Factsheet on **G**enetic **M**odified **O**rganisms

ABSTRACT

Of 5 major independent research studies on GMOs, the most visible and convincing is the recent, 2 year long study by Séralini, G.E., et al., "Republished study: long-term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize," Environmental Sciences Europe (2014): 26:14 showing that GM Foods are much more dangerous than anyone could ever anticipate.

You can download a 12 minute long video about Séralini's irrefutable findings from here: https://www.youtube.com/watch?v=H62ScHZkTXw.

Even a blind man can feel the tumors that have developed on rats after being fed with GM food for 18 months.

Any Scientist who is promoting GM-Food does either not know about this research or fears to loose his job by saying the truth about GMOs or is convinced that we need to reduce the world population.

If the Indian Government doubts these independent research studies, then it must do its own long-term research **on any GM Food, including the Delhi University GM Mustard seed,** on lab animals, and this should be done before allowing the field trials of GM Crops.

Prof. Ruth Hubbard, Geneticist, Harvard University USA, together with 814 other scientists, have written an open letter to governments and international forums **calling for a Moratorium on All Genetic Engineering!**

And what about the claim by GM Food promoters that we need GMO Technology to feed the world and that organic farming will starve the growing population to death?

This claim is as much a twisted truth and contrary to independent scientific research as is the claim GMO Foods are safe to eat.

1. **Recent developments worldwide show that after very few years yields of GMO crops reach lower levels than conventional crops.**

2. **Many studies including for example the one below proof without a shadow of a doubt that the above claim by the GM lobby is absolutely baseless**: *Agriculture at a Crossroads: Global Report, International Assessment of Agricultural Knowledge, Science and Technology for Development* (Washington, DC, USA: Island Press; 2009). This massive study was conducted by more than 400 experts from 80 countries, and 58 governments have endorsed it.

And one of the most important points: GMO is a threat to national security. The Biotech companies in every country try to control the seeds. Who control seeds controls food and therefor also food security!

Now read on or study the book by Steven M. Druker: Altered Genes, Twisted Truth. How the Venture to Genetically Engineer Our Food Has Subverted Science, Corrupted Government, and Systematically Deceived the Public.

What are GMOs?

GMOs (or "genetically modified organisms") are living organisms, whose genetic material has been artificially manipulated in a laboratory through genetic engineering, or GE. This relatively new science creates unstable combinations of plant, animal, bacteria and viral genes that do not occur in nature or through traditional crossbreeding methods.

The conceptual basis of its science lies on the obsolete dogma that collapsed with the completion of the Human Genome Project in 2003. The dogma said that a DNA gene **exclusively governs the molecular processes that give rise to a particular inherited trait.**

What the Human Genome Project revealed is that there are **far too few human genes to account for the complexity of our inherited traits or for the vast inherited differences between plants and say people.**

The fact that one gene can give rise to multiple proteins also **destroys the theoretical foundation of a multi-trillion dollar industry,** the genetic engineering of food crops.

In genetic engineering, it is assumed, without adequate experimental proof, that a bacterial gene for an insecticidal protein, for example, transferred to a corn plant, will produce precisely that protein and nothing else. Yet in an **alien genetic environment, alternative splicing of the bacterial gene might give rise to multiple variants of the intended protein -- or even to proteins bearing little structural relationship to the original one -- resulting in unpredictable effects on ecosystems and human health.**

Virtually all GMOs are engineered to withstand direct application of herbicide and/or to produce an insecticide. Despite biotech industry promises, none of the GMO traits currently on the market offer increased yield, drought tolerance, enhanced nutrition, or any other consumer benefit.

Meanwhile, a growing body of evidence connects GMOs with health problems, environmental damage and violation of farmers' and consumers' rights.

Are GMOs different than their natural counterparts?

The manufacturing companies, especially Monsanto, seem to have a divided mind about this. When they present GMO crops to the Food and Drug Administration for safety assessment, they claim these crops are equivalent to their natural counterparts. However, when they speak to the patent office, they insist that these crops are substantially different and need to be patented.

The truth of the matter is that they are very different, and therefore, they react differently with the environment – i.e., within the human physiology and with neighboring fields. **NO ONE IS SURE IN WHAT WAY THEY ARE REACTING. NO ONE CAN PREDICT IT**.

A groundbreaking paper published in the peer-reviewed journal *Agricultural Sciences* (14th July 2015) by Dr. V.A. Shiva Ayyadurani reveals genetic engineering (GE) of soy accumulates the class A1 carcinogenic chemical formaldehyde. This shows that GE disrupts the plant's natural ability to control stress and disrupts plant metabolism, and invalidates the Drug Administration of USA (FDA) current regulatory framework of *substantial equivalence* used for approval of GMOs..

Are GMOs safe to eat?

Most developed nations do not consider GMOs to be safe. In more than 60 countries around the world, including Australia, Japan, and all of the countries in the European Union, there are significant restrictions or outright bans on the production and sale of GMOs.

GMO Foods – used for the last 20 years in the USA - have turned out to have more health hazards than anyone ever expected. The American Academy of Environmental Medicine's position paper on genetically modified (GM) foods says: "Several animal studies indicate serious health risks associated with GM food consumption including infertility, immune dysregulation, accelerated aging, dysregulation of genes associated with cholesterol synthesis, insulin regulation, cell signaling, and protein formation, and changes in the liver, kidney, spleen and gastrointestinal system."

How can honorable leaders, like the previous and the present Prime Minister, Dr. Manmohan Singh and Narender Modi, be completely convinced that GMO Foods are harmless, when there is abundant proof that they are not?

There is a simple answer:

The WHO guidelines for testing are for 90 days. Any test done on mice, rats or hamsters, feeding them with GMO foods, will not show significant harm – if a scientist does not specifically look for it - on these test animals within this 90 days time period. These are the types of tests propagated by the promoters, and especially the producers of, GMO seeds.

If, however, lifelong tests are done on rats, the results are radically different. Rats live an average of 30 months or so. GMO foods tested on animals produce tumors on average after 18 months. (These are big, even a blind Scientist can feel them!)

Below are the test results from rats that were fed a diet consisting of 11% to 33% GMO corn for 2 years, (the GMO foods had a higher level of herbicides than non-GMO foods, but much less than is commonly found in human foods) they found:

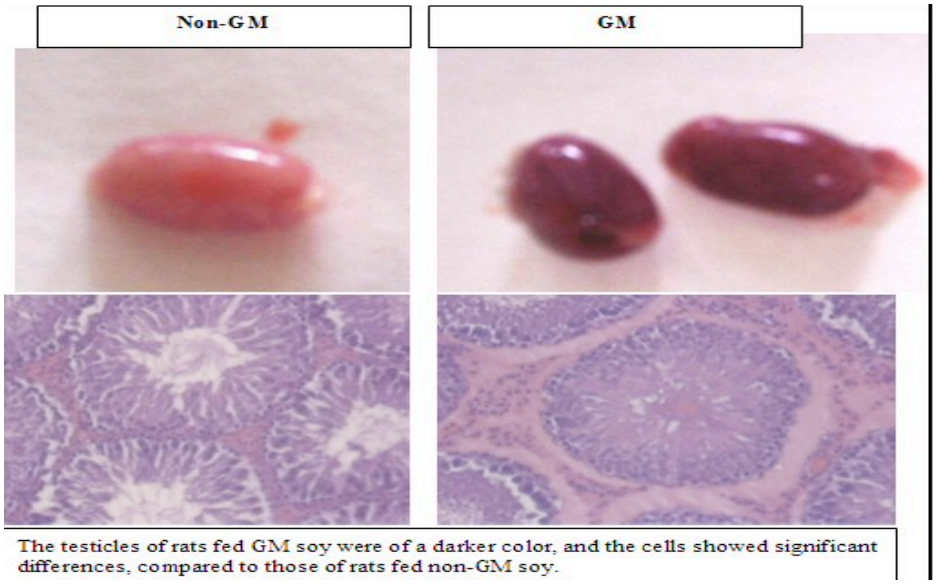
- After 2 years (remember two and a halve year is the expected live span):

	Non GMO corn fed	GMO corn fed
Female rats	20% have died	70% have died
Male rats	30% have died	50% have died

- **Most shocking is that more animals were dying prematurely eating even the lower dose of GMO foods**.
- The first females to die did so less than a year after starting the diet and had developed huge breast tumors.
- Females on the GMO diet at 21 months had a death rate that was six times higher than those on a normal diet - even without herbicide contamination.
- Death in the females was from breast tumors and from liver and kidney damage in males.
- Ironically, tumor size was NOT related to dose. Tumors in low dose and high dose were the same size.
- Tumors occurred in females FIVE TIMES MORE often than males.
- 90% of all tumors in females were breast tumors.
- Other tumors included ovarian tumors and skin cancers.
- Tumors were unusual in that they were very large and grew very rapidly.
- Interestingly, the majority of tumors appeared after 18 MONTHs, well beyond the 90 DAY LIMIT for food safety testing set by WHO.
- The earliest a tumor was seen was at 4 MONTHs, again beyond the 3 month limit set by WHO.
- While tumors did occur in males, the incidence was less than in females.
- Two of the tumors in males were highly malignant kidney tumors and occurred after the usual 90 day limit by the WHO.
- Male rats eating GMO corn developed a very high incidence of both kidney and liver damage.
- The damage is a synergistic toxic effect of the trace amounts of herbicides/pesticides in the corn and the GMO corn itself.
- GMO corn also caused hemorrhaging in the lining of the stomach and intestines.
- Not only damage to liver and kidneys, but also to adrenals, heart, lungs, intestines, pancreas and spleen is found in different research studies on GMOs.
- GMO foods have been shown to damage various parts of the cells - including the mitochondria, cell membranes and chromosomes.

(The above findings are presented by Dr. Russell Blaylock in his documentary: *GMO Food - It's Worse Than We Thought*. Mostly from Séralini's study)

In an other research, it was revealed that the 2nd generation from these laboratory animals was much weaker and smaller (picture left).
Also, there was no 3rd generation, as the animals became infertile (see picture of testicles below).



The testicles of rats fed GM soy were of a darker color, and the cells showed significant differences, compared to those of rats fed non-GM soy.

The picture on the left shows that testicles of rats fed with GM soy having a significant darker color then those of the control groups. Infertility is the results several GE food lab fed animal studies have shown.

Five of the many research studies that detected harm to laboratory animals are:

Ewen, S.W.B. and Pusztai, A., "Effects of diets containing genetically modified potatoes expressing Galanthus nivalis lectin on rat small intestine," The Lancet 354 (1999): 1353-54.

Séralini, G.E., et al., "New Analysis of a Rat Feeding Study with a Genetically Modified Maize Reveals Signs of Hepatorenal Toxicity," Archives of Environmental Contamination and Toxicology 52, no. 4 (May 2007): 596-602.

Malatesta, M., F., et al., "A long-term study on female mice fed on a genetically modified soybean: effects on liver ageing," Histochem Cell Biol. 130 (2008): 967–77.

Gab-Alla, A.A., et al., "Histopathological changes in some organs of male rats fed on genetically modified corn" (Ajeeb, Y.G.), J Am Sci. 8 (10)(2012): 684–96.

Séralini, G.E., et al., "Republished study: long-term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize," Environmental Sciences Europe (2014): 26:14.

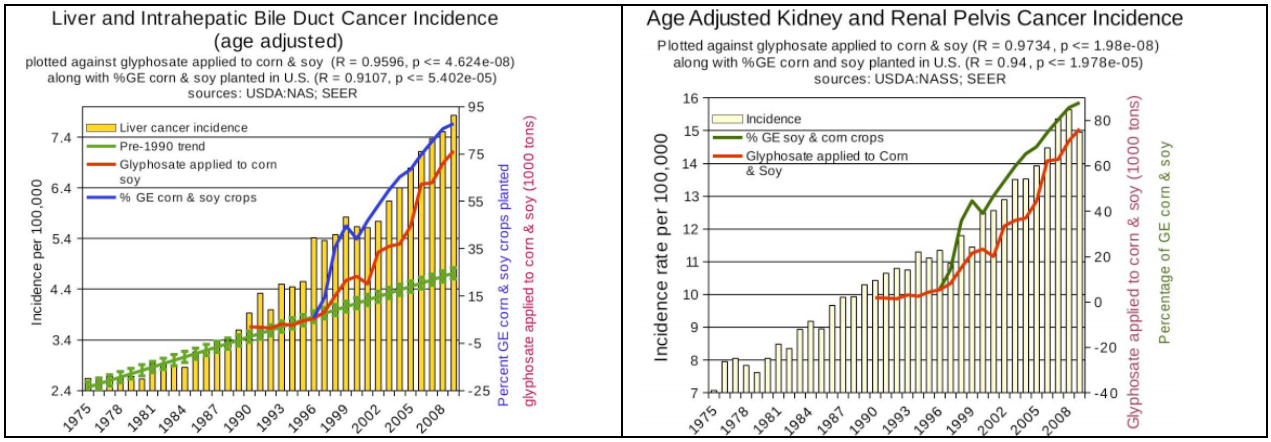
These are animal tests. Is there anything visible in the USA population, where GMOs have been eaten now for the past 20 years (which corresponds to about 8 months in a rat's life)?

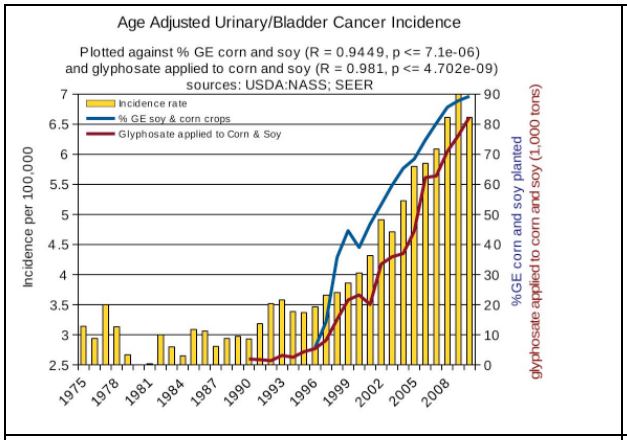
In a land mark research by Swanson et all, published in Journal of Organic Systems, 9(2) 2014: *Genetically engineered crops, glyphosate and the deterioration of health in the United States of America* **they could proof a highly significant correlation for 22 diseases.** When correlation coefficients of over 0.95 (with p-value significance levels less than 0.00001) are calculated for a list of diseases that can be directly linked to glyphosate and GE foods, via its known biological effects, it would be imprudent not to consider causation as a plausible explanation.

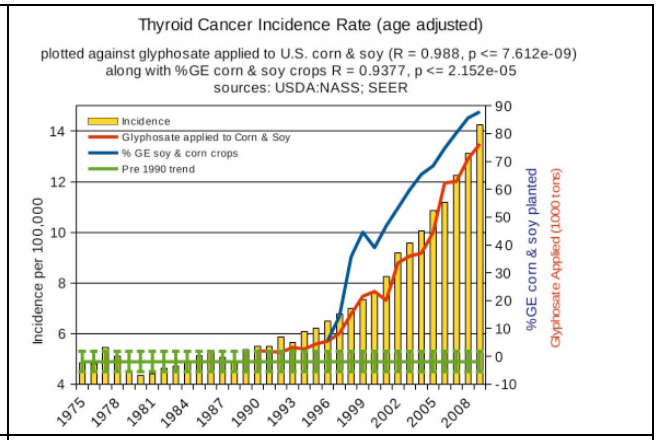
Summary of correlation coefficients, showing the number of diseases with R in the various ranges for glyphosate applications and for %GE crops planted.

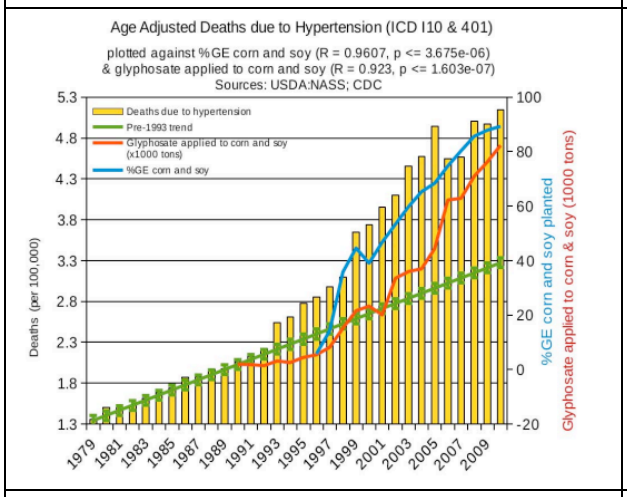
R-value range	Correlation with glyphosate		Correlation with %GE crops planted	
	No.	Disease	No.	Disease
$R > 0.98$ $R^2 \times 100 > 96\%$	4	Thyroid, autism, dementia, & bladder	2	Stroke, diabetes (prevalence)
$0.97 < R < 0.98$ $94\% < R^2 \times 100 < 96\%$	6	ESRD, diabetes (prevalence), lipoprotein metabolism, intestinal, kidney & renal		
$0.95 < R < 0.97$ $90\% < R^2 \times 100 < 94\%$	2	Obesity, liver	7	Parkinson's, hypertension, diabetes (incidence), obesity, lipoprotein metabolism, ESRD, renal
$0.90 < R < 0.95$ $81\% < R^2 \times 100 < 90\%$	6	Diabetes (incidence), inflammatory bowel, hypertension, stroke, Alzheimer's, pancreatic	7	Liver, bladder, kidney thyroid, pancreatic, Alzheimer's, hepatitis
$0.86 < R < 0.9$ $74\% < R^2 \times 100 < 81\%$	2	Parkinson's, myeloid leukaemia	2	Myeloid leukaemia, multiple sclerosis
Correlation ≥ 0.90	18		16	

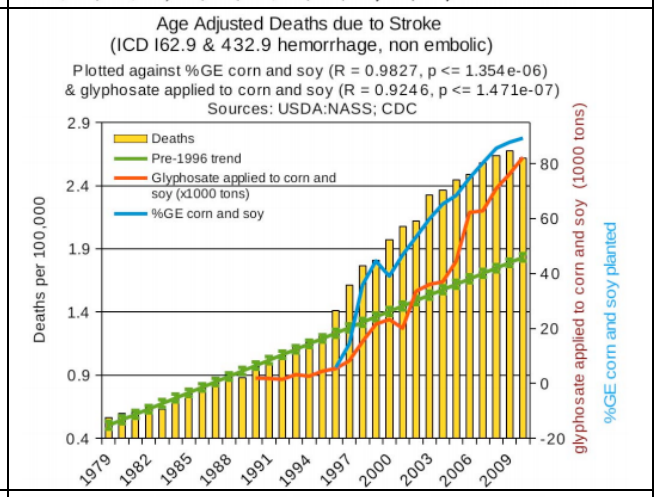
Following a few charts from the highly convincing research of Swansen et all.

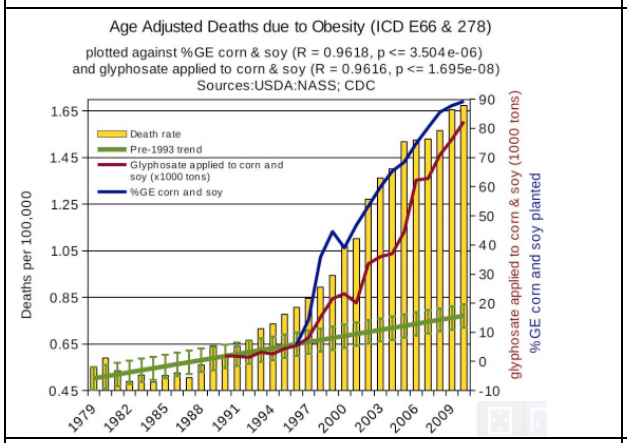


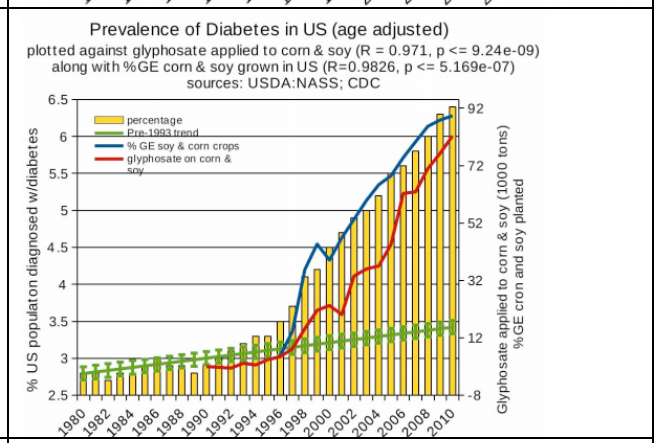

Age Adjusted Urinary/Bladder Cancer Incidence
Plotted against % GE corn and soy (R = 0.9449, p <= 7.1e-06)
and glyphosate applied to corn and soy (R = 0.981, p <= 4.702e-09)
sources: USDA:NASS; SEER
Incidence rate
% GE soy & corn crops
Glyphosate applied to Corn & Soy
Incidence per 100,000
%GE corn and soy planted
glyphosate applied to corn and soy (1,000 tons)

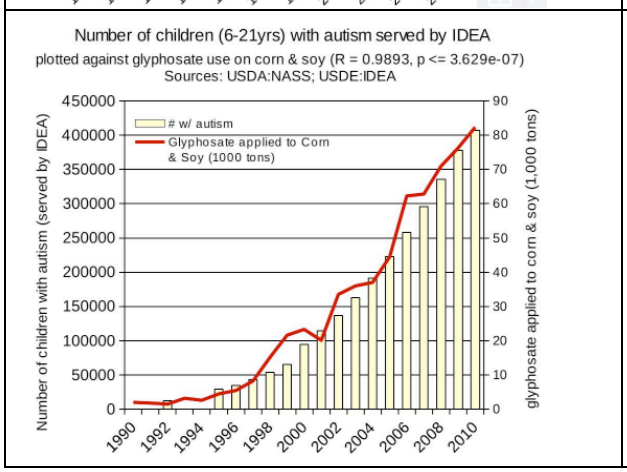

Thyroid Cancer Incidence Rate (age adjusted)
plotted against glyphosate applied to U.S. corn & soy (R = 0.988, p <= 7.612e-09)
along with %GE corn & soy crops R = 0.9377, p <= 2.152e-05
sources: USDA:NASS; SEER
Incidence
Glyphosate applied to Corn & Soy
% GE soy & corn crops
Pre 1990 trend
Incidence per 100,000
%GE corn & soy planted
Glyphosate Applied (1000 tons)

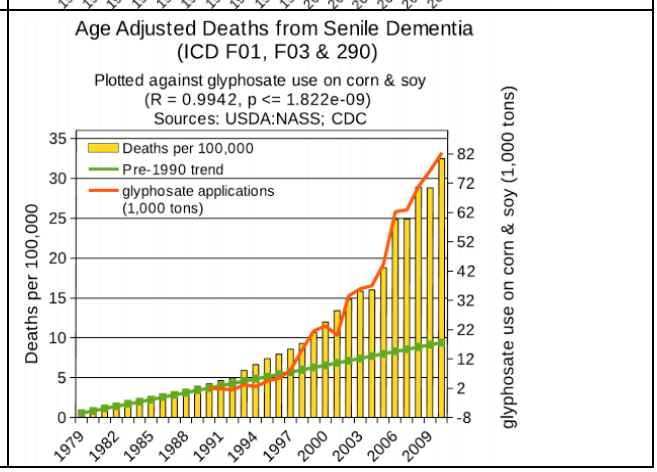

Age Adjusted Deaths due to Hypertension (ICD I10 & 401)
plotted against %GE corn and soy (R = 0.9607, p <= 3.675e-06)
& glyphosate applied to corn and soy (R = 0.923, p <= 1.603e-07)
Sources: USDA:NASS; CDC
Deaths due to hypertension
Pre-1993 trend
Glyphosate applied to corn and soy (x1000 tons)
%GE corn and soy
Deaths (per 100,000)
%GE corn and soy planted
Glyphosate applied to corn & soy (1000 tons)


Age Adjusted Deaths due to Stroke
(ICD I62.9 & 432.9 hemorrhage, non embolic)
Plotted against %GE corn and soy (R = 0.9827, p <= 1.354e-06)
& glyphosate applied to corn and soy (R = 0.9246, p <= 1.471e-07)
Sources: USDA:NASS; CDC
Deaths
Pre-1996 trend
Glyphosate applied to corn and soy (x1000 tons)
%GE corn and soy
Deaths per 100,000
glyphosate applied to corn and soy (1000 tons)
%GE corn and soy planted


Age Adjusted Deaths due to Obesity (ICD E66 & 278)
plotted against %GE corn & soy (R = 0.9618, p <= 3.504e-06)
and glyphosate applied to corn & soy (R = 0.9616, p <= 1.695e-08)
Sources:USDA:NASS; CDC
Death rate
Pre-1993 trend
Glyphosate applied to corn and soy (x1000 tons)
%GE corn and soy
Deaths per 100,000
glyphosate applied to corn & soy (1000 tons)
%GE corn and soy planted


Prevalence of Diabetes in US (age adjusted)
plotted against glyphosate applied to corn & soy (R = 0.971, p <= 9.24e-09)
along with %GE corn & soy grown in US (R=0.9826, p <= 5.169e-07)
sources: USDA:NASS; CDC
percentage
Pre-1993 trend
% GE soy & corn crops
glyphosate on corn & soy
% US populaton diagnosed w/diabetes
Glyphosate applied to corn & soy (1000 tons)
%GE cron and soy planted


Number of children (6-21yrs) with autism served by IDEA
plotted against glyphosate use on corn & soy (R = 0.9893, p <= 3.629e-07)
Sources: USDA:NASS; USDE:IDEA
w/ autism
Glyphosate applied to Corn & Soy (1000 tons)
Number of children with autism (served by IDEA)
glyphosate applied to corn & soy (1,000 tons)


Age Adjusted Deaths from Senile Dementia
(ICD F01, F03 & 290)
Plotted against glyphosate use on corn & soy
(R = 0.9942, p <= 1.822e-09)
Sources: USDA:NASS; CDC
Deaths per 100,000
Pre-1990 trend
glyphosate applications (1,000 tons)
Deaths per 100,000
glyphosate use on corn & soy (1,000 tons)

Also in 2 documentaries (*Genetic Roulette* and *Bought*) made about the effects of GMO foods, they show a lot of correlation to diseases that have sharply increased, since GMO foods have been widely eaten by the US population.

GMOs and Chemicals (Herbicides and Pesticides)

One of the false claims of the GMO promoters is that with GMOs the use of chemicals is decreasing. In fact, just the opposite is true.

70% GM crops are engineered to be "herbicide tolerant"— resistant to deadly weed killers. Monsanto sells Roundup Ready crops, designed to survive applications of their Roundup herbicide, which contains the active ingredient Glyphosate. It kills all the weeds and saturates the crop with this poison.

Between 1996 and 2008, US farmers sprayed an extra 383 million pounds of herbicide on GMOs. Over use of Roundup results in the creation of "superweeds," which are resistant to this herbicide. This is causing farmers to use even more toxic herbicides every year. Yet, yields are now lower than the yields of conventional crops.

Not only does this create environmental damage, but also GM foods contain higher residues of toxic herbicides. For example, Roundup is linked with sterility, hormone disruption, birth defects, cancer and a sharp increase of Autism.

In hundreds of independent research studies, Glyphosate has been identified as the cause of birth defects and cancer and that it damages the kidney, among other things, but all these findings have been suppressed, i.e. do not appear in main stream media, like the ones sited above.

However, in March 2015, the World Health Organization's International Agency for Research on Cancer published a summary of its forthcoming monograph on glyphosate in *The Lancet.* It classifies glyphosate as "probably carcinogenic in humans" (category 2A), based on epidemiological studies, animal studies, and in vitro studies. Monsanto is fighting against WHO by making a case against them for "junk science" and they hired an agency to force them to retract this.

A recent uncovered Document of 1985 reveals that **Monsanto and the U.S. Environmental Protection Agency (EPA) knew Glyphosate is carcinogenetic**. See the article with Film on the documents.
http://althealthworks.com/6119/6119glyphosateepacancerdocuments/#sthash.FSKhLUCs.dpuf

This prompted many nations to take action, and they have fully or partially banned *Roundup* (see: http://www.globalresearch.ca/the-end-of-

monsanto/5452183). In this article, you can see that more and more governments are waking up to the dangers of GMOs – despite this, India wants to plunge fully into GMOs.

What about the high yielding seeds, that's what GMOs are?

Their main selling argument is: "We need GMOs to feed the growing population. There is no other choice."

Let's be very clear: Yields are ONLY determent by the hybrid used. Whether or not the genetic engineering by a transgenic process is done or not to that hybrid does NOT increase yields.

About 30% of GMOs are engineered to be resistant for a particular pest like the Bt cotton for the bollworm. The benefit will be that usage for pesticides for the bollworm will decrease significantly. **But pesticides to control the sucking pests have increased from 2110 tones in 2002 to 6362 tones in 2011.**

About 70% of GMOs are engineered to be herbicide tolerant. The only benefit they have is that less labor is needed on the fields because spraying highly poisonous herbicides kills the weeds.

Then why do we hear so much about higher yields and success?

The fact is that there are more reports of yield decreasing. But **we are facing an information war!**

Yields per acre are in average lower with GM farmers in the US than non-GM farmers in Europe. Lots of reports are made up. **Even peer review articles in *Science* or news from BBC cannot be trusted.**

In a youtube movie Dr Suman Sahai_ Power, plurality and uncertainty_ opening up expert advice Dr. Sahai tells the story how *Science* accepted a paper back in 2002 on Bt cotton success in India. **It turned out that the data used in the study were not based on actual field observations of what happened to the farmers but on the companies closed and controlled field trials.** Dr. Sahai, who worked on the Bt cotton project in Andhra Pradesh and knew the grass root facts that were opposite of what the peer review paper said was upset. **Together with her colleges she wrote to *Science* – none of their corrections ever got published**!

In the article: Propaganda over facts? BBC Panorama and Bt Brinjal http://gmwatch.org/news/latest-news/16320-bt-brinjal-plants it is beautifully narrated and analyzed why **BBC Panorama: "GM Food: Cultivating Fear" aired on 8th of June 2015 told that the Bt Brinjal cultivation in Bangladesh was a 90% success**. Faisal Rahman, a staff correspondent for UNB, reported in March based on his own research by contacting 40 farmers and visited some**: "Bt brinjal turns out to be 'upset case' for farmers",**

went deep into the matter, to see on what basis BBC could air such a lie. There are many points in this story, but **one argument is sticking out as a general practice of the Pro GMO 'Smoke Screen Science'**. BIRA argued that **'if there was no problem with the 'fruit and shoot borer' pest, for which the Bt Brinjal is engineered, the project was successful. If the 'bacterial wilt', an other pest for which the Bt Brinjal is not designed, or any other reason, destroyed the Bt Brinjal then that is none of our concern.'** Such a scientific logic can be ok for internal records, but to use it in the media to make the world believe the Bt Brinjal was a success and all farmers are happy is not correct. **It's propaganda over facts**. And that is the general practice of the Pro GMO lobby. **Some of the farmers reported that these other pests were never seen before**, same farmer remarks are heard from Bt Cotton fields in India, that other pests that were never or hardly observed prior to Bt cotton are much more occurring **suggests that the Bio Tech Industry should be concerned and that their technology is the reason for more pests, weaker plants and consequently higher use of pesticides**.

What is the economy of GMOs?

There is another big problem with GMO seeds: The farmer cannot, and is not, allowed to use the seeds again. For each year's crop, the seeds have to be purchased again from the company, along with the required chemical fertilizers, herbicides, and pesticides. Crop yields are less, and GMOs are full of health hazards -- so no one will want them (as the people get to know) and farming becomes much more expensive.

As a result the agriculture is not owned by farmers but by a foreign multinational!

But, the GMO corporations know very well that most people don't want to eat GMO foods -- so what do they do? They spend millions of dollars to prevent GMO labeling laws. Only one state in the U.S., Vermont, has been successful in mandating the labeling of GMO foods.

The GMO corporations are the only companies in the world that do not want the public to know that they are the producers and want to keep it hidden at all cost. Every other brand is proud of their product and wants to make it shown wherever possible – not so with the GMO Companies – they hide their identity from their products at all costs!

Further more GMOs are designed to function as a component of the industrial agricultural system, and as such they contribute to the expansion of this industrial agricultural system, which directly results in land consolidation, and the massive displacement of farmers to the slums. This is a grave danger to the cultural and social values of Bharat.

Take the Argentina Example: Argentina had in 1996 zero GMO Soy and 7 years later 95%. During this time massive land consolidation happened to facilitate big soy monocultures. As a result: **Poverty rose from 15% to 47% - farmers forced to slums – Widespread hunger and malnutrition – Cancer increased 400% - Birth defects increased by 300%.**

India has experience with GMO BT Cotton, mainly in A.P.: There have been over 27,000 suicide cases, health problems for the workers (allergies), and all the cattle and goats, which have grazed on the harvested fields, have died. Also, today yields are below pre BT cotton times and new pests have come up.

Environmental Science Europe (2015) published a paper by A.P. Gutierrrez et al from the University of California; Berkley revealing a significant correlation of suicides of cotton farmer to But Cotton in rain fed cotton-growing regions.

GMO Technology – a threat to National Security?!

The GMO biotech companies have developed a strategy for leveraging their patent rights over GMO seeds to very effectively take over the seed industry in every country where they are allowed to enter. He who controls the seed, controls the food supply **and he who controls the food supply threatens food security. And because food is so central to life, this also threatens national security**.

Are GMOs needed?

Among many studies this two international studies have shown most convincingly that GMOs are not at all needed to feed the world:

1) *Agriculture at a Crossroads: Global Report, International Assessment of Agricultural Knowledge, Science and Technology for Development* (Washington, DC, USA: Island Press; 2009). This massive study was conducted by more than 400 experts from 80 countries, and 58 governments have endorsed it.

Further, besides concluding that genetic engineering is not essential for solving the problem of hunger, it pointed out that yields of GE crops have been "highly variable," with some cases of "yield declines."

What's more, when the project's director was asked at a press conference whether GE crops were the answer to world hunger, he replied, "The simple answer is no." (Lean, G., "Exposed: The great GM crops myth," The Independent, April 20, 2008.)

2) For instance, a recent UN report that surveyed 114 farming projects in 24 African countries determined that through the adoption of organic or near-organic practices, yields increased on average by over 100%. [Hine, R., Pretty, J. and Twarog, S., "Organic agriculture and food security in Africa," New York

and Geneva: UNEP-UNCTAD Capacity-Building Task Force on Trade, Environment and Development (2008).]

Additionally, the UN Special Rapporteur on the Right to Food has pointed out: "Yields went up 214% in 44 projects in 20 countries in sub-Saharan Africa, using agro ecological farming techniques over a period of 3 to 10 years." And, he noted that this accomplishment is "far more than any GM crop has ever done." (De Schutter, Olivier, quoted in Leahy, S., "Africa: Save climate and double food production with eco-farming," IPS News, March 8, 2011.)

We have an over production of food in the world today. Approximately 11 Billion people can be fed with the food produced. **The problem lies in the distribution system – not in production.**

What are the effects of GMOs on the ecology?

If all this is not already scary enough, what is really, really the biggest worry is that once GMOs are in the environment, they will stay there forever. Also, through the wind, they cross pollinate with other conventional crops and will create very strange looking vegetables and crops, of which we will have no idea of their health hazards.

It is impossible to fully clean up our contaminated gene pool. Self-propagating GMO pollution will outlast the effects of even nuclear waste. The potential impact is huge, threatening the health of future generations – It can be a threat to the very existence of greenery as a whole. Moreover, GMO contamination has also caused economic losses for organic and non-GMO farmers, who often struggle to keep their crops pure.

Summary

1. GMOs are unhealthy.

The American Academy of Environmental Medicine (AAEM) urges doctors to prescribe non-GMO diets for all patients. They cite animal studies showing organ damage, gastrointestinal and immune system disorders, accelerated aging, and infertility. Human studies have shown how genetically modified (GM) food can leave material behind inside us, possibly causing long-term problems.

For examples: Genes inserted into GM soy can transfer into the DNA of bacteria living inside us. Also, the toxic insecticide produced by GM corn was found in the blood of pregnant women and their unborn fetuses.

Numerous health problems increased in the U.S., after GMOs were introduced in 1996. The percentage of Americans with three or more

chronic illnesses jumped from 7% to 13% in just 9 years; food allergies skyrocketed, and disorders such as autism, reproductive disorders, digestive problems, and others are on the rise.

Although there is not sufficient research to confirm that GMOs are a contributing factor, doctors groups such as the AAEM tell us not to wait before we start protecting ourselves, and especially our children who are most at risk.

The American Public Health Association and American Nurses Association are among many medical groups that condemn the use of GM bovine growth hormone in cows, because the milk from treated cows has more of the hormone IGF-1 (insulin-like growth factor 1) — which is linked to cancer.

2. GMOs contaminate—forever.

All over the world, farmers observe strange looking plants popping up in their fields. We have no control over the ways these unnatural foreign organisms react with the environment, and what will be the long standing risks.

In addition, GMO seeds are destroying Biodiversity.

3. GMOs increase herbicide use.

Having seen all these health hazards, farming hazards, etc., and on top of this, that GMOs are not needed -- Why in the world is the Government of India pushing for them?

4. Genetic engineering creates dangerous side effects.

By mixing genes from totally unrelated species, genetic engineering unleashes a host of unpredictable side effects. Moreover, irrespective of the type of genes that are inserted, the very process of creating a GM plant can result in massive collateral damage that produces new toxins, allergens, carcinogens, and nutritional deficiencies.

5. Government oversight is dangerously lax and protects only the GMO companies and not the farmers.

Most of the health and environmental risks of GMOs are ignored by governments' superficial regulations and safety assessments. The reason for this tragedy is largely political. The Genetic Engineering Approval Committee (GEAC) is nicknamed now the Genetic Engineering Appraisal Committee!

Take a look at what all has happened since the introduction of Bt cotton in 2002 in Andhra Pradesh.

The initial promised increase yield is now lower than ever before!

The use of highly toxic herbicides, including the declared cancerous Roundup, is skyrocketing and expensive.

New pests were plaguing the farmers -- by now it's the 3rd generation of Bt cotton (Bolgard III) -- and yields are declining. Now the Environmental Protection Agency has approved the use of even more poisonous combinations of pesticides (Glyophosate and 2,4-D)

Farmers have to pay royalties + high seed prices + for an increasing amount of herbicides, which is driving them into debt and more than 27,000 farmers have taken their lives.

The government is unable to help or solve the problem. The Biotech Industry controls the situation to their advantage.

6. The biotech industry uses "tobacco science" to claim product safety.

Biotech companies, like Monsanto, told us that Agent Orange, PCBs, and DDT were safe. They are now using the same type of superficial, rigged research to try and convince us that GMOs are safe.

Independent scientists, however, have caught the spin-masters red-handed, demonstrating without doubt how industry-funded research is designed to avoid finding problems, and how adverse findings are distorted or denied.

7. Independent Research and reporting is attacked and suppressed.

Scientists, who discover problems with GMOs, have been attacked, gagged, fired, threatened, and denied funding. The journal, *Nature,* acknowledged that a "large block of scientists . . . denigrate research by other legitimate scientists in a knee-jerk, partisan, emotional way that is not helpful in advancing knowledge." Attempts by media to expose problems are also often censored.

8. GMOs harm the environment.

GM crops and their associated herbicides can harm birds, insects, amphibians, marine ecosystems, and soil organisms. They reduce bio-diversity, pollute water resources, and are unsustainable.

For examples: GM crops are eliminating habitat for monarch butterflies, whose populations are down 50% in the U.S. Roundup herbicide has been shown to cause birth defects in amphibians, embryonic deaths and endocrine disruptions, and organ damage in animals, even at very low doses. GM canola has been found growing wild in North Dakota and California, threatening to pass on its herbicide tolerant genes on to weeds.

9. GMOs do not increase yields, and work against feeding a hungry world.

Whereas sustainable non-GMO agricultural methods used in developing countries have conclusively resulted in yield increases of 79% and higher, GMOs do not, on average, increase yields at all. This was evident in the Union of Concerned Scientists' 2009 report: *Failure to Yield* — the definitive study to date on GM crops and yields.

The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) report, authored by more than 400 scientists and backed by 58 governments, stated that GM crop yields were "highly variable" and in some cases, "yields declined."

The report noted: "Assessment of the technology lags behind its development, information is anecdotal and contradictory, and uncertainty about possible benefits and damage is unavoidable." They determined that the current GMOs have nothing to offer the goals of reducing hunger and poverty, improving nutrition, health and rural livelihoods, and facilitating social and environmental sustainability.

On the contrary, GMOs divert money and resources that would otherwise be spent on more safe, reliable, and appropriate technologies.

We somehow have to inform everyone we know in our circle. Information about the facts is the only thing that can bring a change. If more people know the truth, then also more government people will get to know the whole picture.

This war, we are otherwise about to lose, is a 2nd takeover of India -- This time not by the East India company but by Monsanto and its allies.

To conclude with good news from India’s friend: Russia

Russia has completely banned GMOs.
The VP of Russia's National Association for Genetic Safety, Irina Ermakova, has said:

"It is necessary to ban GMOs, to impose moratorium (on) it for 10 years.

It has been proven that not only in Russia, but also in many other countries in the world, GMOs are dangerous. Methods of obtaining the GMOs are not perfect, therefore, at this stage, all GMOs are dangerous.

Consumption and use of GMOs obtained in such way can lead to tumors, cancers and obesity among animals. Bio-technologies certainly should be developed, but GMOs should be stopped. We should stop it from spreading. "