GMO apples were developed to resist browning after beingcut. This helps cut down on food waste, as many consumers think brown apples are spoiled.

GMO Products: Salmon

AquAdvantage salmon, a type of genetically modified salmon that was introduced to the market in 2015, was produced by AquaBounty Technologies. These salmon were genetically altered because salmon is the second-most popular fish consumed in the U.S., overfishing and environmental degradation has dangerously reduced wild salmon populations.
GM salmon are farm raised and can grow in eighteen months instead of three years.
These GM salmon can promote allergic reaction and can cause health problems because there is a high concentration of IGF-1, a growth hormones that has a connection with breast, blood, prostrate and colon cancer.

Are GMO safe?

In the absence ofcredible independent long-term feeding studies, the safety of GMOs is unknown. Some people worry that these crops are not safe to eat and could threaten the environment with unforeseen problems.They question whether government agencies test the products enough and whether corporate profit motives outweigh safety concerns. Is it safe and environmentally friendly or an out-of-control experiment? Increasingly,the public is taking matters into its own hands and choosing to opt out of the GMO experiment.

Environmental Impact

According to the Non-GMO Project, more than 80% of all genetically modified crops grown worldwide have been engineered for herbicide tolerance. As a result, the use of toxic herbicides, such as Roundup®, has increased fifteen fold since GMOs were first introduced. We are now observing “superweeds”(weeds that can no longer be killed by herbicides),“Superpests”(some insects have developed resistance to the toxins in GM insect-resistant crops), contamination, and biodiversity loss. Furthermore, in March 2015, the World Health Organization determined that the herbicide glyphosate (the key ingredient in Roundup®)is**“probably cadinogenic to humans”**

Ways to avoid GMO

Organic Labeling

Used to label any product that contains 100% organic ingredients (excluding salt and water, which are considered natural)

Most raw, unprocessed or minimally processed farm crops can be labeled “100% organic”

Organic Labeling

Product contains at least 70% organically produced ingredients (excluding salt and water), with several detailed constraints regarding ingredients that comprise the nonorganic portion

Organic Labeling

Any product that contains a minimum of 95% organic ingredients (excluding salt and water)

Up to 5% of ingredients may be non organic agricultural products and/or non agricultural products on the National List (nonorganic agricultural products and several non agricultural products on the National List may only be used if they are not commercially available as organic)

Look for Non-GMO Seal

This non-GMO seal aims to guarantee that meat, eggs and dairy products are produced without the use of genetically modified feed, supplements, ingredients and are raised according to animal welfare standards. They also offer additional claims on environmental sustainability.

Read Labels: ORGANIC

- 5 DIGIT CODE
- STARTS WITH 9
- NO CHEMICALS
- GROWN NATURALLY

Read Labels: UNCONVENTIONAL

- 4 DIGIT CODE
- STARTS WITH 4 or 3
- GROWN WITH PESTICIDES
- MAY OR MAY NOT BE GMO

Read Labels: GMO

- 5 DIGIT CODE
- STARTS WITH 8
- GENETICALLY MODIFIED

Read Labels

Deceptive Labeling-Not all labels are factual

Some labels don't have any clear definition or lawful meaning

Common GMO Ingredients

- amino acids
- artificial flavor
- ascorbic acid
- aspartame
- baking powder
- canola oil
- citric acid
- dextrin
- dextrose
- "natural”/"artificial" flavor

Common GMO Ingredients

- fructose
- glucose
- gluten
- hydrolyzed vegetables protein
- lactic acid
- lecithin
- maltodextrin
- modified food starch
- molasses
- monosodium glutamate

Common GMO Ingredients

- natural flavor
- shortening
- sodium ascorbate
- sodium citrate
- starch
- sucrose
- textured vegetable protein
- vegetable oil
- vegetable protein
- vegetable shortening

Common GMO Ingredients

- vitamin C
- whey
- xanthan gum
- yeast

Conclusion

Overall, the reasons many healthcare providers advise against consuming GMO products are because,

**GMOs may cause allergic reactions
**GMOs may increase antibiotic resistance
**GMO could be a carcinogen.

visit us at www.themedparaclete.org

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