

Daily Union Article
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Title: GMOs: Facts and Fiction

Genetically Engineered foods (aka genetically modified organisms – GMOs) continue to be a controversial topic in many circles. In many ways, consumers are becoming more and more concerned about where their food comes from and how it is grown. They want to know if pesticides, herbicides, and fertilizers have been used in their production. They have an increased concern about the medications used in raising cattle, pigs, or poultry. Many folks turn to the easy-access internet and their sole source for information, but they may not be able to determine if the websites they peruse offer valid, research-based information.

We are all susceptible to being drawn in to the ease of access, but that also makes us vulnerable to special interest groups pushing their message on us rather using our own ability to arrive at our researched conclusions.

I recently gave a presentation to the two remaining EEU groups here in Geary County. Although many members of these two groups are directly involved in food production, they learned new information about GMOs that contradicted what they heard from other sources.

K-State Research and Extension serves as the conduit for transferring real-time research and educational information to the public on an extremely wide variety of topics, including genetically engineered (GE) foods. Dr. Londa Nwadike recently authored a fact sheet about this topic to help consumers better distinguish between fact and fiction.

The terms “organic”, “natural”, and “GMO-free” are commonly used in food marketing and add to the confusion many consumers are experiencing. At the root of this confusion lies a simple question we ALL want to know the answer to when it comes to our food supply: “Is it safe?”

Often a misunderstood topic, research shows that 37% of U.S. adults say they think GE foods are safe. Conversely, 88% of scientists who are part of the American Association for the Advancement of Science state they are safe to consume. What may muddy the water are the many other issues that get thrown in with the topic of GEs such as environmental sociopolitical concerns that relate to agriculture.

Dr. Nwadike states “Since the beginning of domesticated agriculture, all food crops have been modified by man to improve taste, yield, disease resistance, and other traits.” These efforts have been achieved through crossbreeding, selective breeding, or similar methods. This process takes a long time and requires years of research in controlled labs before it is ever introduced to the public. It takes an average of 13

years from the time a GE product is discovered until it reaches the consumer. GE or GMO food products are defined as plants or animals that has had DNA (genes) altered in a lab through genetic engineering to enhance desirable traits.

Managing the desirable traits and market demand necessitates the need for GMO and GE food development. Another factor is the growing world population. The amount of natural resources we have to feed the world population is limited. We have to ensure that our crops can resist damage from weeds, diseases, insects, and droughts. On-going crop failure that can result from these different challenges means that we wouldn't be able to meet the needs of our consumers. Other benefits of GE foods that have been or are currently in development include improved nutrition, taste, quality, and shelf life.

Dr. Nwadike reports that "In November, 2015, the FDA (U.S. Food and Drug Administration) approved a GE salmon, which grows twice as fast as conventional farmed salmon. It was determined to be as safe and nutritious to eat as any non-GE salmon, but it is not currently available to consumers."

Test your knowledge about what GE foods are in our U.S. food supply. Circle the foods you think are genetically engineered and then look at the key following.

1. Canola
2. Tomatoes
3. Sugar beets
4. Alfalfa
5. Sunflowers
6. Soybeans
7. Sweet corn
8. Wheat
9. Sorghum
10. Summer Squash

The foods in the list above that are genetically engineered include numbers 1, 3, 4, 6, 7, and 10 (only some varieties.) If you add to those five - cotton, rainbow papaya, and some varieties of potatoes you have the entire list. Tomatoes, wheat, sorghum, sunflowers, and any other crop or animal not included in the list of GE foods provided are NOT available in genetically engineered form. There is a variety of genetically engineered non-browning apples that have been approved and should be coming to the market soon, though.

GE foods are held to rigorous evaluation systems that combine the work of the U.S. FDA, USDA (United States department of Agriculture) and the U.S. Environmental Protection Agency. These federal agencies ensure that the food is safe for our human

consumption, as well as for the safety to other plants and animals and the environment as a whole.

Should you be aware of GE foods? Yes! It is very important for consumers to know where their food comes from, how it is produced, and how to choose foods that benefit their health and well-being. But recognize that GE foods have a significant beneficial role worldwide.

Should you be scared of them? No! There has been no documented instance of harm to human or animal health from consumption of genetically modified food since 1994 when the first GM seeds were available for planting. The FDA states that there is no reason to require labeling of GE foods since there is no documented record that these foods cause harm.

For a copy of Dr. Nwadike's K-State Research and Extension's fact sheet titled "Is it Safe: Information on Genetically Engineered Foods for Consumers", contact the Geary County Extension office at 785-238-4161. Until next time, keep living resourcefully!