



**Foxes Guarding the Hen House:
Big Business, Lax Regulation and the Case Against GMOs**

Prepared by the Alliance for Progressive Values

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Access to pure, unadulterated food, along with clean air and water is perhaps the single most important necessity for sustaining the quality of human life. Throughout the United States and across much of the developing world the spread of and growing reliance on privately owned, internationally patented, genetically modified organisms in the food supply may be endangering that quality of life. The increasing presence of GMOs in our food and consequently in the natural environment *and* of course in the bodies of those who consume them is raising serious concerns. In many parts of the world including Japan and the European Union, GMO crops and the foods they produce have been rejected at both consumer and governmental levels. In the scientific community, where the complex interactions occurring at the molecular level in the process of creating these life forms are still not fully understood, alarms have been sounding ever since their introduction in the early 1990s. Today, despite industry claims to the contrary, a large and growing body of evidence suggests our head long rush toward artificial, laboratory-manipulated foodstuffs may be leading to illness and other health problems for significant segments of the population. Meanwhile, the responsibility for the potentially harmful, unintended consequences from releasing these untested or barely tested organisms into the environment has been largely left to the corporations that profit most from their unregulated use.

At the same time as the dramatic escalation in use of genetically engineered materials has given rise to concern on a scientific basis, the parallel, and integrally connected emergence of large, multinational corporate groups (many of which are, not coincidentally in the GMO business) has dramatically raised the stakes at the national and international economic level. These large corporate interests are increasingly coming to dominate and control our access to food, not merely at the points of production, distribution and sale, which is disturbing enough, but by seeking to own the very germinal essence of life itself for the purposes of private profit. This unprecedented confluence of wealth and science -- political power and international trade are leading to dangerous outcomes around the world and here in the United States, where the very institutions that have been set up to regulate and control these industries increasingly appear to have fallen under their influence.

This paper will examine some of the issues surrounding GMOs: Their effects on the environment, their claims to alleviate hunger through greater crop yields, their long term effects on human and animal populations and the unhealthy influence on government agencies exerted by the concentration of wealth and power in the hands of a few clusters of multinational agribusiness companies.

First, let's look at the science behind the modern production of genetically altered food for commercial sale.

What is a Genetically Modified Organism?

The World Health Organization defines GMOs as:

“...organisms in which the genetic material (DNA) has been altered in a way that does not occur naturally. The technology is often called “modern biotechnology” or “gene technology”, sometimes also “recombinant DNA technology” or “genetic engineering”. It allows selected individual genes to be transferred from one organism into another, also between non-related species.”

Because genetically-modified can also refer to modification created through traditional methods of selective breeding, it can be more specific to refer to food or plants created with this technology as biotech food/plants or gene-spliced food/plants, and the seeds involved as genetically engineered seed (GES). Gene-spliced foods first entered the American diet in the 1990s. **Today, up to 70% of processed food in the US may contain genetically modified ingredientsⁱⁱ.**

In 2009, the US led the world in biotech crop production; 64 million hectares of the world's 134 million hectares of biotech crops were in the USⁱⁱⁱ. In contrast to countries in the EU, the US has allowed GMO products to be distributed without first soliciting public debate on their risks versus their benefits.

Background: How gene splicing works, application in agribusiness and lack of testing

Gene splicing refers to a procedure where genetic material from one organism is isolated, removed, and inserted into another organism. Generally, genes for a desired trait are combined with other genetic material that ensures the desired trait will be promoted in the target plant or animal. Genes may be spliced from plant to animal or animal to plant, from bacteria to plant, and so on^{iv}. For example, Monsanto's Bt corn has been spliced so that each of the plant's cells carries a gene from *Bacillus thuringiensis*, an insecticidal bacterium that occurs naturally in the soil. In this case, the presence of this gene ensures that the corn itself becomes an insecticide, and any corn borer that eats it will die^v. In contrast, Monsanto's Roundup Ready® seeds have been genetically engineered (generally with a mixture of material from agrobacterium, petunias, and e. coli) so that Roundup® herbicides can be sprayed on the plants without killing them^{vi}.

Proponents of GMO foods claim that genetically modifying plants is not new, that the history of agriculture and animal husbandry is a history of selective breeding

in which people have always bred plants and animals to encourage particular traits, even creating new species^{vii}. This **misrepresents the vast difference between traditional methods of selective breeding and the new gene splicing technology**. Biotechnology creates new forms of life that nature cannot. It mixes genes from different species-- and even kingdoms-- that could not cross-breed in nature. Furthermore, as we learn more about the science of genetics we are coming to understand that individual genes often have more than one trait associated with them. Some of these traits may be recessive or lay dormant in the original organism but could behave or recombine in unexpected ways in the offspring of the new hybrid. Nature has ways of isolating genetic abnormalities, but genetic engineering can dramatically leap these boundaries. The long-term effects of such experiments cannot always be predicted and when short-term profit becomes the overarching motivation, there is clearly cause for concern.

Genetically-engineered crops have been released into the food supply and the environment without sufficient independent scientific assessment of their impact on human health and the environment. As of 2011, there is no agreement about which tests to use for biotech/GMO risk assessment^{viii} and tests for assessing their genetic stability are still being developed.^{ix} Tests for detecting the presence of genetic engineering in plants and in processed foods are not yet standardized, and yield a range of results.^x

Most seriously, there is a lack of studies that assess the long-term human impact of ingesting biotech foods, and a lack of studies that assess the impact of GMOs on the environment. Studies that have been conducted have been too brief, and many have tested the effect of one gene on health, rather than testing the effect of ingesting an entire gene-spliced organism. **The studies that do exist offer disturbing results** (see Health Risks).

At stake is the well-being and autonomy of people who grow, process, sell, buy, and consume the products, and also the well-being of the environment^{xi}. Potential problems with gene-spliced foods fall into many areas; at risk are human health, environmental balance, and sustainability of the global food supply^{xii}. Health risks include “unforeseen mutations, allergens or carcinogens, transference of disease resistance,”^{xiii} social impacts include adverse economic impacts and loss of farmers’ autonomy, and environmental risks include damage to soil, other organisms, and **potentially irreversible environmental damage** .^{xiv}

Environmental Effects

Soil: Farmers have understood for years that crops have an impact on the soil in which they are planted. The impact of genetically-spliced plants on the soil has not been completely assessed, although early studies have shown “changes in the abundance, metabolic functions and diversity of bacterial, fungal and invertebrate flora in the rhizosphere of engineered plants ... However, very few

studies have investigated the full range of longer-term implications of GMOs on soil organisms and biochemical processes of soil^{xv}.

Contamination/escape into the wild:

Pollen drifts where the wind takes it. It's how nature designed it to work, and in fact it works very well. There is no way to ensure that pollen from GMO crops does not drift into non-GMO fields, contaminating the regular seeds with GMO genes. In addition to infiltrating the non-GMO food supply, pollen drift can also put other organisms at risk; for example, Bt corn (corn to which genetic material from the bacterium *bacillus thuringiensis* has been added) produces pollen that could pose risks to butterfly populations^{xvi}. The proposed introduction of so called "terminator" genes that render the plants produced from GMO seeds sterile could pose a serious threat to the ecosystem if they were to jump to wild varieties or even cross species. GMO plants already have escaped into the wild, yet to date, there are **no** studies of the potential environmental impact of these plants.

Loss of Genetic diversity/ Monoculture:

Loss of genetic diversity is dangerous. History reveals many cases when over-dependence on one variety of a crop has led to disaster. The Irish potato famine and the French wine blight of the mid-1800's, the US chestnut blight of the early 1900's and the corn blight of the 1970's all show the need for genetic diversity to protect against pests and disease. As more farmers use fewer varieties of crops (Today, for instance only four varieties of potatoes are widely grown in the United States), and as crops become more vulnerable to insect and disease attacks, farmers have begun to rely even more heavily on chemical pesticides and fungicides.^{xvii} There is growing evidence that it is at best wishful thinking, and at worst intentionally misleading to believe that GMO and non-GMO crop strains can be kept separate in the commercial or natural environment. For instance, in 2001 genetically engineered corn was discovered near the Mexican city of Oaxaca, contaminating what is known as one of the most genetically diverse corn crops on the planet. Because of the free trade policies associated with NAFTA, the GE plants managed to infiltrate the area even though growing GE corn previously was banned in Mexico^{xviii}.

Retention in the environment:

Genetically engineered Roundup Ready® crops were designed to be sprayed heavily with Roundup® herbicide. Monsanto has claimed that Roundup® is biodegradable. Recent studies in multiple agricultural areas of Mississippi and Iowa found glyphosate, the active ingredient in Roundup®, in 60%-100% of weekly air and rain samples^{xix}. Glyphosate has been shown to have a negative impact on plant growth and crop yield.^{xx}

Pesticide resistance:

The sustainability of GMO crops is also in question. Crops such as Bt corn, which are developed to control pests, will become useless once pests develop resistance to the toxins introduced into the plants^{xxi}. And this is not conjecture, an article in the September 10th 2011 [Austin Post-Bulletin](#) highlights the growing concern about the corn rootworm, which appears to be adapting to Bt corn. Weeds across the nation are becoming resistant to Roundup®. From horseweed in Delaware, to waterhemp in Iowa and Missouri, to giant ragweed in the Eastern Corn Belt, to pigweed in Georgia, super-weeds have infested almost half the states in the nation.

Health Risks

Studies have shown health risks associated with the use of GMOs, and animal studies show a definite causal link between GMOs and illness in the areas of “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... toxicology, allergy and immune function, reproductive health, and metabolic, physiologic and genetic health”^{xxii}. GMO plants contain more pesticide residues^{xxiii} that have been linked to Non-Hodgkin Lymphoma.^{xxiv}

These results are from animal studies; even with the result above, **there have not been enough studies of the long-term effects of GMOs in animals**. Thorough tests on the impacts of GMOs on human health are notable for their paucity. It is also troubling that many of the studies on health impacts have tested the impact of isolated chemicals rather than the impact of ingestion of the whole plant^{xxv}. In contrast to these early limited studies, Finamore et al. testing ingestion of the whole plant, found significant and harmful differences in mice that ingested biomechanically altered plants. Malatesta et al. found ingestion of GMO plants led to change in the livers of mice. Kilic and Aday found that GM plants changed liver and kidney function in rats, although they did not detect immediate health problems from these changes ^{xxvi}.

Alleged GMO Benefits Debunked

Proponents of bioengineered foods claim that the benefits of GMOs include an “increase in crop yields and plant nutritional value which provide prospects for alleviating world hunger and for ‘enhancing’ human health.”^{xxvii} Additionally, they claim that:

“Technology, informed by modern scientific knowledge, provides a unique possibility for solving major world problems like hunger and malnutrition...”

“There are great benefits to be had from the use of transgenics in agriculture now, and they will be greatly expanded with future developments, which promise transgenic crops with enhanced nourishing qualities that may readily be grown by poor “third world” farmers....”

“The transgenic crops that are currently being planted, harvested, processed and consumed, and those anticipated, occasion no known or foreseeable risks to human health and the environment, that cannot be adequately managed under responsibly designed regulations.”

“Widespread use of transgenics in agriculture is necessary to ensure that the world’s expected population in the coming decades can be adequately fed and nourished; there are no other ways that are informed by the soundly accepted results of scientific investigation that can be counted on to produce (or even to play a significant role in producing) the necessary food.”^{xxviii}

These claims have proved hollow. Most gene-splicing technology has focused on making plants herbicide resistant; some technology has sought to improve disease resistance. **Very little to no progress has been made on improving crop yield through gene splicing**, although—ironically—natural methods (not biotech) have increased crop yields recently^{xxix}. **At least twelve studies attack and disprove the claim that biotechnology has led to higher crop yields^{xxx}.** Golden Rice, a crop engineered to produce higher levels of vitamin A (beta carotene), was introduced with much fanfare by proponents of GMOs, but the rice appears to be hard to grow, and the small amount of vitamin A it produces is not in a form easily absorbed by the malnourished^{xxxi}.

Proponents of GMO foods argue that because biotechnical GMO takes place in a lab, it is more easily controlled^{xxii}. In reality, **gene splicing is not easily controlled; science has not yet developed a method of inserting genetic material into the exact place in a gene sequence every time.** When biotech was pioneered, scientists had a much less complex view of how genes work; now we know that one gene can express itself in a variety of unpredictable ways, depending on its environment.

Resistance to gene-spliced foods is often characterized as a neo-Luddite fear of new technology, when actually, opponents of GMOs generally are asking for more rigorous scientific study of this new technology.

Even as the claims of increased crop yields have failed to materialize, the economic effects on subsistence farmers in developing countries have been exasperated by a financial model built on the proprietary control of seeds by large multinationals and the necessity of expensive subsidiary products like

pesticides and fertilizers that these farmers can't afford but must have to grow the GMO crops. More and more small-hold farmers are being forced into debt and off their land, either into the growing slums and Favelas around cities like Lagos and Mumbai, or in extreme cases, to suicide.

Government and Industry structure

Genetically-engineered foods have been rushed into the marketplace without enough assessment of risks largely because of the consolidation and power of the food industry combined with the failure of the government's regulatory model.

Structure of the Food Industry

The development of gene-spliced foods has coincided with structural changes across the food industry. There has been a great concentration in food processing across all industries-- in meat, poultry, dairy and grain processing—over the last four decades.^{xxiii} Many areas, such as the production of corn and soybeans, are no longer competitive, with the four largest agricultural firms controlling from 65-82% of the market of these crops. This concentration has occurred horizontally and vertically, so that often, large corporations control large segments of the market, and also control multiple stages in the food chain. Groups of companies have begun to work together in “clusters” through both formal and informal arrangements to control all levels of the food chain. In one example, “Cargill and Monsanto form a cluster, with Monsanto providing genetic material and seeds, and Cargill involved in grain collection and processing, and meat production and processing. Kroger, the largest supermarket chain in the US, is linked to this cluster through an agreement with Cargill to receive case-ready meat.”^{xxiv} Such concentration limits the freedom of farmers to opt out of phases in the food chains controlled by these clusters, and can lock them into buying seeds from the six multi-national corporations that control GMOs worldwide. This concentration also means that the large multinational corporations resulting from this concentration hold considerable lobbying power.

Government regulation

Because GMOs are plants with environmental impacts and also part of the food supply, they can potentially be regulated by multiple Federal agencies: The US Food and Drug Administration (FDA), which is part of the Department of Health and Human Services (HHS), the US Department of Agriculture (USDA), and the Environmental Protection Agency (EPA).

The EPA evaluates whether new plants are safe for the environment, the FDA evaluates whether they are safe to use in food, and the USDA evaluates their safety as plants. The EPA will have jurisdiction if a GMO is modified with a pesticide or herbicide.

The FDA has jurisdiction over processed foods but not whole foods^{[xxxv](#)}, and is charged with “Protecting the public health by assuring that foods are safe, wholesome, sanitary and properly labeled.” The FDA also regulates drugs and medical devices, and is supposed to make sure the public has access to scientific information about foods, drugs, and medical devices^{[xxxvi](#)}. **The agency’s policy to date on GMOs is that they are not distinct enough from unaltered food to come under FDA regulation. This claim is unsupportable;** if GMO plants are distinct enough that they can be patented, they are by definition **different** from unaltered foods. In 1992, at the dawn of the GMO era and at a time when there had been virtually no scientific inquiries into this new technology, the FDA declared that genetically-engineered foods were “**Generally Recognized as Safe (GRAS)**,” a category that means they do not need to be tested or evaluated, and no labels need to appear on foods containing biotech plants. The GRAS designation is generally reserved for items that have undergone significant research and that are not controversial^{[xxxvii](#)}.

Organizations such as the Alliance for Bio-Integrity, using lawsuits and Freedom of Information Act requests, have discovered that many scientists—both independent and government-employed—expressed reservations about GMOs to regulatory agencies before GMOs were approved for human consumption in the US. These concerns were largely ignored, even though science was on the side of caution, because the USDA, FDA and EPA are existing in a state of regulatory capture; that is, they have been taken over by partisans beholden to the very entities they are supposed to be regulating.

It is perhaps no coincidence that the regulators who make such decisions most often come from the same industries that seek ever to escape or minimize regulation. There can be little doubt that for many decades a revolving door has existed through which industry insiders pass in and out of government. Still, the connections between agribusiness and the government agencies tasked with overseeing it is startling to say the least and they cross party lines and administrations almost indiscriminately. For example, a very abbreviated list of significant individuals who have served in both agriculturally related government agencies and the industries they regulate is telling. And this of course does not reflect the many lower level scientists and administrators who also cross back and forth between the private and public sectors with regularity.

Michael Taylor: Deputy Commissioner for Food Safety, FDA under George W. Bush and Barack Obama, where he wrote labeling guidelines for Monsanto’s rGBH. Lobbyist at King and Spalding, where he acted as Monsanto’s senior counsel. **Margaret Miller:** former supervisor at Monsanto, wrote a report recommending approval of rBGH (bovine growth hormone) while at Monsanto, took a job at the FDA and un-ironically, approved her own report. **Roger N. Beachy:** Researcher at Washington University and discoverer of (coat protein-mediated resistance - CPMyR) recently named Director of the National Institute

of Food and Agriculture (NIFA), an agency of the USDA (US Dept of Agriculture). **Robert E. Brackett:** Director of the FDA's Center for Food Safety and Applied Nutrition (CFSAN); left to become the senior vice president and chief science and regulatory affairs officer at the Grocery Manufacturers Association (GMA). **Charles F. (Chuck) Conner:** President of the National Council of Farmer Cooperatives, former US Deputy Secretary of Agriculture (briefly Acting Secretary), and prior to that was president of the Corn Refiners Association. **Islam Siddiqui:** Chief Agricultural Negotiator in the USTR (Office of the United States Trade Representative); former Vice President for Science and Regulatory Affairs at the America, biotech firm, CropLife. **Linda Fisher:** Executive V.P Monsanto & Deputy Administrator at the EPA [in her career she has been back and forth between Monsanto and the EPA three times]. Associate Supreme Court Justice **Clarence Thomas:** former council to Monsanto. **Mickey Kantor:** Board of Directors Monsanto & former United States Trade Representative and Secretary of Commerce in the Clinton Administration. **Linda Watrud:** Biotech Researcher & EPA Researcher. **Anne Veneman:** Board of Directors Calgene & former Secretary of Agriculture. **Michael Friedman:** Senior VP G.D. Searle & interim Commissioner of the FDA under George W. Bush. **William Ruckleshaos:** Monsanto Board Member & former Chief Administrator EPA. **John Ashcroft:** Recipient of Monsanto's largest campaign contribution in the 2000 election & former United States Attorney General. **Donald Rumsfeld:** former President G.D. Searle [Monsanto Affiliate] & former U.S Secretary of Defense.

While particular individuals may be honorable and their service virtuous, the ongoing corporate "capture" of government agencies that has been a hallmark of recent decades has lead to mistrust and fueled the growing suspicion that indeed the ***foxes are guarding the national hen house***, so to speak. While corporate insiders are free to manipulate the levers of power for good or ill, Congress has often seemed loathe to exercise its oversight role, often allowing corporate lobbyists to write legislation and craft regulation. The recent *Citizens United* ruling can only serve to exasperate the situation as large multinationals and other vested interests inject more and more money into the election process.

Reaction from farmers and the public

Farmer reactions

Some farmers have expressed concerns about the environmental and social risks inherent in GMOs; others have embraced the promise of higher crop yields and converted to using GMO seed. But use of GMO seed can expose farmers to financial risks, since they cannot be exported to many countries, and since even in the US, some corporations will not buy GMO products^{xxxviii}. Often small farmers find themselves trapped in the middle of the commercial food chain. On one side are the seed, pesticides and fertilizer companies, the fuel suppliers and farm

machinery dealers and of course the banks. On the other, processors, railroads, grain companies, restaurants, grocers and packers. Each link in this chain is becoming more and more centralized with fewer and fewer corporations in control of more and more of the process. Large corporations can extract greater overall profits by applying pressure on individual segments through economies of scale, but this only squeezes small farmers' profit margin tighter. Because of the increased cost associated with them, the promise of GMO crops has largely gone unfulfilled in terms of making production more economical for actual farmers.

GMO seeds can be (and usually are) patented. When they are patented, farmers can use them only by renting or buying a license for use along with the seed. Generally such seeds are much more expensive than other seeds, to cover the costs of their development. Farmers are supposed to recoup the extra price by saving on pesticides and achieving larger yields, or by saving on labor. Studies suggest that the overall economic impact of adopting GMO seeds is actually ambiguous; savings in herbicide are offset by the price premiums on patented seeds^{xxxix}. Worse, once farmers climb onto or inadvertently end up on the GMO train, it's hard to get off. Their land will almost certainly be contaminated with traces of proprietary genetic material, leaving them open for aggressive litigation from companies like Monsanto, and perversely the courts have put the onus on farmers to keep patented seeds out of their fields.

Monsanto's lawsuits against farmers have become so notorious that recently in New York, a group of 33 conventional and organic farmers and 14 seed producers along with 36 agriculture and food safety organizations (representing over 270,000 members) has filed a pre-emptive lawsuit against the corporation so that they can protect themselves if their seed supplies ever become contaminated with Monsanto's transgenic seeds. The lawsuit, *Organic Seed Growers & Trade Association, et al. v. Monsanto*, goes beyond seeking to prevent Monsanto from suing the plaintiffs should their crops ever become contaminated with transgenic seed; it also claims that Monsanto's patents on the seeds are invalid.

Public Opinion

Despite the fact that the majority of comments the FDA received on the topic in 1992, 1993 and 1999 requested that the agency require labeling of genetically engineered food, the agency in 2001 affirmed its earlier stance, stating that the comments did not identify any proven hazards associated with the products^{xl}. In other words, rather than asking for long-term studies that establish the safety of using bioengineered foods, it has accepted the industry's claim that the absence of proof of negative results is a positive endorsement of GMOs rather than a sign that not enough studies have been conducted.

Solutions

The risks of rushing forward with the adoption of GMOs are high; the rewards are negligible thus far. Clearly there is a need for changes in US policy on GMOs. First, and at a minimum:

- **The FDA needs to adopt a policy requiring labeling of all GMO products.** In 2011 the United Nations (160 countries including the United states), affirmed that the mandatory labeling of GE products was legitimate and did not constitute a restraint of trade under the WTO. Consumers have a right to know what is in the food they eat and feed to their families. Labeling will also provide a much needed trail of evidence for researchers looking into emerging medical conditions such as the recent, geometric growth in allergies and auto-immune disorders.
- **GMO products need to be subjected to more rigorous independent testing and evaluation before they are released into the environment.** These tests should also focus on consumption of the whole organism not merely individual genes. At the moment industry has almost complete control of the testing process, volunteering or not as they see fit to test their products. Furthermore, it is well past time to reevaluate the GRAS designation for GMOs. Sadly the university system that once provided a strong corrective has fallen largely under the sway of corporate agribusiness through remunerative grants and partnerships that emphasize secrecy and proprietary knowledge over the public interest. We need strong independent testing structures whose results we as consumers can trust.
- Stronger laws need to be made that **curtail the ability of industry players from serving in agencies that oversee their former employers, and agency personnel who leave government must be prevented from immediately re-emerging to lobby for the self same corporations they once regulated.** One obvious way to keep strong public service employees at their jobs and slow the brain drain that has the best and the brightest following more lucrative private dollars, would be to pay public workers at a level commensurate with industry.
- **The responsible regulatory agencies need to enforce the regulations already on the books.** To do this they need to be fully funded and staffed by Congress, who must once again take its oversight role as guardians of the people's trust, not the welfare of multinational corporate interests, seriously.
- Broadly speaking, **we need to rethink the way the food supply works in this country and around the world.** We should look hard at breaking

up the large monopolistic food cartels and support a more decentralized, sustainable agricultural model that serves farmers and consumers first and speculators and middlemen last.

These changes should be adopted as one aspect of more sweeping **comprehensive regulatory reform** of the food supply in the US, including **factory farming**, and the restriction of the designation of “organic” to actual **organic foods**. There also needs to be better education of US citizens and consumers about the presence of GMOs in the food supply and the risks inherent in their use.

This debate has been defined narrowly as a scientific debate, meaning first that the political and ethical implications of GMOs are often ignored, second, that risks and benefits are translated to quantitative financial risks and gains rather than risks to the quality of human life and the sustainability of the environment, and third, that objections to GMOs are characterized as scientific illiteracy or technology phobia (Anderson, 2004), as if understanding the science behind GMOs automatically will lead citizens and consumers to approve of it^{xlii}. The debate needs to be expanded. At its heart, this is a debate about our quality of life and about the fundamental rights of citizens to control their own destiny-- at the minimum, to decide which risks they wish to hazard--this is a debate about the right to a sustainable future^{xliii}. This is a birthright, and should be understood as such.

While the situation can appear dire, the Alliance for Progressive Values believes that there are concrete measures that can be taken to protect the integrity of the food we eat, sustain small farmers and the environment and bolster public health. It is not too late for us to act, but we must act now before our birthright and the natural world itself become a wholly owned subsidiary to be bought and sold on a none too open market.

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Endnotes

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xliiAnderson 2004 p. 159