



# IMAGE AWARENESS WELLNESS INSTITUTE

## GMO & GNLD

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### GENETIC MODIFICATION

Genetic modification is the use of modern technology to create totally new organisms. This technology is moving ahead at breakneck speed in the United States with weak and flawed evaluation of the safety of the products produced. Hearings recently took place on the introduction of genetically altered salmon.

Anyone who doubts the recklessness of the implementation of this technology need only remember the eosinophilia myalgia fiasco. A genetically engineered tryptophan developed by Showa Denko was introduced into health food stores around the United States. The food supplement killed about 100 people and caused an estimated 5-10,000 to become ill.

The supplement contained a number of contaminants, byproducts of the genetic engineering process. The problem might never have been discovered, but for the severity of the symptoms which resulted from using the supplement.

The FDA, in order to distract attention from the fact that the supplement had been genetically engineered put a ban on the sale of all tryptophan, a supplement which had been used successfully to improve symptoms of stress, insomnia and depression for many years without problems.

Smith describes the symptoms of eosinophilia myalgia syndrome:

“The symptoms varied by patient and included swelling, coughs, rashes, physical weakness, pneumonia, breathing difficulties, hardening of the skin, mouth ulcers, nausea, shortness of breath, muscle spasms, visual problems, hair loss, difficulty with concentration or memory, and paralysis. The one symptom shared by all was intense debilitating muscle pain (myalgia). The patients’ levels of white blood cells, called eosinophils, also skyrocketed, suggesting a severely disrupted immune system.

#### REFERENCE:

Smith, Jeffrey, *Genetic Roulette*, Fairfield, Iowa: Yes! Books, 2007, 60-61.

### GM SOY

About 89% of the soybeans grown in the United States are genetically modified so they are resistant to the effects of Roundup. Most of the soy grown in South America is also genetically modified. This genetically modified soy is referred to as Roundup Ready.

GNLD refuses to use any genetically modified raw materials includ-

ing Roundup Ready soy. The discussion below provides evidence that GM (Genetically Modified)-soy is quite different than traditional unmodified soy. Unfortunately, little distinction is made between the two products in many nutritional discussions. This newsletter will explain why many health authorities look at genetically modified foods with a jaundiced eye.

### LIVER METABOLISM

A dramatic increase in general metabolism of the liver was evident when 12 female mice were fed genetically modified Roundup Ready soy. Most of the changes in liver function disappeared when the GM soy was replaced by soy which had not been genetically modified. Smith suggests, “Increased liver metabolism in GM-fed mice may be a response to elevated levels of toxins, to new toxins, or both.”

Soy is commonly used for both animal feed and for human consumption. One would think the regulatory authorities would want to know why this product makes the liver react as it does.

A study of ten 30-day-old rabbits fed GM soy for 40 days found significant changes in enzyme activity in the kidney, heart, and liver compared to the organs of animals fed non-genetically modified soy. This study supports the changes observed in mice fed GM soy

#### REFERENCE:

Smith, Jeffrey, *Genetic Roulette*, Fairfield, Iowa: Yes! Books, 2007, 40-41.





## PANCREATIC FUNCTION

Two months after mice began receiving 14% of the diet Roundup Ready soy, the production of alpha-amylase, a key carbohydrate digesting enzyme, dropped by 77%. Similar impairment of carbohydrate digesting enzyme production was evident after eight months of feeding. Similar drops in carbohydrate digesting enzymes have been observed in diabetic conditions. These changes were not evident in animals receiving soy which had not been genetically modified. Changes in pancreatic function disappeared when the GM soy was removed from the diet.

Compromised pancreatic function sets the stage for malnutrition, bacterial overgrowth, and the development of mild to severe allergic responses to foods.

Lack of carbohydrate digesting enzymes would make it more difficult for the body to absorb carbohydrates since they will fail to break down. Bacteria residing in the digestive tract will break down these carbohydrates resulting in bacterial overgrowth and the release of bacterial toxins which can damage the intestinal lining. Pancreatic failure has also been observed to contribute to kinin-mediated inflammatory responses as well as increased tendency to have allergic responses.

William Philpott wrote, "Reduced pancreatic function based on stress factors such as addictions, chemi-

cal toxins, and allergies, as well as established nutritional deficiencies, should be considered as the foundation on which many different degenerative diseases are built."

Gottschall wrote, "Carbohydrates... are more likely than others (other nutrients) to escape digestion and, therefore, absorption....they remain in the intestinal tract and are utilized by the microbial world of the intestine which depend on this available carbohydrate for the energy the microbes need to live and multiply. Yeast and bacteria change the carbohydrates in ways that can injure the intestine which may respond to these microbial by-products by secreting excessive mucus. A chain of events is then established."

The chain of events described by Gottshall is as follows:

Impaired digestion of carbohydrates=>  
 Malabsorption of carbohydrates=>  
 Bacterial overgrowth =>  
 Increase in bacterial by-products and mucus production =>  
 Injury to small intestinal surface =>  
 Impaired digestion of carbohydrates=>

### REFERENCE:

Smith, Jeffrey, *Genetic Roulette*, Fairfield, Iowa: Yes! Books, 2007, 42-43.

Philpott, William, and Kalita, Dwight, *Brain Allergies*, New Canaan, CT: Keats Publishing, 1980, 99-100.

Gottschall, Elaine, *Breaking the Vicious Cycle*, Kirkton, Ontario, Canada: The Kirkton Press, 1994, 9.

## TESTICULAR CELLS

Testicular function in 12 male mice was evaluated after feeding them 14% of the diet GM soy or non-modified soy. Animals consuming the genetically modified soy manifested changes in both the spermatocytes and the Sertoli cells. Spermatocytes develop into sperm cells. Sertoli cells nurture the developing sperm cells. The implications and consequences of these changes await further investigation.

### REFERENCE:

Smith, Jeffrey, *Genetic Roulette*, Fairfield, Iowa: Yes! Books, 2007, 44-45.

## ALLERGY

Shortly after genetically modified soy was introduced into the United Kingdom testing of 4,500 people revealed that allergies to soy increased from 10% of consumers to 15% of consumers making it a major allergen. Studies by Monsanto have shown that genetically modified soy contained 27% more trypsin inhibitor, a known allergen, than did the non-modified product. The trypsin inhibitor in the GM soy was also more resistant to destruction by heating than the trypsin inhibitor in the natural product.

### REFERENCE:

Smith, Jeffrey, *Genetic Roulette*, Fairfield, Iowa: Yes! Books, 2007, 50-51.

## OFFSPRING

The most disturbing study was conducted by a scientist, Irina Ermakova, at the Institute of Higher Nervous Activity and Neurophysiology of the Russian Academy of Sciences in 2005.

Roundup Ready soy was added to the diet of female rats two weeks prior to conception and continued through pregnancy and nursing. Soy flour was added to the diet of newly weaned rat pups at 13-14 days.

Smith recorded, "Within three weeks of birth, 25 of the 45 (55.6%) rats from the GM soy group died, compared to only 3 of 33 (9%) from the non-GM soy group and 3 of 44 (6.8%) from the non-soy controls."

Many of the GM-soy fed ani-





mals were quite small in spite of the fact that death of siblings made more mother's milk available for them. Behavioral alternations were observed in both GM-soy fed mothers and their offspring. The animals demonstrated a high level of anxiety and aggression. "They attacked and bit each other and the worker."

Offspring of GM-soy fed rats were apparently sterile, unless mated with male controls that did not receive GM-soy.

Ermakova repeated her study three times with similar results in every study. No similar studies have been conducted. Ermakova was forced to stop all GMO studies by her superiors after pressure from the Presidium of the Russian Academy of Sciences.

#### REFERENCE:

Smith, Jeffrey, *Genetic Roulette*, Fairfield, Iowa: Yes! Books, 2007, 48-49.

## ROUNDUP

Soy is genetically modified in order to be resistant to the herbicide Roundup. Roundup is a broad-spectrum herbicide produced by Monsanto with an active ingredient called glyphosate. Monsanto patented glyphosate and began marketing Roundup in 1973. Half of Monsanto's income comes from sales of Roundup and Roundup Ready seeds. Soy was the first Roundup Ready crop developed and marketed. Roundup contains not only glyphosate but a powerful surfactant called POEA

(polyethoxylated tallow amine) which is known to be toxic to wildlife.

Roundup commercial formulations were never submitted to the EPA for testing. Glyphosate was tested and was given a Toxicity Class of III. The herbicide has been banned in several Canadian provinces due to poisonings. Some studies suggest that Roundup is an endocrine disruptor.

## DON HUBER RESEARCH

Don Huber, Emeritus Professor at Purdue University studied the effects of glyphosate on plants extensively. He wrote, "Micronutrients are regulators, inhibitors and activators of physiological processes, and plants provide a primary dietary source of these elements for animals and people. Micronutrient deficiency symptoms are often indistinct ("hidden hunger") and commonly ascribed to other causes such as drought, extreme temperatures, soil pH, etc. The sporadic nature of distinct visual symptoms, except under severe deficiency conditions, has resulted in a reluctance of many producers to remediate micronutrient deficiency. Lost yield, reduced quality, and increased disease are the unfortunate consequences of untreated micronutrient deficiency."

Huber points out that glyphosate is a strong metal chelator binding up a wide variety of minerals including Ca, Mg, Cu, Fe, Mn, Ni, and Zn. Blocking the availability of manganese makes plants susceptible to common soil borne pathogens which kills the plants--the reason that Roundup is an effective weed killer. Roundup can increase the chance of accumulation of fungal toxins in stems, straw, grain, and fruit which can damage the health of animals and humans.

The mineral deficiencies created by glyphosate are responsible for what farmers call "yield drag." Roundup Ready crops simply fail to produce as well as normal crop lines from which they are derived

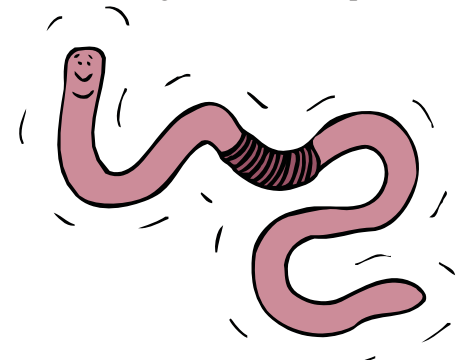
due to the lower mineral availability. Roundup may decrease agricultural work by eliminating weeds, but it does not tend to increase crop yields.

The chelating activity of Roundup also makes plants less drought resistant. Roundup ready crops like cotton have been susceptible to drought where traditional crops were not.

Glyphosate is not "biodegradable" so once it is used on a field residues remain for a long period of time. The herbicide is resistant to degradation, but degradation products are toxic to both normal and Roundup Ready plants. Glyphosate accumulates in food and feed products due to its resistance to degradation.

Roundup is also toxic to soil organisms including earthworms, mycorrhizae that convert minerals into forms plants can use, nitrogen-fixing organisms, and organisms which function as natural biological controls against soil borne diseases.

The indiscriminate use of Roundup poses a number of risks. Firstly, both glyphosate and surfactants used with it are toxic and pose a direct risk of poisoning. Secondly, accumulation of fungal toxins poses a risk to both animal and human health. Thirdly, decrease of plant resistance to drought and infectious organisms poses a risk of crop failure, which could lead to widespread famine. Finally, even if production of food does not decline, the nutrient values of foods will be decreased (especially mineral content) leading to decreased disease resistance in animals and humans feeding on these food products.







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### REFERENCES:

[http://en.wikipedia.org/wiki/Roundup\\_\(herbicide\)](http://en.wikipedia.org/wiki/Roundup_(herbicide))

Huber, Don M., Ag Chemical and Crop Nutrient Interactions--Current Update, *Proceedings Fluid Fertilizer Forum*, Scottsdale, AZ. February 14-16, 2010. Vol. 27.

### IMPLICATIONS

There are at least two obvious conclusions which can be drawn from the previous discussion. Firstly, one of the toxic manifestations of Roundup Ready soy can lead to an inhibition of the digestive process. This effect can be counteracted by supplementation with Enzyme Digestive Aid which contains digestants for carbohydrates, fats and protein. Three of these enzyme tablets are sufficient to digest the carbohydrate in three potatoes.

Of even greater importance are the widespread and serious deficiencies of minerals which can result from not only consuming roundup ready foods, but also normal foods which have been grown in soils which have previously been treated with glyphosate. Modern agriculture is creating an epidemic of trace mineral deficiencies. Addition of trace minerals is rarely part of the fertilization process. This is one reason why so many of the

foods sold today are lacking in taste.

GNLD Chelated Multi-Mineral products have a valuable contribution to make in this area. A wide spectrum of natural minerals is added to all the Uni-Paks as well as a separate mineral product being available.

The word "chelate" means claw in Greek. It refers to a process of grabbing onto the positive charges attached to minerals with a negatively charged amino acid. Most minerals have two charges so the GNLD technology attaches or grabs the mineral molecules with two amino acids. This greatly improves absorption and decreases digestive upset which can result from the improper forms of mineral supplementation. Some studies have shown as much as a six-fold improvement in absorption with chelated minerals. Trace minerals are supplied in GNLD products by sea



vegetation which provides complexed minerals which are easier to absorb than straight mineral products. Our digestive tracts are best designed to absorb minerals in complexes and chelated forms as they are found in foods.

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[www.yourbodyssignlanguage.com](http://www.yourbodyssignlanguage.com)

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