

## G M Oh Yes, Please!

Foods are genetically modified by the elimination or insertion of genes within a DNA sequence. These modifications are designed to improve the food's flavor, nutrition, or resistance to natural threats. These days, most foods in the US contain some genetically engineered (GE) foods. Genetically Modified Organisms (GMOs), though around since the dawn of agriculture, have caused global controversy. Misunderstanding leads many to believe that the use of GMOs is unethical because they are unhealthy and unsafe. The use of GMOs is justified because they pose a solution to poverty, are resistant to diseases and pests, and are designed to be healthy and safe.

GMOs are a potential solution to world hunger and poor nutrition, helping alleviate poverty. The population will continue to rise; statistics and projections from economists say “with the global population expected to reach more than 9 billion by 2050...the world might soon be hungry for...[new] varieties...[of food]”. The solution to this greater demand is a greater supply, which GMOs will provide. In agreeance with this, Dennis Halterman, a research geneticist at the US Department of Agriculture's [USDA's] Agricultural Research Service and University of Wisconsin-Madison, says “[GMOs]... alleviate the increasing global population and third world hunger...According to the United Nations World Food Programme, 'some 805 million people in the world do not have enough food [and]...poor nutrition causes nearly half...of deaths in children under five...’”. GMOs provide a variety of nutritious foods which can be served to starving and malnourished children. By supporting the production of GMOs, one

supports improving the lives of those in poverty. Thankfully, GMOs are currently working to combat hunger. GMOs are an existing solution to malnutrition: “‘Golden Rice’ developed for Third World countries is...better...at providing Vitamin A to children...Vitamin A deficiency is responsible for 250,000 to 50,000 cases of blindness... and contributes to some 2 million deaths...in Asia and Africa”. Golden rice is already helping alleviate poverty. It is logical that we support the production of this food—and others like it—to help starving children in Third World countries. Because GMOs can be used to alleviate poverty and feed a growing population, their use is justified.

In addition to solving hunger problems, the use of GMOs is justifiable because they are resistant to diseases and pests. While conventional foods die in the face of herbicides or pests, “most GE crops on the Market are designed to either be resistant to herbicides, insect pests, or both...Corn, soy, canola, cotton, and other crops have been genetically engineered with a...gene to be immune to...weed killer”. Weed-killer-resistant GMOs allow farmers to save labor, time, and money because they can kill weeds without killing produce. GMOs defend against herbicides as well as blight—the disease that killed potatoes during the Irish potato famine in the 1800s. Teagasc researchers in Ireland created these “genetically engineered plants...modified with a blight resistant gene...the defenses of the potato plant have fought off the spores, rendering them harmless”. These blight resistant potatoes show GMOs are successfully resistant to diseases. This sort of immunity will help fend off food shortages and famines. Just like being resistant to herbicides or disease, pest resistant foods are important to save money and prevent agricultural problems. Luckily, GMOs already easily avoid pest problems as “it is scientifically

demonstrated that genetically modified crops are resistant to or tolerant to disease or insect attack. For example, a...protein...has made cotton, corn, and other crops resistant to attack by caterpillars. Data from several years of use of genetically modified crops in the United States has shown that the requirement for pesticides is reduced”. Pest resistant foods do not require pesticides. Because they do not have to pay for pesticides, farmers can sell foods to consumers at lower prices to make the same profit. As the examples of potatoes, corn, canola, and other GE foods provide, GMOs are justified because they are resistant to pests, herbicides, and diseases.

In addition to being pest and disease resistant, GMOs are justified because they are safe and healthy. While some may argue that GMOs are unsafe because they have not been researched enough, this is simply not true. Education about GMOs would help combat false allegations and speculation. Fortunately, there is proof that GMOs are safe and healthy. Karen Batra, director of communications at Biotechnology Industry Organization, speaks on behalf of the biotech industry (including Monsanto, one of the most popular GE foods companies) when she says ““The scientific consensus is that health and safety are simply not an issue. Any food product containing genetically modified ingredients are exactly as healthy and safe as their conventional counterparts””. Scientists universally agree that GMOs are not only as safe as conventional foods, but provide more variety and supply. Irwin Rosenberg— a Tufts University Professor and Editor of the Tufts Health Nutrition Letter Letter—states "No harm has been demonstrated with ingestion of these foods from genetically modified plants”. Because no harm as been shown from GMOs, there is no need to worry about their health and safety. With the

claim against health and safety out of the way, there is no reason why GMOs should not be used. Reliable sources provide that GE Foods are safe and healthy, so therefore their use is justified.

The use of GMOs is justified because they are a solution to poverty and hunger, are resistant to pests and diseases, and are safe and healthy. As the population continues to grow and the gap between the rich and starving intensifies, GMOs allow the privileged to feed the impoverished. The insertion of genes into foods allows for foods to resist caterpillars, herbicides, blight, and soon even drought. Research and authorities will continue to confirm and reassure misinformed readers that GMOs are in fact safe and healthy. The use of GMOs is justified and will be widely accepted as the misinformed become the informed, seeing that the benefits of genetic engineering outweigh any concerns.