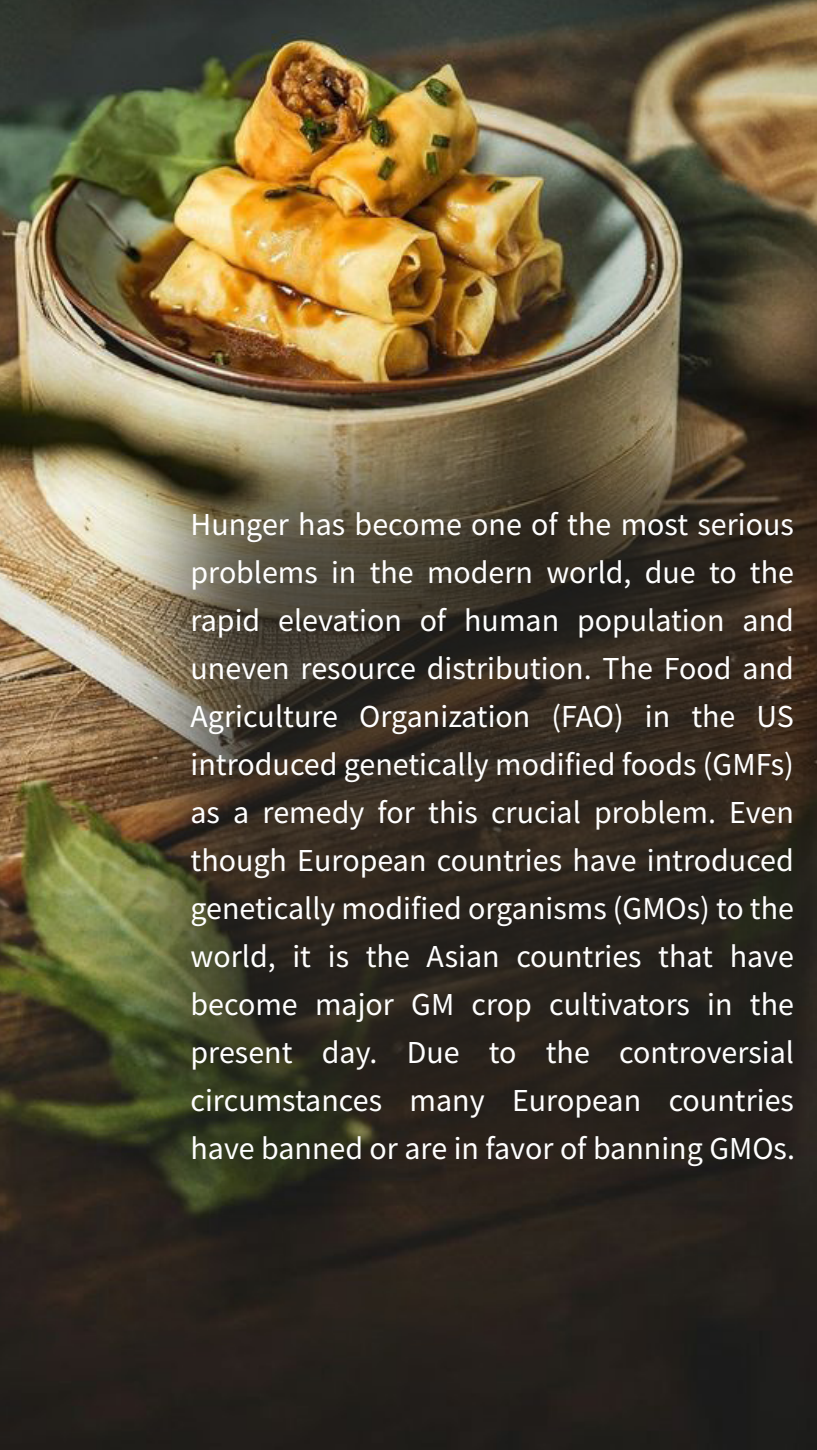


Genetically Modified Foods : Are they safe to consume?

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Hunger has become one of the most serious problems in the modern world, due to the rapid elevation of human population and uneven resource distribution. The Food and Agriculture Organization (FAO) in the US introduced genetically modified foods (GMFs) as a remedy for this crucial problem. Even though European countries have introduced genetically modified organisms (GMOs) to the world, it is the Asian countries that have become major GM crop cultivators in the present day. Due to the controversial circumstances many European countries have banned or are in favor of banning GMOs.

How are GMFs produced?

Mutation is a natural process which occurs to select the most adapted species in a particular environment. According to Darwinism, this scenario is known as “survival of the strongest/fittest”. Changes in the base pair sequence of a particular gene or a number of genes/chromosomes in gamete cells, produce mutant genes that may carry either advantageous or lethal traits to the offspring. New offspring with mutant gene convert to the new species which differs from the parent generation.

Based on this principle, scientists have discovered techniques to extract the required gene from the DNA of a particular organism and insert that gene on to the genome of another organism of a different species (carrier) and this product is known as recombinant DNA. Therefore, GMFs can be defined as any food item which is genetically altered with the help of genetical engineering.

Why GMFs are important?

Nutrition profile plays a lead role in commercializing a food product. Due to busy lifestyles, everyone wants to have maximum nutrition from minimum food items at a low cost. These requirements can only be fulfilled by using GMFs. The main scopes of producing GMFs are maximizing the yield, enhancing nutrition profile, elevating the food quality while increasing the shelf time. The misuse of herbicides and pesticides have caused infertile soils and the creation of pesticide and herbicide resistant pests and weeds is on the rise. Hence, most of corn, cotton, potatoes, eggplants and soy are now genetically modified using the genes of *Bacillus thuringiensis*, known as BT-products.



As a solution to this matter, scientists have introduced glyphosate tolerant crops such as soy beans, sugar beet and canola.

Increasing the quantity rather than the quality of the product is the main mission of many food manufacturers.

Therefore, they intend to exceed the natural laws. Some examples include double sized salmon, featherless chicken, non-browning arctic apples, virus resistance zucchini and yellow squash etc.

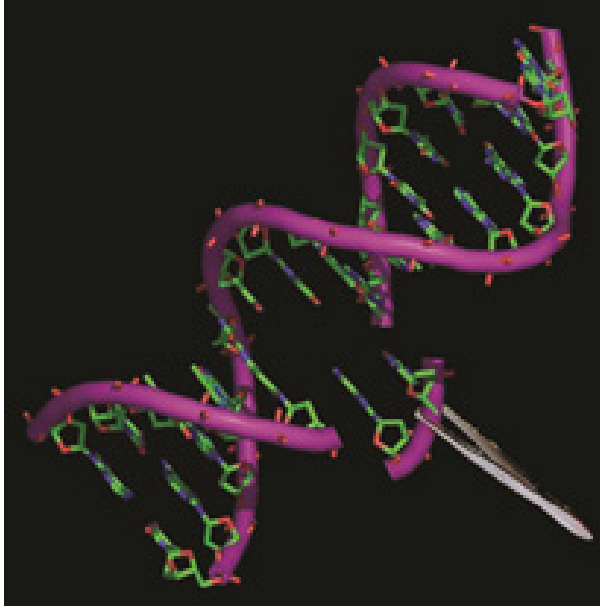
Controversy of glyphosate and GMFs

[N-(phosphomethyl)glycine] or glyphosate is a broad-spectrum systemic herbicide. Glyphosate is absorbed by the crop plants resulting in the inhibition of the plant enzymes that involve in synthesis of aromatic amino acids; tyrosine, tryptophan and phenyl alanine. Hence, the growth and the immunity of the crop plants are decreased. As a solution to this matter, scientists have introduced glyphosate tolerant crops such as soy bean, sugar beet and canola. The Monsanto Company is the producer of many GM crops (Roundup ready crops) as well as the world famous glyphosate-based herbicide known as Roundup. Today, however researchers have found these GM crops to be causing many lethal health issues.

Where can we find GMFs?

These are the most Popular GMFs that we consume in day-to-day life:

1. Corn products - foods containing c corn flour, corn oil, corn syrup.
2. Soy products - food containing soy lecithin, tocopherols, soy oil and tofu.
3. Sugar beet - artificial sweeteners, glucose and dextrin
4. Canola oil and Cotton seed oil
5. Golden rice (enriched with Vitamin A)
6. Vegetables and fruits - delayed ripeing tomatoes, egg plants, virus tolerant rain bow papaya and apple
7. Non-bruising potatoes
8. Super-size Salmon fish products
9. Meat, eggs, and dairy products
0. Bee's honey



Bitter truth of GMFs

GMFs have threatened all living beings, horizontally through food chains and vertically through gametes. Many researchers have discovered that GM products cause food allergies, skin diseases, diabetes, autism, cancers, infertility, birth defects, heart troubles, hormone imbalance, intestinal damage, protein formation changes in liver, kidney and spleen, testosterone decrease etc. Farm animals, who consume GM crops, have become diseased due to immunity problems, birth defects and lethal diarrhea. Consumption of these animal products such as meat, eggs and other dairy products indirectly cause health problems to humans. Honey based foods are also categorized because GMFs as honeybees may produce wax and honey with pollinated GM plants. The tragic situation is that most infant formulae consist of these GM cereals. Mystery microorganisms have been discovered in soy and corn products and the details of these are under investigation.

Prevention is better than cure!

Consuming organic products, minimizing the consumption of junk foods and keeping away from all GMFs are the steps that we can follow to be healthy. Most of the people in our society have not even heard the term “Genetically Modified Foods”. According to a recent research article published in US, 8% were very knowledgeable, 32% were somewhat knowledgeable and 60% were not knowledgeable about GMFs; and 34% of them were with the view that GMFs were safe to eat. Therefore, it is very important to enhance public awareness and their perception on GMFs. As a first step, Sri Lankan authorities should stipulate that every GMF must have an appropriate label on it. Finally, you should not neglect your health due to ignorance.

