



# Genetically Modified Organisms (GMOs) - Risky Business

*"Bottle fed babies could be undernourished if given genetically modified infant formula milk because of inadequate regulations and testing regimes for GE foods."*

The Royal Society Working Group on Genetically Modified Food of the United Kingdom

**A**s globalization spreads, a number of issues arise which have the potential to affect infant nutrition. One such concern is that of Genetically Engineered (GE) or Genetically Modified Organisms (GMOs) and their use in infant formulas and infant foods.

The process of genetic engineering is imprecise and random. Inserted genes can disrupt a plant's natural growth and development or function differently than expected. As a consequence, genetically engineered foods can have unintended effects, with potentially harmful consequences for human health. The end result could be the biosynthesis of food molecules that are toxic, allergenic, or carcinogenic - **hardly the perfect food for babies.**

## Putting Infants and Children at Risk

The use of GMOs is of particular concern for infants and young children. Many authorities are concerned because GMOs in baby foods are not adequately tested for safety and should not be used in baby foods as artificially fed infants are dependent on formula as their sole source of food for months on end. Infant formula is already an inferior food for babies, putting them at greater risk for a variety of illnesses including ear and upper respiratory infections, asthma, diabetes and cancer. These risks may be increased when infant formula is genetically engineered. GMO ingredients can alter the nutritional value of baby foods, increase exposure to toxins, and elevate the risk of developing allergies and resistance to antibiotics.

According to Vyvyan Howard, a toxicological pathologist at the Liverpool University Hospital, "Swapping genes between organisms can produce unknown toxic effects and allergies that are most likely to effect children." In Canada, foods for infants and young children containing GMOs do not require safety testing or labelling. As a result, concerned parents can't avoid feeding GE food to their children.

Some of the **food safety concerns** are

### 1. Allergenicity:

Introducing unknown genes can increase food sensitivities that can lead to food allergies later in life. Unlike the contents of breastmilk that vary with the diet of the mother and stage of infancy, the composition of formula remains constant. Since food sensitivities increase with exposure, repeated feedings with the same formula further increases the risk of allergies.

Genetic engineering also has the potential to transfer allergies from one food source to another. For example, a nut gene inserted into soybeans produced soy that caused allergic reactions in people who were allergic to nuts. GE could also introduce new, unpredictable allergens from non-food genes inserted through the process of genetic engineering.

### 2. Toxicity:

Genetic engineering could increase and/or introduce new food toxins.

### 3. Nutritional changes:

Genetic engineering could alter or decrease a food's nutritional value.

### 4. Antibiotic resistance:

Genetic engineering could contribute to the growing

problem of antibiotic resistance. Current transgenic plants may contain antibiotic resistant marker genes (a technique used to show whether gene transfers have been successfully completed.) This has prompted medical authorities including the British Medical Association, the Royal Society of Canada and the Ontario Public Health Association to call for a ban on the use of antibiotic resistant marker genes in GE foods.

### 5. Labelling:

Lax labelling laws in many countries encourage the use of GMOs, allowing companies to include these organisms in formula and other infant foods without the consent of the consumer. The fact that the Canadian government refuses to require mandatory labelling of genetically engineering food makes it impossible to adequately conduct post-marketing, long-term surveillance of the effects of consuming GE food. As a result, food manufacturers and retailers who use GE ingredients in their products or sell them in stores - and who also refuse to label GE foods - could be compromising the well-being of newborns, babies and children.

### Just Say NO to GMO!

The most effective way to voice your concerns about GMOs is to vote with your wallet. To ensure the food safety of your infants and young children:

- Follow the WHO recommendation of **exclusive breastfeeding for the first six months of life** and continued breastfeeding to two years and beyond.
- When introducing solid foods, make your own from organic fruits and vegetables or buy certified organic baby foods.
- If a baby food doesn't specify whether or not a product is GE-free, use the toll-free number on most product packaging to call the manufacturer. If they don't know - or won't tell you - if their product contains GE ingredients, **don't buy it!**

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