

# Gmo foods



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Biotech food corporations have patented a number of genetically altered food and pharmaceutical crops that can only be grown with a proper license and new seeds must be purchased each year. Regrettably genetically engineered crops cannot be contained. Over the years Monsanto has sued hundreds of farmers for patent infringements and many of these farmers have been driven into bankruptcy and have lost everything. Farmer Percy Schmeiser refused to give in, Schmeiser had been in the farming business and developing his own seeds for fifty years, then had his fields carelessly contaminated by Monsanto, when this happened the company tried to take his land and his livelihood. Schmeiser stated, " I never put those plants on my land. The question is where do Monsanto's rights end and mine begin? " The case went before the Federal Court of Canada, where Schmeiser accused Monsanto of trespassing, improperly obtaining samples of his seed from a local seed plant, and contamination of his crops with unwanted GM plants. In 2008 Monsanto settled out of court, agreed to pay all clean-up costs and agreed that Monsanto may be sued for recontamination if it happens again, also that Schmeiser would not be under a gag order which had been the norm. In this case, Monsanto's patent was deemed valid; however Schmeiser was not forced to pay for the ' privilege' of the contamination. Even more recently Riceland Foods one of the largest rice cooperative in the U. S. won their lawsuit against Bayer when its natural long grain rice was contaminated with Bayer's unapproved genetically engineered rice. Bayer was also ordered to pay a dozen farmers nearly \$50 million for contaminating the commercial market that damaged rice prices back on 2006. (Dr. Mercola, 2012) These companies are trying to convince us these are safe reliable methods of feeding billions and making us healthier, and <https://assignbuster.com/gmo-foods/>

that they are benefiting us in the long run and if that's true then they should have these patents, but are they? Although we need to protect our crops from pests and disease while feeding and medicating a growing world, some studies are proving that genetically engineered foods and medicines are harmful to people, animals and the environment. A large population doesn't know exactly what a genetically modified organism is. Well, a genetically modified organism (GMO) is a term most commonly used to refer to crop plants created for human or animal consumption using the latest biology techniques, (Whitman. 2000). A good example of this is taking a plant and finding the gene responsible for drought tolerance and inserts that gene into a different plant. Now the new genetically modified plant will have the tolerance as well, and will be able to grow in an area where there is less water available or in an area experiencing a dry growing season. However non plant genes can be inserted as well such as inserting B. t. (*Bacillus thuringiensis*) into crops, B. t. is a naturally occurring bacterium that produces proteins that are toxic to insect larvae, which allows the plant to produce its own pesticides against bugs (Whitman, D. 2000). This can also apply to animals; a Memorial University of Newfoundland researcher accidentally froze a tank of a particular species of flounder. When the tank was thawed the fish were still alive, it turns out that this species has a particular gene that protects it from such issues as freezing, and later it was found that many polar fish share this gene to survive the cold waters in which they live. This science is behind the GM animals being worked on in the lab.

Researchers found a way to isolate a gene insert it into a fertilized egg in a manner that turns on said gene, (Find articles, 2001). This is how we end up with crops that produce more, vegetables that last longer, salmon that grow

many times faster, with cows that produce human like milk, and pigs grown for human compatible organs. Gmos are used to feed a growing world population, while also keeping pests at bay and even creating new pharmaceuticals. The world population has topped 6 billion people and will double in the next 50 years. It's going to be a challenge to feed this growing world and the GMO companies claim they can meet this need by creating plants with pest resistance, herbicide tolerance, disease resistance, cold tolerance, drought tolerance, salinity tolerance, and modified ripening characteristics and all the while upping nutrition, (Whitman, 2000). In fact a company named AquaBounty has been working on a fish called AquaAdvantage salmon, it's a GM salmon which grows in half the time it takes a conventional salmon to grow this fish is still awaiting approval. Dr. Stotish from Aqua Bounty explained that taking the growth hormone from Chinook salmon and putting it into Atlantic salmon eggs allows it to grow like a trout (Johnston, 2010). AquaBounty is also working on tilapia, trout, and other fish. At the University of Illinois cow genes were inserted into sows to increase their milk production and a synthetic gene was added to make digestion easier for the piglets, making them grow faster (Smithson, 2003). Also companies claim that they can help the environmental issues that we are facing, not all GMOs are food crops or animals There was a field trial at the University of Rostock that wanted to assess the safety of second and third generation GM plants before being brought on to the market. One was a potato that had been modified in a way that its tubers and leaves would produce cyanophycin, (a protein produced by cyanobacteria (algae) and some other bacteria.) and use the plant as a renewable resource for making a biodegradable substitute for petroleum based plastics. (GMO Safety. eu, <https://assignbuster.com/gmo-foods/>)

2009). This would make a big difference for the environment and cut the amount of oil used. Some poplar trees have been genetically enhanced to have the ability to clean heavy metal pollution in soil, (Whitman, 2000). There was an animal known as Enviropig had been developed at the University of Guelph to address an environmental problem in 1999, the pig digests its feed more efficiently than its non-GMO counterparts, resulting in waste that hopefully would cause less damage to lakes and rivers. The Guelph researchers have produced eight generations of this Enviropig, however their funding is up and so they may be the last of their kind, (Msnbc. com, 2012). There are great ways that scientist can create new medicines and vaccines, cholera and similar diseases could disappear due to a new method of administering vaccines through genetically modified potatoes thanks to the researchers at Boyce Thompson Institute for Plant Research, results from clinical trials of a vaccine for travelers' diarrhea show a development of biotechnology in implanting a bacterial antigen to stimulate the antibodies in the test subjects. Six of the eleven gained four times of intestinal antibodies, and ten of the eleven had four times the rise in serum antibodies after eating the raw potatoes (Science a go go, 1998). Researchers plan on developing varied vaccines this way and engineer fruits and other vegetables that would appeal to children, as children would rather eat a potato or a banana to getting a shot. Often with newer technologies things can go wrong, many studies are showing multiple problems. When researchers work on GM animals the studies fall under a different category with the FDA, the animals fall under what is called an animal drug law. Under the animal drug law the FDA cannot discuss the GM products being reviewed, the names of the companies the types of animals or even the

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ways they have been altered. Nor can they talk about any concerns or possible effects on animal health, food safety, or how it would affect the environment. " We cannot reveal that type of information. It's considered a violation of our rules, " says Linda Grassie, a FDA spokesperson " The agency will issue a report on its findings only after a product has been approved and gone on the market. "(Smithson, 2003). And there is a lot of concern over GM animals both headed for human consumption in the future and the GM animals used in animal feed currently. Some concerns are ecological, the worry is that GM animals, especially fish could escape from their holding pens and breed with the wild population and compete with the wild counterparts for food and resources. Under the current rules the FDA and not the EPA are in charge of this with no public input, " The FDA is absolutely not qualified to regulate the environmental risks of any animals, they are not environmental specialists" says Jane Rissler, a senior staff scientist for the Union of Concerned Scientists. Rissler also notes that EPA studies environmental risks posed by GM crops and they should also be assessing ecological impacts of bioengineered animals because its scientists are qualified to ask the appropriate questions, (Smithson, 2003). the FDA also is still working on the rules and seem to have a hard time keeping up with the changes in bio technology and enforcement, such as in the case of the University of Illinois pig project the piglets were not destroyed as the FDA rules called for and were instead sent to livestock brokers, then sold to slaughter houses and made into sausage, bacon, and chops, and nothing was done about it. In Nitro, West Virginia thousands of people filed a class action lawsuit against Monsanto; Monsanto is accused of spreading toxic substances, primarily carcinogenic dioxins, all over the city. A chemical plant

with the company produced the herbicide 2, 4, 5-T; a component of Agent Orange, which has been known to cause cancer, birth defects in children, leukemia, liver disease, Parkinson's, diabetes and chloracne, (a type of acne associated with exposure to dioxins.), (Dr. Mercola, 2012). According to the Republic Broadcasting Network "Monsanto is alleged to have burned dioxin waste in open pits,.... The EPA recommended that Monsanto be criminally investigated for fraud in covering up dioxin contamination in its products, including 2, 4, 5-T herbicide. Monsanto failed to report contamination, substituted false information to show no contamination or sent in 'doctored' samples of their products devoid of dioxin to government regulators. "

Monsanto has agreed to pay \$93 million for medical, screening, and cleanup, (Dr. Mercola, 2012). Dow Chemical has developed a now herbicide tolerant corn crop this crop can survive the infamous 2, 4-D herbicide, 2, 4-D is another ingredient in Agent Orange, 2, 4-D has been banned in Sweden, Norway, and scores of municipalities of Canada after numerous studies linked 2, 4-D to low sperm counts, cancer, non-Hodgkin's lymphoma, defects in neurological development of fetuses and high rates of birth defects, (Organic consumers association). However Dow Chemical has no plans to slow production of 2, 4-D and is now trying the U. S Department of Agriculture to approve the resistant crops and this would increase the use of the dangerous chemical. It's not just what we spray on the crops that are hurting people. One of the most obvious clues about the hazard of GMO foods is that nearly every animal in studies that are offered a GMO versus a non GMO food will choose the non. This study was conducted by Russian scientists who found that third generation of hamsters sterilized by GM soy. In this feeding study hamsters were used, one group was fed a normal diet

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without soy whatsoever a second was fed non-GMO soy, a third ate GM and another group ate a higher amount of GM soy. The Russian scientists used the same GM soy that makes up ninety percent of the soy acreage in the US. The animals were fed these diets over two years and the researchers evaluated three generations over this time, (Dr. Mercola, 2010). First the researchers took five pairs from each group, each of which had produced seven to eight litters each making about 140 animals, and at first everything seemed fine however serious problems showed up when they selected new pairs from the offspring. The first of the problems were the second generation had a slower growth rate and reached their sexual maturity later than what was normal; these animals still produced another thirty nine litters. \* The control group of hamsters (no soy) had 52 pups \* The non-GM soy fed group had 78 pups \* The GM soy fed groups had only 40, of which 25% had died This showed that these second generation hamsters that were fed the GM soy had a five times higher infant mortality rate compared to the controls groups 5 percent. Only one third generation GM fed female hamster gave birth, to only 16 pups and of those 16, one fifth had died. And oddly the researchers have found another rare phenomenon in the GM fed animals, this was that they had hair growing on the inside of their mouths. Which study author Dr. Surov had never seen more hair in mouths of hamsters before, (Dr. Mercola, 2010). in 2005 Dr. Irina Ermakova, one of the senior scientists with the Russian National Academy of Sciences, reported that more than 50 percent of the babies from mother rats that were fed GM soy died within three weeks of birth. Compared to the controls groups 10 percent. Another issue was, in the male rats something had caused the color of the rats' testicles to turn color this had also happened in a study in Italy

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where mice had been fed a GM soy diet and changes in their testicles including sperm cell damage. Ermakova wanted to do more studies however, she had been pressured by her boss to end it, and her samples along with documents were taken and destroyed, (Dr. Mercola, 2010). David Gomez reports that in several studies of mice and rats there was disruption primarily in the liver and kidneys, however the heart, spleen and blood cells may be affected too. It is unclear whether the organ problems are coming from the GM foods themselves or the pesticides that are being sprayed on them, (Gomez, 2011). Now to discuss the environmental issues; many of these crops are being manufactured to be resistant to the pesticides being sprayed on them, to keep crops safe from bugs however, studies are showing this may not always be the case. Some bugs are becoming resistant to the insecticides. When land is covered in one herbicide or insecticide for years some insects are able to adapt and evolve to resist and become stronger, (Dr. Mercola, 2012). Some bugs particularly bees have a different problem. In Poland beekeepers finally win a ban on Monsanto's GMOs, the Mon810 corn has been engineered to produce a version of the insecticide Bt, and this was causing deaths in honeybees. Poland was the first country to officially acknowledge the link between colony collapse and Monsanto corn. Colony collapse has been killing bees off around the world and many scientists believe that Monsanto has known of this risk for some time and has done nothing to solve the problem. And now unfortunately this large corporation has purchased a CCD research firm, Beeologics, which government agencies such as the USDA turn to for help figuring out and trying to solve the problems with the bees, (Mayer & Cummins, 2012). " Superweeds" weeds that are resistant to glyphosate, the major ingredient in round up, are now

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popping up in Monsanto roundup ready crops all over the country and these superweeds have become a big problem in parts of Georgia and South Carolina, North Carolina, Arkansas, Tennessee, Kentucky, and Missouri. In Macon county area 10, 000 acres of farm land were abandoned because of the explosion of superweeds. Pig weed is the major culprit in Georgia and it's already a strong weed it can already produce 10, 000 seeds at a time, is drought resistant, and can easily kill of young cotton plants. A Monsanto press release are encouraging farmers to mix glyphosate and older herbicides such as 2, 4-D. Monsanto had already seen this coming as early as 2001 and took out a patent on mixtures of glyphosate and herbicide targeting glyphosate-resistant superweeds, (Caulcutt, 2009). And speaking of glyphosate, chemical companies claim that the chemical also known as round up doesn't leach into groundwater. However, in a study conducted by the Institute of Environmental Assessment and Water Research in Barcelona, Spain, researchers performed tests on groundwater samples to determine the presence of glyphosate. The researchers from IEAWR found that while soils absorb some of the chemical, glyphosate does not fully break down before reaching groundwater, which the EPA and the chemical industry have claimed for some time now. The findings completely challenged the claims made by the chemical industry and the EPA, according to the EPA, "Microbes in the soil readily and completely degrade glyphosate even under low temperature and does not tend to accumulate in aquatic life." The EPA obtained this information directly from the manufacturer, (Natural News, 2011); however the EPA has its own responsibility to verify safety claims on behalf of the public, which did not happen. Two other studies recently conducted by the US Geological Survey also found glyphosate in streams and

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rivers as well as rain water and even air near agricultural areas that use the chemical. (Natural News, 2011). Retired scientist from Perdue University said " I have been doing research on glyphosate for 20 years, I began noticing problems when I saw a consistent increase in " take-all" (a fungal disease that impacts wheat) where glyphosate had been applied in a previous year for weed control. I tried to understand why there was an increase in disease with glyphosate. " Glyphosate kills the weeds by directly cutting down their defense so pathogens in the soil can kill the weeds. Glyphosate can do the same to other plants too. There has been an increase in the number of plant diseases in the last 18 years. There are more than 40 diseases reported with use of glyphosate, and that number keeps growing and now scientists are starting to notice the link, (Roseboro, 2010). It's raising concerns about toxins from soil to food as well; a potato farmer on Minnesota who grows 1000 acres of seed potatoes had so much glyphosate in the tubers that they were unusable. The contamination came from a previous crop of roundup ready soybeans, And the potatoes could not be certified, (Roseboro, 2010). In addition to plant health there is concern for human health, one such is allergens, when there are additions to foods in the way they are grown and what's put on and in them that haven't been done before a persons system isn't able to handle the changes and this results in increased allergen reactions. As you may know that GM crops weren't released until 1996 starting with soy corn and cotton and a year later canola, humans have a longer life span than that rats mice and hamsters this is less than one generation so were not near seeing the full effects and ramifications in people, (Dr. Mercola, 2010). Allergen study show problems such as stomach lesions from roundup ready gene these reactions need to be studied much

more however there is a lack of access to information, (Roseboro, 2010) due to patents and rules set by chemical companies. Most studies from the GM companies are performed for an average of ninety days and it's unacceptable that with so much concern and independent studies showing negative effects that billions of consumers are being fed these foods, (Dr. Mercola, 2010). Many other countries have banned or restricted GMO crops and seeds due to health and safety concern and public outcry. In March of 2011 Hungary introduced a new regulation that states that seeds must be checked for GMOs before they are brought onto the market. Some seeds however, made it all the way to the farmers without their being aware. When the seeds were found out almost 1, 000 acres of maize had to be destroyed and the fields ploughed under throughout the country, (Dr. Mercola, 2011). The German, Austrian, Grecian, French, and Luxembourgian governments have joined Poland and have banned a Monsanto created corn called Mon810 and Germany is the latest. And these countries have done so despite threats of sanctions from globalist groups. The governments based their mandates on European studies that suggest B. t which is added to the corn on a genetic level may kill of lady bugs, (Petherick, 2009), which are beneficial to crops and farmers. German officials cited research that showed that the pollen from corn farther than previously thought and that the non-GM corn could easily be contaminated just by the blowing wind, (Petherick, 2009). Significant U. S. trading partners like China and Brazil have also started to restrict biotech imports, Asian and African countries have already banned and restricted GMOs, and in addition Australia and New Zealand have initiated labeling GMOs and the products they are in. In fact the African Civil Society group composed of more than 45 African countries, presented

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this statement, " we refuse to be used as the dumping ground for contaminated food ...we will stand together in preventing our continent from being contaminated by genetically engineered crops, as a responsibility to our future generation. " (Wallach). With so much on the line and so many small studies showing the harmful impact, why aren't GMOs being labeled and made safer? The answer is money. Monsanto doesn't just sue farmers trying to make a living, and foreign governments for banning and restricting their product. The giant biotech corporation has also sued states, one of these victimized states is Vermont, and their bill requiring mandatory labels on genetically engineered food, bill (H-722). Despite public support, around 90 percent of the voting population, and clear support from Vermont's Agriculture Committee, Vermont legislators are holding up the labeling bill and refusing to take a vote because Monsanto has threatened the state with huge lawsuits, (Gaston, 2012). The biotech industry uses millions of dollars to lobby against labeling foods, and pharmaceuticals containing GMOs, And using their former employees to help them out like; Michael Taylor he was the vice president of public policy and a chef lobbyist at Monsanto, and now he has the position of deputy commissioner for foods at the FDA, (Dr. Mercola, 2012). There is also Margaret Miller who was a researcher for Monsanto and now works for FDA, and don't forget Judge Clarence Thomas, he was a former lawyer for Monsanto, these choices are a contrast to the White House panel's warning that consumers should go organic to avoid the carcinogenic pesticides that lace conventional and genetically engineered food, (organic consumers). The USDA has approved seven of the 16 applications it received between May and April, with nine pending applications all submitted in the last four months the USDA only denied 2

applications since 2000. Since 1995 the USDA has approved more than 300 biopharming plantings throughout the country, (Msnbc, 2004). Under a new USDA rule Monsanto and other biotech companies that create GM crops will get speedier reviews. The rules will cut the time of approval in half from three years to just 13 months and congress wants to help, the US congress is increasing the USDAs animal and plant health inspection budget, for biotech regulation from \$13 million to \$18 million. The UDSA also created a program which allows biotech companies to conduct their own environmental assessments to help speed things up for the companies, this is a massive conflict of interest and industry cannot police themselves, (Dr. Mercola, 2012). Recently The USDA approved a Monsanto GM version of alfalfa even though only two weeks prior, Dr. Don Huber, a plant pathologist, wrote a letter to the USDA describing a newly discovered pathogen found in very high concentrations in roundup ready corn and soy crops that researchers believed could jeopardize the entire domestic food supply. In his letter to USDA secretary Tom Vilsack (another Monsanto minion) " I have been a scientist in the professional and military agencies that evaluate and prepare for natural and man-made biological threats...I believe the threat we are facing from this pathogen is unique and of a high risk status. "(Ludwig, 2011). Then In April of 2012 the senate Ag Committee voted for a bill that cuts programs for the hungry and the environment to help finance a brand new entitlement program and new insurance subsidies for those largest farm operations, (Organic consumers association, 2012). The policy director for the National Sustainable Agriculture Coalition, Ferd Hoefner says, " By failing to place limitations on crop insurance and to re-attach soil erosion and wetland conservation requirements to crop insurance programs, the

committee has failed to do the full reform that is needed and the committee failed to adequate funding that new and beginning farmers need. " The committee did not fund the rural development title or make improvements in the farm to school programs and it limited the programs for socially disadvantaged farmers and ranchers; saving this money for rich farms, (Organic consumers association, 2012). This farm bill is also what keeps organics more expensive and GMO junk foods cheap. Because this farm bill uses our tax money to subsidize factory farms biotech and chemical agriculture. (Mayer & Cummins, 2012) It's true, the world is growing faster, and we need to figure out a safe way to feed everyone, but at what cost? Small studies are showing that we could easily feed the world with old style, and organic agriculture and that we don't need ' fake' food. And even more small studies are showing the negative health impact of these foods from cancers to sterility even though the corporations fight them every step of the way, the FDA refuses to do studies on GMO foods and so only independent and cooperate studies are done. The industry doesn't want anyone to know what they are eating because they will lose money, yet the public does want to know what they are eating and feeding to their children, but as long as we all line up for our fake soy, fake corn, and soon to be fake fish and fake meat nothing will change in our food industries. The money goes deep, our politicians and agencies like the FDA, USDA, and EPA who are supposed to be protecting us are failing to do so, some because of being threatened with lawsuits and some are just being paid off. And some countries are even facing sanctions for not playing along, in response to moves by France to ban a Monsanto GM corn variety, the ambassador, Craig Stapleton, a friend and business partner of former US president George Bush, asked Washington

to penalize the EU and particularly countries which did not support the use of GM crops, (Vidal, 2011). We must take a stand and so no to GMOs.

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