

The Global GMO Food War against Humanity. Devastating Health and Environmental Impacts Worldwide

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After decades of rearing hogs, Danish farmer IbBorup Pedersen was alarmed at the growing incidence of malformations and biological defects among his newborn piglets. Deformities included gaps in piglets' skulls, deformed bones, missing limbs and even a female piglet with testicles. Never having witnessed such large numbers of deformed pigs before, Pedersen realized that it was after switching three years earlier to Monsanto's GMO feed—which had been grown with glyphosate—that these birth defects began to appear. Pedersen had the piglets' bodies sent to a Danish laboratory for analysis. The results were clear; there were high concentrations of Monsanto's glyphosate pesticide, commonly known as Roundup, in the piglets' organs.[1] The analyses' findings were subsequently published in a recent Journal of Environmental and Analytical Toxicology.[2]

Pedersen's experience is another blow against Monsanto's public relations campaign to convince governments, farmers and consumers that Roundup is one of the world's safest pesticides and poses no risk to animal and human health. For many years Monsanto has stood by this myth with fanatical religious fervor against all existing independent evidence to the contrary.

While there are an increasing number of studies in the scientific literature identifying the health risks associated with GMO consumption and glyphosate independently, no research has yet been conducted to assess the combined synergistic adverse effects of GMOs and pesticides in animal models and humans. The original foundation of agricultural biotechnology was to advance sales of pesticides by engineering crops to become immune to toxic spraying. While weeds and insect pests would be eradicated, targeted crop would be spared, thereby allowing farmers to spray massive amounts of chemicals on soy, corn, cotton, sugar beets and other agricultural foods without injury. This was the assumption that led to the agro-genetic revolution. Only during the past decade with more and more GM products in our diets, and more and more farm acreage being sprayed with glyphosate and other toxic pesticides and herbicides, are the long term health risks to animals, humans and the environment being more fully recognized within the scientific community.

Annual runoffs of pesticides into rivers, streams and reservoirs have complicated the extent to which humans are being exposed to life threatening chemicals on a daily basis. It was never the mission of Monsanto and the cartel of agro-chemical seed companies to increase yields and produce drought resilient crops. The evidence of higher GM crop yields was an aftereffect. However, data are now coming in from independent agro-science community showing that the years of higher GM yields are short lived and drop dramatically thereafter to levels far below those yields harvested from traditional, organic farming methods.

Glyphosate's adverse effects on Pedersen's piglets is only one example of the pesticide's health risks. In a major paper published by Earth Open Source, "GMO Myths and Truths: An Evidence-Based Examination of the Claims Made for the Safety and Efficacy of Genetically Modified Crops," Kings College molecular geneticist Michael Antoniou, molecular biologist John Fagan and GM Watch's Claire Robinson outline the known health risks now shown to be associated with glyphosate:

- DNA damage
- Premature births and miscarriages
- Birth defects including neural tube defects and anencephaly (absence of large parts of the brain and skull)
- Multiple myeloma
- Non-Hodgkin's lymphoma
- Disruption of neurobehavioral development in children, including attention deficit disorder and attention deficit hyperactivity disorder[3]

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Since the release of the study in the journal *Entropy*, a researcher at MIT and a member of the Union of Concerned Scientists have discovered that glyphosate is in fact taken up by plants from the soil and found in our food—an accusation Monsanto continues to deny. The study says that the negative impact of glyphosate accumulation "is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body." In addition to being linked with problems ranging from cancer to infertility, a connection may also be made to the rising number of adults acquiring Parkinson's Disease.[4] A couple earlier studies on individual cases found a correspondence between glyphosate exposure and the onset of Parkinson's.[5] There are now growing concerns that glyphosate consumed by mothers and infants in GM tainted foods might be giving rise to the autism epidemic that continues to worsen each year and now stands at almost 1 in 50 children.

With each passing year, the body of scientific data challenging the safety of glyphosate expands. In several peer-reviewed studies conducted by researcher Andres Carrasco of the University of Buenos Aires, glyphosate was observed to cause teratogenic impairment of neural signaling and microcephaly, leading to craniofacial malformations.[6]

In early 2014, the *International Journal of Environmental Research and Public Health* published a study linking glyphosate runoff in Sri Lanka's water systems to an epidemic rise in a fatal unknown chronic kidney disease or CKDu. Until recently scientists were unable to offer up evidence of what has been causing this new form of illness affecting the kidneys. Similar observations have been made in El Salvador and Nicaragua where more men die of CKDu than AIDS, diabetes and leukemia. However, in each regional population studied, Roundup exposure is rampant. Sri Lankan scientists hypothesize that glyphosate, originally discovered to act as a chelating chemical in 1964, takes up toxic heavy metals and binds them in the kidney without the body's detection. According to the researchers, the buildup of these heavy metals ultimately leads to kidney failure and death.[7]

In early 2014, the Ministry of Health in Cordoba, Argentina noted a dramatic rise in deaths from cancerous tumors- twice the national average. It just so happens that the elevated rates of malignancies were being reported in those regions where GM crops and toxic

agrochemicals are most readily used.[8]

GMOs' health risks to animals and humans are also being reported more frequently in the scientific literature. Corporate agro studies claiming GMOs are safe will generally rely upon a research methodology that employs a variety of so-called "reference" diets to the animals under investigation. These convoluted studies are designed intentionally to produce an abundance of data without any standard reference control group. This enables corporate scientists to conflate and distort results. This common industry practice was recently exposed by Claire Robinson at GM Watch regarding a published DuPont study on the safety of its Roundup Ready canola. Robinson points out that "poor experimental design" is intentionally utilized to cover over toxic effects.

A new study in rats conducted by Dr. Gilles-Eric Seralini at the University of Caen identified changes in gene expression in sperm cells capable of altering androgen and estrogen sex hormones. The study suggests that glyphosate may be altering human reproduction. The rate of male fertility in the US has been dropping steadily since GM foods started to saturate the average American diet. Today, according to the American Pregnancy Association, 1 out of every 6 men in couples is infertile. [9]

Another major blow against Monsanto has been the republication of Dr. Seralini's earlier paper showing a correlation between severe kidney and liver damage, advanced tumors and pre-mature death in rats fed Monsanto's NK603 maize in the peer-reviewed journal Environmental Sciences Europe. Seralini's paper has undergone more scientific review and scrutiny than any other study either proving or disproving GMO safety. With its republication, the paper should officially replace Monsanto's flawed safety study purporting the health safety of its NK603 corn.[10]

Monsanto must rely on a veil of secrecy, claiming to protect its proprietary information, in order to avoid revealing to the public its actual data about GMO safety. In the absence of credible science to engage in an honest debate with the scientific community opposing the proliferation of GMOs, the company must resort to the lowest and most vicious tactics. Attacking the integrity of scientists, launching smear campaigns against GMO labeling advocates, organic farmers, cyber attacks on anti-GMO organizations, and threats of lawsuits against state governments and media outlets advocating or even suggesting mandatory labeling are becoming more frequent. For example, supporters of GMOs have recently pressured Reuters to fire veteran journalist Carey Gillam for reporting fairly on GMOs.[11] With approximately 50% of its revenues generated from the sale of GM seeds, it is highly unlikely that Monsanto will ever admit defeat. Rather it will use whatever means necessary, except acknowledging scientific evidence, to silence its enemies. Today Monsanto is scared to death over its future. Like any psychopathological madman or Wall Street banker, it will use whatever means available to preserve and expand its revenue markets, even if it means inflicting pain, suffering and even death upon Indian and Filipino farmers, rather than acknowledge its technology is a curse to humanity and the environment.

Fortunately during the past six months there has been a dramatic turning of the tide against Monsanto and other GM seed companies. Around the world the Big Ag giant is recognized as the most dangerous, most-hated corporation on the planet. The good news is that Big Agriculture's imperial strategy for global food domination has been hit with setback after setback as national and local governments realize that genetically modified foods pose

serious dangers to human and environmental health as well as national food security. Local populations and farmers who switched to GM seeds are becoming more vocal about the failure of GM promises and want to hold these private companies accountable. Already ninety percent of UN member nations, including most of Europe, either require GM labeling or have banned GM crops. Hungary officially prohibits GMOs in its national Constitution. In Brazil, the world's largest producer of GM soy, the country's leading conglomerate of soy traders, the Association of Vegetable Oil Industries, will no longer accept Monsanto's Itacta soybeans.[12] Without having the blessing from the US government and the WTO, Monsanto's sphere of markets would dry up. Therefore, the GMO industry, in collusion with the US State Department, has had to focus its attention on Africa and South and Southeast Asia, those regions that appear to be the most susceptible to accepting GMO myths.

As nations take a step back and reconsider the threats of climate change and global warning to future food supplies, GMOs are steadily failing to hold up to their promises of higher yields and drought resistance. To the contrary, study after study lean towards the conclusion that GMO-based agriculture may be the most dismal failure since humans first started sowing seeds and harvesting crops. In June, the Guardian reported that the introduction of Monsanto's Roundup Btbrinjal eggplant into Bangladesh is facing widespread collapse, with a failure rate of four out of five farms.[13] GMO soy and corn are rapidly losing their pest resistance. Bugs and weeds are turning into mega-threats to the future of yields of staple crops, which the industrial makers of processed foods depend on. Farmers in Latin America are demanding compensation from Big AG companies such as Monsanto, DuPont, Syngenta and Dow for unexpected financial duress and being forced to purchase larger quantities of pesticides in order to sustain their harvests. In Brazil, after only three years of GM Bt cultivation, pest resistance has been observed. Similar observations are being reported in Btmaize in Puerto Rico, Brazil, Philippines, South Africa and US, and in Bt cotton in Australia, China, India and the US. Last month American scientists confirmed that rootworms destroying corn fields are no longer resistant to GMO corn.[14]

An article in India's Hindustani Times states that "There are over 500 research publications by scientists of indisputable integrity, who have no conflict of interest, that establish harmful effects of GMO crops to human, animal and plant health, and on the environment and biodiversity... On the other hand, virtually every paper supporting GM crops is by scientists who have declared conflict of interest or whose credibility and integrity can be doubted.[15] Monsanto's Bt cotton in India has been particularly disastrous to hundreds of thousands of farmers. Aside from the oft-reported epidemic of farmer suicides who fall into debt and poverty after buying into Monsanto's GM cotton—farmer suicides have now reached over 270,000—pest resistance is rampant, further weakening the natural immunity of GM plants and predisposing them to less serious pests. India is also witnessing record numbers of cattle die-offs after grazing on post-harvest cotton plants. Regions with higher proportions of Bt cotton farming are confronting grim water futures because GM agriculture requires more irrigation than traditional farming methods. Last March the Indian state of Karnataka banned Bt cotton seeds following pervasive crop failures.[16]

One of the most massive GMO failures, spanning a decade, has been the deplorable collapse of the introduction of GM corn in the Philippines. The decimation of Filipino corn farmers came to world attention following the release of the film "Ten Years of Failure" which follows the lives of farmers whose families fell into debt and poverty after the introduction of GM corn by the Philippine government in cooperation with the US government and

Monsanto.[17] Intent on avoiding a similar fate to Brazilian corn farmers, a Brazilian court banned the release of Bayer's GM corn. The ruling now establishes a new precedent that will make the approval of future GMOs in that country more difficult.[18] And China's recent rejection of GMO corn importation has agro-giants further worried as one of their largest potential markets takes a step back to reevaluate the safety and environmental impact of GMOs.

An association between the rapid demise of bee populations and the neonicotinoid class of pesticides has already been proven in the scientific literature. European nations are now banning the use of neonicotinoids to protect domestic bee and other pollinator populations. Recent studies reveal that Monsanto's Roundup herbicide is likewise contributing to the decline of honeybee populations. During the first week of August, Mexican beekeepers in the state of Yucatan won a victory to halt Monsanto's plans to plant thousands of acres of Roundup ready soybeans. After a careful review of the science, a Mexican judge ruled that GMO soy agriculture is an economic threat and incompatible with the state's honey production, home for 25,000 families involved in producing 40% of Mexico's honey exports. The ruling is having a rippling affect across other Mexican states involved in honey production.[19]

Big Ag's only response to the failures of its genetic experimentation has been to increase the development new GM seeds to compensate for the failures of the old ones. In addition to genetically engineering seeds to withstand every higher levels of pesticides, new traits are being genetically engineered to withstand other toxic chemicals. In the US, millions of acres of farmland growing GM corn, cotton and soy are experiencing invasions of super weeds resistant to over-pesticide use. As pesticide use increases, soil quality is further depleted and yield per acre drops dramatically. The economic costs to farmers are becoming unsustainable as expenditures to fight pests and weeds increase and harvests diminish. A recent trend among farmers to revert back to traditional or organic methods is gradually taking hold. This aligns well with the last UN Commission on Trade and Development report warning against corporate dominated monoculture farming methods and promoting farm diversity and small scale organic farming as the most sustainable way to feed to the world's population.[20]

Aside from glyphosate, other pesticides are being genetically engineered into new lines of GM Seeds. New varieties of GM cotton and soy are in Monsanto's pipeline and will likely pass with minimal review through the USDA and FDA. These new GM strains now include resistant genes to the pesticide dicamba. In addition to glyphosate's long list of human health risks, dicamba, a known neurotoxin, has been linked to adverse reproductive and mental development effects. Against strong public opposition, the US government will also likely approve Dow Agrosience's new Enlist corn and soy strains, a toxic cocktail of glyphosate and the herbicide 2-4 D, best known as a major toxic ingredient in Agent Orange that "has been linked to cancer, reproductive effects, neurotoxicity, kidney/liver damage and birth and developmental effects." [21] Agent Orange contamination has resulted in genetic abnormalities and the deaths of hundreds of thousands of people. Its use as a bioweapon in Vietnam, Cambodia and Laos is a sad reminder of the extremes the US willing to take at the cost of innocent lives to reach its foreign policy objectives. And now, out of desperation to preserve agro-chemical agriculture and the GM corporations revenues, the US government will resurrect one of the most toxic agrochemicals known and introduce it into America's food supply.

American acceptance of GMOs has been based upon unproven hypothesis of “substantial equivalence” for over two decades. This ruling by the USDA during the early years of the Clinton White House gave GM seed companies a free pass to avoid submitting evidence proving GM food safety. Since the ruling claims that GMOs are identical to non-GMOs no compliance of safety regulations would apply. Therefore Big Ag firms do not have to worry over strict regulatory hurdles, which otherwise apply to other products such as pharmaceutical drugs, processed foods, pesticides, cosmetics and chemical additives. However, a recent flurry of research is now showing “substantial equivalence” is patently false. Alexandria University in Egypt, the Permaculture Research Institute and the Norwegian Center for Biosafety each found GMO crops to be fundamentally different to their natural counterpart. In addition, new studies are also showing that nutrient levels in traditional and organically raised crops are substantially higher than GM varieties.

Aside from the scientific evidence and popular blowback condemning GMOs, the agro-chemical industry is facing other challenges. If the US government is unable to assume a leading role in the endeavor to save American agriculture from a major systemic collapse, nor support the agricultural sustainability and food security in other regions of the world, perhaps other nations will.

In recent months, Russia has assumed an international leadership role to confront the remaining uncertainties in the debate over GMO safety. Russia has already placed a 3-year moratorium ban on GMO imports. Prime Minister Medvedev is on record stating that Russia can be “self sufficient” with only organic farming. The government is now requesting the UN General Assembly to create an international GMO watchdog organization to monitor Big Agriculture’s activities to influence other nations to accept GM seeds and support independent research into the long term impacts of GMOs. Unlike the US, the Russian government values the voice of its people with over 75% of Russians preferring organic produce.[22] On the other hand, over 90% of Americans support GMO-labeling, yet Washington prefers to protect corporate interests.

However, the most important initiative Russia plans to undertake is the creation of an international and independent team of researchers from the US, UK, France, China and Russia to conduct long term studies to determine once and for all GMO risks to human health, and whether or not GMO crops might be used as genetically engineered bioweapons to destroy ecosystems and threaten the lives of populations. The project is being launched by a Russian NGO, Genetic Safety Public Association, after it noted that a 2004 meeting of the NATO Committee on the Challenges to Modern Society discussed the topic of GMOs’ potential use as “genetic weapons.” If properly funded, this would be the most thorough international effort, without support from Big Ag corporations, to provide transparent, publicly available data to settle the question over GM safety.[23]

In conclusion, the good news is that GMO propaganda is increasingly being exposed as fallacious. As time passes, more and more research will inevitably emerge to further damn Monsanto and the GM experiment. It is only a matter of time before the false promises of GMOs will be exposed as orchestrated by Big Ag and the US government to control the world’s food supply.

This is not to suggest that GM foods will disappear. Rather we can expect an increase in a new volley of propaganda coming from private industry and the US government tclaiming

GM industrial agriculture is an urgent solution to combat climate change and global warming, a global threat worrying national economies throughout the world. We can expect to hear more scientific denialism and junk science promulgated by the White House, the small gangs of scientific determinists funded by Big Ag and the pharmaceutical industry, and major media presstitutes. We can expect to hear ever wilder and more irrational claims about how GMO-based agriculture might reduce CO2 greenhouse pollution and save humanity. In fact this was Secretary of State John Kerry's recent drivel at the US-African Leaders Summit in early August, urging African nations to "concentrate on existing farmlands to make them more productive" rather than expanding and developing new lands for agriculture. Kerry, who has repeatedly proven to be a worthy successor to Monsanto's former mouthpiece Hillary Clinton, frequently regurgitates Monsanto propaganda during his foreign policy circus roadshows. And expect new trade agreements, written by corporations such as Monsanto to be rammed through the international community by the US and its allies that espouse the Washington Consensus to enforce international acceptance of GMOs.

In short, out of desperation to reach global food dominance, the agro-chemical industry and the US government will be declaring a full food war against the peoples of the world.

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