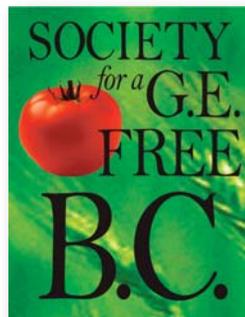
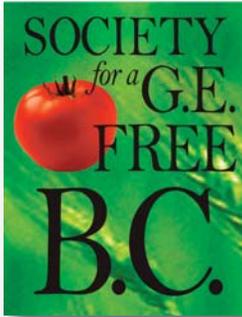




**Resolution for Richmond to be Free of
Genetically Engineered Plants, Trees and crops.**

Presented by:



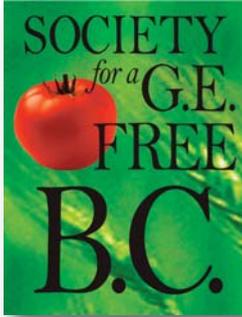


Resolution for Richmond to be Free of Genetically Engineered Plants, Trees and crops.

Index

| | |
|--|------|
| Introduction | 2 |
| How Long Have GMO Crops Been Around? | |
| 3 Major Issues | |
| Where Does Genetic Modification Occur? | |
| Hasn't Genetic Modification Been Around Forever? | |
| Non-GMO Organizations | |
| GMO Biotechnology Companies Biggest Players | |
| What Issues Affect Canada Today? | |
| What Is A GMO? | 3 |
| Health Issues Related to GMO's | 4 |
| Children Are More Susceptible to GMO's | |
| Waking Sleeping Viruses | |
| Educated Opinions | |
| Environmental Issues | 5 |
| Cross Contamination | |
| Terminator Technology | |
| Chemicals and the Environment | |
| Resistance to Chemicals | |
| The Future Vision | |
| Corporate Control | 6 |
| Our Rights and Freedoms | |
| Take a Closer Look at Publicly Traded Companies | |
| Who Does The Testing? | |
| Who Benefits? | |
| Feeding the World - A Worn Out Mantra | |
| Who Owns The Seeds? | |
| Patents on Animals | |
| Summary | 7 |
| We Love Richmond - Let's Keep It GMO Free! | |
| It's About Our Future | |
| Resolution to Richmond | 8, 9 |





Resolution for Richmond to be Free of Genetically Engineered Plants, Trees and crops.

Introduction to GMO's

How Long Have GMO crops been around?

GMO crops came out in 1996, but have not been part of our diet until around 2000. There are 4 major commodity crops: corn, canola, soy and cotton. In Canada, only corn, soy and canola are grown.



3 Major Issues

There are 3 major issues regarding GMO's: health, environment and corporate control. The health issues are still unknown, but the effects on the environment and loss of freedom to farmers from corporate control continues to be a top issue. Food sovereignty remains a priority for the world.

Where Does Genetic Modification Occur?

Today, genetic manipulation (lab) occurs in crops, plants, trees and animals that enter our food chain.

Hasn't Genetic Modification Been Around Forever?

While genetic manipulation of plants and animals has gone on forever naturally, foreign genes have never been forced horizontally into DNA before. It is a first in our history. Our physical bodies have never had to deal with this, and have not had the luxury of time to adapt if necessary.

Non-GMO Organizations

Currently in Canada, the "parent" NPO for GMO issues is CBAN - Canadian Biotechnology Action Network: www.cban.ca. "CBAN" represents the following small and large groups: ACT for the Earth (Toronto), Biofreedom (Edmonton), Canadian Organic Growers, Check Your Head, Coalition for Safe Food (B.C.), Ecological Farmers Association of Ontario, Food Action Committee of Ecology Action Centre, Halifax, GE Free Yukon, GeneAction (Toronto), Greenpeace Canada, Inter Pares, National Farmers Union, P.E.I. Coalition for a GMO-Free Province, Saskatchewan Organic Directorate, Society for a GE Free BC, Union Paysanne, USC Canada.

Many of these organizations are over a decade old.

GMO Biotechnology Companies - "Biggest" North American Players

Monsanto (largest monopoly), Syngenta, Bayer CropScience, Dupont Pioneer, BASF.

What Issues Affect Canada Today?

Many issues are currently facing Canada:

Democracy and government regulation and labeling:

GE trees, Terminator Technology:

GE alfalfa and GE wheat introduction:

Enviropig, a genetically manipulated pig about to be unleashed directly into our food supply without proper testing:

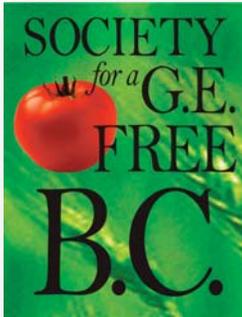
Bill C-474 tabled by NDP MLA Alex Atamanenko:

International solidarity:

Farm income crisis and seed control, loss of organic farming practices:

Corporate control and monopolization:

CETA - Canadian European Trade Agreement that has a seed saving clause restricting anyone from being able to save seeds.



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What Is A GMO?

GMO stands for genetically modified organism. Another term you'll hear is GE, short for genetic engineering, or genetically engineered.

All life is made up of cells: they are the smallest living unit. Some organisms are single cells, such as bacteria, fungi and some algae. Cells are like building blocks, and stack together to make up organs, tissue or structures like bones, skin, fruit, leaves etc.

Cells depend on each other to perform various tasks, such as producing fat and storing sugars, and defending us against attack from viruses and foreign invaders.

Within each cell is DNA. If you stretched out the DNA in each cell it would measure around 2 meters long. Add all the DNA in your body up, and you could go back and forth to the moon 8000 times.

Cells spell out the instructions on how to make a unique protein. Proteins are essential to the structure and function of plants and animals. Proteins are linear, but are folded several times into complex structures. Different proteins have different functions, like being antibodies, digestive enzymes and hormones. Other proteins are structural, providing elasticity (as in muscles) and rigidity (as in plant stems and tree trunks). Proteins are crucial in the formation of cells and for a cell's capacity to function properly.

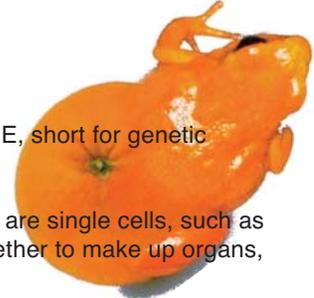
The information on how any cell functions and is structured is encoded in a single and distinct gene with a stop and start signal. In front of each gene is a length of DNA with regulatory elements known as the promoter. Think of it as a "control tower". Say your body needs insulin; the control tower signals the insulin gene to function or "express". If your body does not need insulin, the gene "sleeps" until it is needed.

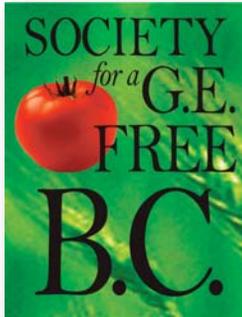
Cells are like team mates: they spread the work amongst each other. Liver cells won't produce skin, skin cells won't produce bone, bone cells won't produce a liver. Think of what we might look and feel like if they did. Cell expression has various functions according to it's age as well: when to grow teeth, when to ripen fruit and so on. Mother Nature at it's finest – a symphony of work in our bodies, 24 hours a day, working in harmony. Or so we thought.

All life is created through vertical inheritance, meaning mother, father, children. Genetic engineering is based on vertical inheritance, as it cuts and inserts foreign genes from sources the plant or animal would never find. This has never before been done in Nature, and we have no idea what the repercussions are.

When scientists splice new foreign genes into the DNA code, the DNA has no idea what to do with its new gene: it cannot, naturally, turn the gene on or "express" the new foreigner. So scientists add a "promoter" that allows the new gene to "express" itself 24/7 (which no other gene does). These "promoters" are usually viruses, antibiotics and Bt bacteria, and can create "hotspots" in the chromosomes that become unstable, turn genes on and off in different chromosomes, create a flood of new proteins (Mad Cow disease) that may create toxins, allergens, carcinogens or nutritional changes. Rogue toxins may be produced or existing ones may amplify. These problems may appear several years after the crops are originally modified, as each seed year can produce varying gene characteristics.

The truth is, we simply do not know, for sure, if GMO's affect our health and in what way. We are not allowed to test for them (see Corporate Control, P.6).





Resolution for Richmond to be Free of Genetically Engineered Plants, Trees and crops.

Health Issues Related to GMO's



There are no long term testing for negative affects of GMO's, and only one done on humans by an independent researcher.

GMO's are found in almost all packaged and processed foods today. The majority of GMO ingredients on the market today are found in the 4 big crops: corn, canola, cotton and soy. These crops make up almost all of our "junk" food items and High Fructose Corn Syrup. GMO corn is everywhere. America is experiencing a crisis in obesity, with Canada a close second. While many contribute this to sugar, almost all "sweet" foods contain GMO HFCS.

Children Are More Susceptible to GMO Foods

Our children are experiencing an alarming rise in allergies, autism, diabetes, Attention Deficit disorders and Antibiotic resistance. A 2002 report by the UK's Royal Society, said that genetic modification "could lead to unpredicted harmful changes in the nutritional state of foods." They therefore recommended that potential health effects of GM foods be rigorously researched before being fed to pregnant or breast-feeding women, elderly people, those suffering from chronic disease, and babies. Unexpected changes in estrogen levels in GM soy used in infant formula "might affect sexual development in children," and that "even small nutritional changes could cause bowel obstruction." Children prone to ear and other infections are at risk of facing antibiotic resistant strains of bacteria, due to the use of antibiotic resistant genes in GM food. The British Medical Association cited this as one reason why they called for a moratorium of GM foods. Infants are 4 times more prone to allergies than adults. GM foods could lead to a dramatic rise in allergies, especially GM corn, found in many baby food products.

Waking Sleeping Viruses

Embedded into the DNA of many organisms, including humans, are ancient viruses that have worked their way in, perhaps in previous species. While most of this viral material has eroded, some may be complete but simply not turned on. In theory, the fact that the "promoter" can turn on genes up and down the DNA, combined with the fact that it can transfer to human or animal organs, means that it may be possible for it to turn on a previously dormant virus.

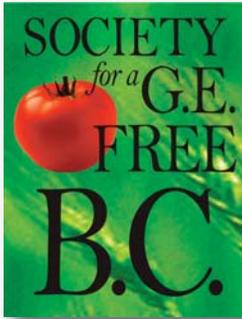
Educated Opinions

Dr. Peter Wills of Auckland University warns, "an incorrectly folded form of an ordinary cellular protein can under certain circumstances . . . [duplicate itself] and give rise to infectious neurological disease."

According to Geneticist Dr. Joe Cummins, a promoter can have "the same impact as a heavy dose of gamma radiation."

Dr. Stanley Ewen, one of Scotland's leading experts in tissue diseases, says, "It is possible GM DNA could affect stomach and colonic lining by causing a growth factor effect with the unproven possibility of hastening cancer formation in those organs."

"Roundup Ready beans were significantly lower in protein and the amino acid phenylalanine. More disturbing were increased levels of the allergen trypsin inhibitor in toasted Roundup Ready meal. What might be the result of consuming foods with high levels of trypsin inhibitor and lectin? Slower and lower growth, say scientists." Medical writer Barbara Keeler, on data that has been omitted from Monsanto's published study.



Resolution for Richmond to be Free of Genetically Engineered Plants, Trees and crops.

GMO's And The Environment

Many issues surround GMO's and the environment. Dr. David Suzuki is a genetic scientist from BC who continually speaks out against allowing GMO crops, trees and plants to freely enter our environment.

Bees and wind are the biggest pollinators. Currently, we have a "bee crisis": over 80% of our BC bee colonies are gone. Without bees, human survival could continue for only 4 years. It is unknown whether GM crops (pollen) are to blame, but no testing has been done (see Corporate Control, page 6).

Cross Contamination

GMO crops, plants and trees can contaminate native species. GE alfalfa, not yet approved in Canada (on hold in the US: 5000 acres "illegally" planted), has the ability to contaminate all other alfalfa crops, leaving organic farmers with struggling incomes, and taking away the rights of the public to organic and Non-GMO food choices. GE wheat, another crop not yet approved, is a grass, and has the ability to contaminate every blade of grass on our planet. Because the long term effects of GMO's are unknown and untested, both environmentally and in human health, we had better hope GE technology is safe, as we have already lost over 90% of our original corn, canola and soy seed worldwide.

Roundup Ready Seeds

Monsanto has the patents on Roundup Ready seeds, and nearly every seed carries the Roundup Ready gene. It produces pesticide within every living cell on the plant (fruit, stalk, leaves, roots), making it immune to chemical spraying. Monsanto makes additional income from selling Roundup. Humans may be ingesting this pesticide in their foods.

Terminator Technology

Terminator technology genetically engineers seeds to be sterile after the first harvest to stop farmers from saving seed and force them to buy on the commercial market each season. The technology has not yet been commercialized but Monsanto owns a Canadian patent on Terminator. Farmers also need to spray an additional chemical to get the seeds to grow, altering soil bacteria. Our soils are what makes up the nutritional value of our foods, and GE crops are notorious for poor soil conditions. It is one of the reasons GE seeds have added nutritional components.

Chemicals and The Environment

Seeds are a small part of the GMO industry. Most of the biotech corporations started out as chemical companies, such as Monsanto. Pesticides is the generic 'blanket' for all the products: herbicides (weeds), fungicides (fungus), bactericides (bacteria), avicides (birds), Insecticides (insects), molluscicides (slugs, snails), nematocides (nematodes), rodenticides (rodents), virucides (viruses).

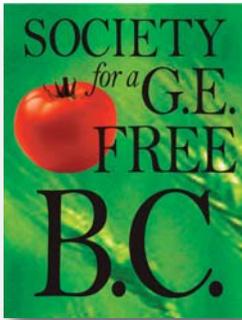
Resistance to Chemicals

When farmers use pesticides, more than just the plant is affected. Herbicides have created super weeds, a new resistant weed that grows taller and harder than ever, causing farmers hardship in keeping fields clean. Insects also have mutated into resisting insecticides. Soil bacteria is also affected, as pesticides are non-discriminatory, and kill everything, good and unwanted.

The problem is, this is just a continuous cycle of increasing pesticide strength to combat resistance - a chain that cannot be sustained. What concerns scientists like David Suzuki is whether or not our environment can hold up under the pressure. In 2010, Monsanto came out with a new stronger line of pesticides: few contain 2-4-D, otherwise known as "Agent Orange". Canada has access to this in 2010.

The Future Vision

Potentially, if we allow GM crops, trees, vegetables and plants to occupy open space freely, our planet could suffer contamination to every species. Organic farms would no longer exist. Customers would lose their freedom to choose. Terminator technology could contaminate native species, wiping out all seed production and eventually destroying forests faster than the pine beetle (David Suzuki).



Resolution for Richmond to be Free of Genetically Engineered Plants, Trees and crops.

Corporate Control and Monopolization

Monsanto leads the pack in GMO research and development, and have created a monopoly in the industry (of which the US is currently investigating).



Our Rights and Freedoms

- ‡ *Humans have the right to transparency.* Because of “patent infringement”, Monsanto cannot disclose their patents to us or the government agencies.
- ‡ *Humans have the right to know what’s in their foods.* Monsanto lobbies to keep labels off foods. They are now lobbying to have all “GMO Free” labels removed as well in North America.
- ‡ *Humans have the right to third party testing.* Monsanto has a court injunction against any and all testing on GMO seeds, foods and plants other than their own.

Take a Closer Look At Publicly Traded Companies

Publicly traded companies (like big biotechs) are legally bound to increase shareholder value, above and beyond all else, including human health and interest. It’s reasonable to suggest that they lobby hard to get their mandates met. It’s also reasonable to suggest that they can skew research in their favor.

Who Does The Testing?

Each biotech firm is responsible for their testing. They present their “findings” and “suggestions” to Health Canada, responsible under the Food and Drugs Act. Health Canada does no further testing. Neither does the CFIA. No long term testing is done, or any testing on humans.

Who Benefits?

The biotech companies and chemical companies stand to make the most from their patents, chemicals and seed sales. Monsanto leads the way: largest seed firm, buying up most of the existing seed companies: largest patent holder: fifth largest pesticide firm: creator of Roundup, world’s biggest selling pesticide. Monsanto owns 90% of the GMO industry.

Feeding The World - A Worn Out Mantra

Monsanto uses the statement: “We need to feed the world” to increase their global crops. Unfortunately, those crops don’t stay in poor countries: they are exported, while people continue to starve. There is no money in feeding poor people. Golden rice, a GM rice invented to increase vitamin A, has to be consumed at 5 pounds per day in order just to get minimum levels. Real food feeds people. Also, you cannot continue to increase the population infinitely in a finite world.

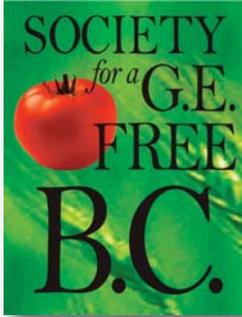
Who Owns The Seeds?

Eventually, Monsanto could own almost every seed on this planet, including yours. They are patenting seeds at the rate of 5 patents per day on non-GMO seeds. Once they have a patent on your backyard heritage seed, you can no longer sell these seeds or grow them without complicated contracts. Patented plants can be purchased in many Richmond greenhouses - just read the labels.

Patents on Animals

There are patents on animal life (and human). Guelph University has patented a pig (Enviropig) that could be in our food chain any day. Again, no testing has been done long term or on human health. Without labeling, you won’t know you are eating it. They have no idea how this living creature will be affected long term, or it’s quality of life. There are other patents on animals that are not allowed in the food chain.

Current patents on animals include any and all animals fed GMO’s.



Resolution for Richmond to be Free of Genetically Engineered Plants, Trees and crops.

Summary

We Love Richmond! Let's Keep It GMO Free!

We may not always realize it, but we live in a very “special” part of the world, and part of Canada. BC has fewer GMO crops than any province. This is largely due to the lack of vast, flat areas for crops. Northern BC has some lands in GMO production, and a few dairy barns grow GM corn, but BC is still relatively “untouched” by big biotech.

Richmond currently has no GMO crops (from what the author has found), largely due to smaller farms and a wonderful diversity of plantings and food choices. Farmers here save their seeds each year and replant.

However, the minute we take this for granted, we risk losing it.

This Resolution is a call to safeguard our food security, and to ensure Richmond residents are always able to access local organic and Non-GMO produce, and that they keep their rights to choose.

This Resolution asks that no GE trees are planted: trees that could cross-contaminate native species.

This Resolution keeps farmers safer from corporate control over seeds and farmer rights. It helps to protect those farmers that do not want GMO contamination and the consequences.

Richmond could be known for being one of the last areas in the world that is not contaminated with GMO's. While this may appear a long ways down the road, biotechnology companies are moving quickly, trying to seize the markets and regions available to them. Our children will see this in their lifetimes. Our children will have less and less food choices if we don't act to protect our natural resource: fertile soils and healthy food.

Farmer's land values would not decrease, but potentially increase in value as being some of the last Non-GMO lands available (future). More and more consumers every day are asking for organic and Non-GM produce.

This Resolution harmonizes with Richmond's Pesticide bylaw.

It's About Our Future

We need to make decisions today that create a sustainable and liveable future for our children. The important heirlooms remain in the freshness of the air, the purity of the water and the fertility of the soil. We all live downstream. Yet, you'll find the challenges are not really in the environment.

They are in our hearts.

