



## Jul 2011 Green Mission News

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### External Article Links:

#### - What is "Extended Producer Responsibility" ?

<http://www.calpsc.org/solution/docs/Q-A%20Final.pdf>

#### - Michael Pollan: The omnivore's next dilemma

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#### - Supervalu Aims for Zero Waste at 40 Stores

SustainableBusiness.com

Supervalu Inc. (NYSE: SVU) and its Albertsons brand of grocery stores announced plans to transition 40 stores to zero waste operations by the end of February 2012. The commitment comes as part of Supervalu's 2011 Corporate Social Responsibility (CSR).

[Go to article.](#)

#### - In.gredients Wants to Be the First Packaging Company and Waste-Free Grocery Store

Fast Company

In an industry littered with excess packaging, it sounds like an impossible goal: in.gredients, a startup out of Austin, Texas, wants to create the first zero-waste, packaging-free grocery store in the US. Can this ever work? ...

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#### - BPA-exposed male deer mice less macho and more likely to get lost

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#### - Factory farms-the only way to 'feed-the-world'

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#### - The path to healthy eating requires more whole, plant-based foods

<http://www.mauinews.com/page/content.detail/id/550124/Nature-knows-best.html?nav=12>

#### - Urban Agriculture in Seattle: Policy & Barriers

<http://www.chicagofoodpolicy.org/Urban%20Agriculture%20in%20Seattle%20Policy%20and%20Barriers.pdf>

**- Factory Produces 100 Times More Waste than the Entire US Population Combined**

<http://naturalsociety.com/factory-farms-produce-100-times-more-waste-than-us-population/>

**- EU published “Roadmap for Moving to a Competitive Low-Carbon Economy by 2050”**

[http://ec.europa.eu/clima/policies/roadmap/index\\_en.htm](http://ec.europa.eu/clima/policies/roadmap/index_en.htm)

**- GMO Crops Farmer to Farmer (23 minutes)**

<http://gmcropsfarmertofarmer.com/film.html>

**- Recycling a bottle, flashmob style! [2 minutes]**

[http://www.youtube.com/watch?feature=player\\_embedded&v=GYnd5JRu86E#at=11](http://www.youtube.com/watch?feature=player_embedded&v=GYnd5JRu86E#at=11)

**- Burning landfill methane for energy a bad idea, environment chief says: Gas still escapes into atmosphere.**

By Lee Greenberg, Ottawa Citizen June 1, 2011. Full report at:

<http://www.eco.on.ca/uploads/Reports%20-%20GHG/2011/11GHG.pdf>,

## **Full Length Articles Below:**

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### **Annual Greenhouse Gas Progress Report 2011**

<http://www.eco.on.ca/uploads/Reports%20-%20GHG/2011/11GHG.pdf>

*Excerpted from pp. 11-16 and 53-61 (Burning landfill methane for energy a bad idea...):*

Landfills in the province are releasing far more dangerous methane gases than officials once thought, Ontario's Environmental Commissioner said Tuesday.

Gord Miller says landfills like the Trail Road site where the majority of Ottawa's trash is sent should not be used to produce electricity.

The city produces about five megawatts of electricity by harnessing methane at the site, enough to power 5,000 homes. But, an unknown amount of methane is seeping into the

atmosphere during that process. Experts now wonder whether the risk to the environment might outweigh the benefits of creating energy.

As a greenhouse gas, methane is about 75 times more powerful than carbon dioxide in the first 20 years of its existence.

"Landfill sites are inherently leaky," Miller said in an interview. "And when you try to run them to encourage the production of methane, a lot escapes. So what we're saying is the process of using landfill sites as your digesters (to create electricity) is faulty, because a tremendous amount of methane escapes and that is a powerful short-term greenhouse gas."

Ironically, Ottawa was ahead of the curve when it began converting methane into electricity in 2007, according to Marilyn Journeaux, the city's manager of solid waste services.

The city does not know how much of the potent gas is escaping into the atmosphere.

"It's very difficult to quantify," she says. "I don't think you can be any more aggressive at capturing that gas than the City of Ottawa is at the Trail Road landfill."

Underlying the problem is the failure of waste diversion efforts. Methane is caused by organic waste such as discarded food scraps, paper, textiles and yard trimmings that find their way into landfills.

The province has failed to meet its target of diverting 60 per cent of solid waste from landfill sites. As of the last measurement, in 2009, only 22 per cent of waste is being diverted provincially.

That number is currently closer to 44 per cent in Ottawa, says Journeaux.

Miller says Ottawa and other municipalities that are using methane to create electricity may be better off leaving the landfill alone. Methane would still be produced, he says, but at a much lower rate and over a longer time.

"Going forward, there's evidence to suggest we clearly shouldn't be doing this," said Miller. "We should be segregating organics and keeping them out of the landfill."

The aim of Ottawa's greenbin program is to keep new organics, at least, from going into the Trail Road site.

The methane issue is one of a number covered in Miller's annual report, which criticizes the Liberal government for not doing enough to meet its greenhouse-gas reduction targets.

Meanwhile, Miller believes toll roads are the best way to tackle traffic congestion in the province. He wants stricter land-use planning to curb urban sprawl and more public-transit options.

Motor vehicles are responsible for roughly a third of all greenhouse-gas emissions. Miller lamented the disappearance of government incentives for fuel-efficient vehicles and urged the province to examine the potential of carbon capture and storage.

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*Published on Wednesday, June 1, 2011 by [the Huffington Post](#)*

## **Humans May Have Loaded the Bases, but Nature Bats Last**

by [David Suzuki](#)

Humanity is facing a challenge unlike any we've ever had to confront. We are in an unprecedented period of change. Exponential growth is causing an already huge human population to double in shorter and shorter time periods.

When I was born in 1936, just over two billion people lived on the planet. It's astounding that the population has increased more than threefold within my lifetime. That staggering growth has been accompanied by even steeper increases in technological innovation, consumption, and a global economy that exploits the entire planet as a source of raw materials and a dumping ground for toxic emissions and waste.

We have become a new kind of biological force that is altering the physical, chemical, and biological properties of the planet on a geological scale. Indeed, Nobel Prize-winning chemist Paul Crutzen has suggested that the current geologic period should be called the Anthropocene Epoch to reflect our new status as a global force -- and a lot of scientists agree.

As noted in a recent *Economist* article, "[Welcome to the Anthropocene](#)," we are altering the Earth's carbon cycle, which leads to climate change, and we have sped up by more than 150 percent the nitrogen cycle, which has led to acid rain, ozone depletion, and coastal dead zones, among other impacts. We have also replaced wilderness with farms and cities, which has had a huge impact on biodiversity.

On top of that, according to the *Economist*, a "single engineering project, the Syncrude mine in the Athabasca tar sands, involves moving 30 billion tonnes of earth -- twice the amount of sediment that flows down all the rivers in the world in a year." As for those global sediment flows, the article goes on to point out that they have been cut by nearly a fifth, eroding the Earth's deltas "faster than they can be replenished," thanks to the almost 50,000 large dams built in the world over the past half-century.

We now occupy every continent and are exploring every nook and cranny of the Earth for new resources. The collective ecological impact of humanity far exceeds the planet's capacity to sustain us at this level of activity indefinitely. Studies suggest it now takes 1.3 years for nature to restore what humanity removes of its renewable resources in a year, and this deficit spending has been going on since the 1980s.

For the first time in human history, we have to respond as a single species to crises of our own making. Until now, this kind of unified effort only happened in science fiction when space aliens invaded Earth. In those stories, world leaders overcame human divisions to work together against the common enemy.

Now, as [comic strip character Pogo said](#) in the '70s (appropriately, on a poster created for Earth Day): "We have met the enemy and he is us." Humans have long been able to affect the environment, but never before on such a scale. In the past, even people with primitive tools and weapons had impacts on local flora and fauna, as [Tim Flannery](#) outlined in [The Future Eaters](#), and Jared Diamond described in [Collapse](#). Diminishing resources forced people to come to grips with the need to sustain their resources or to move in search of new opportunities.

The only way to come to grips with the crises and find solutions is to understand that we are biological creatures, with an absolute need for clean air, clean water, clean food and soil, clean energy, and biodiversity. Capitalism, communism, democracy, free enterprise, corporations, economies, and markets do not alter those basic needs. After all, those are human constructs, not forces of nature. Similarly, the borders we throw up around our property, cities, states, and countries mean nothing to nature.

All the hopes that meetings such as the Earth Summit in Rio de Janeiro in 1992, and the climate conferences in Kyoto in 1997, Copenhagen in 2009, and Cancun in 2010 would help us resolve major ecological challenges will be dashed as long as we continue to put economic and political considerations above our most fundamental biological, social, and spiritual needs. We humans may be heavy hitters, but we must remember that nature bats last.

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*David Suzuki is a well-known Canadian scientist, broadcaster and environmental activist.*

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*Published on Thursday, June 30, 2011*

## **Congress Should Reward Farmers Who Are Good Stewards**

by [Brenna Norton](#)

Oklahoma is facing its worst drought since the Dust Bowl. A historic drought is also gripping Texas and surrounding southern states. Floods have ravaged America's heartland, and we're discovering unsustainable levels of soil erosion in Corn Belt states. On a larger scale, we see an alarming loss of crop and livestock biodiversity, a decline of bees and other pollinators, and expanding ocean dead-zones. Now more than ever, our nation should promote agricultural conservation measures and sustainable farming systems.

But Congress is threatening once again to slash the only programs that support farmers who protect our water, soil, and the biodiversity on which our nation's productivity depends.

The timing could not be worse.

In the 1980s and early 1990s, a variety of US Department of Agriculture-supported conservation practices, requirements, and incentives were effective in reversing high levels of soil erosion. In recent years, relatively high soy and corn prices have given farmers incentive to expand planting onto marginal lands. The promise of high profits, and a perverse federal commodity subsidy system that rewards intensive monocropping, is just too good to resist. New research by scientists at Iowa State University finds that topsoil in some locations is disappearing 10 to 50 times faster than it can be replaced – and severe rainstorms are playing a large role in the increasing erosion. Erosion and polluted runoff on farmland washes away soils, fertilizers, pesticides and manure. In the Midwest, this runoff will eventually be discharged into the Mississippi River.

Cutting modest farm conservation programs today is reckless and irresponsible. It is unfair to farmers, to future generations, and is bad for the long-term economic health of our nation.

This week the National Sustainable Agriculture Coalition (NSAC) is joining with organizations representing millions of Americans committed to the conservation of our water, air, land, productive soils, oceans, fish and wildlife, and the industries and rural communities these resources support. Together, we will ask the Senate to say "NO" to these short-sighted cuts.

The extreme cuts target programs that have helped farmers, ranchers, and private forest landowners to voluntarily protect and restore natural habitat on millions of acres and reduce soil erosion and other impacts of farming. The Conservation Stewardship Program, Environmental Quality Incentives Program, and Wetlands Reserve Program are already oversubscribed with a long waiting list of farmers wanting to implement conservation systems. Indeed, demand for enrollment in these programs routinely exceeds the funds available, even without any cuts. There are over 1,000,000 acres waiting to be enrolled in the Wetlands Reserve Program (WRP), and in 2010 alone, the program helped to restore 120,000 acres of wetlands. Applications for the Conservation Stewardship Program and Environmental Quality Incentives Program often outstrip available funds by two to three times.

Conservation spending has had tremendous success on a very limited budget. In particular, spending on protecting natural resources produces a substantial number of jobs and economic opportunities across the US; just ask the fishing store owners and bed and breakfast owners in western Wisconsin who depend on clean streams to attract over \$1.1 billion annually in the region.

Washington, DC is understandably focused on efforts to address the budget deficit. But so far they have overlooked spending on commodity programs as a target for cuts. Despite comparatively high farm income, we continue to spend \$5 billion a year on direct payments for farmers and landowners without regard to need or even crop price levels.

If you want to protect our natural resources for future generations, [now is the time to weigh in](#). Unfairly slashing conservation programs a second time, while completely ignoring outdated subsidies and abuse, is foolish policy and exceedingly unwise.

Brenna Norton works on grassroots outreach and organizing efforts for the [National Sustainable Agriculture Coalition](#) (NSAC) leading up to the 2012 Farm Bill. She has worked and volunteered for a wide range of nonprofits, campaigns, and in a Senate committee office.

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*Published on Wednesday, June 29, 2011 by [CommonDreams.org](#)*

## **Obesity/Diabetes Epidemic: Rise of the Obesogens**

by [Brian Moench](#)

The global obesity/diabetes epidemic is receiving wide spread attention like the June 26, article in the Washington Post by David Brown. One fourth of our national health care bill of \$2.3 trillion is linked to the treatment of diabetes and its complications. Average American life expectancy is now dropping because of this disease complex. Even children are being recommended for gastric bypass.

Fingers everywhere are pointing at the usual suspects: too much junk food and lack of exercise. But there is much more to the story than a recent, contagious lack of discipline among the masses. Standing next to us in the room, some very large corporate elephants are being ignored.

A growing body of evidence in animals and humans suggests that many man-made chemicals contaminating our environment mimic some of the body's own hormones like testosterone and estrogen. Researchers have called these chemicals endocrine disruptors because they wreak havoc with endocrine organs like the thyroid, pancreas, testes and ovaries that depend on hormones to develop and function properly. But a

new, more relevant term for these chemicals has emerged. They are now also called obesogens.

Exposure to tiny amounts of obesogens during embryonic development has startling effects on animals, resulting in obesity, infertility, feminization of male species, ambiguous sexual characteristics and high death rates.

Wishful thinking by the EPA and FDA and outright propaganda from chemical manufacturers have upheld the notion that the doses of human exposure to such chemicals have been too small to matter. Medical science now clearly repudiates such a position and environmental contamination is emerging as a significant contributor to the obesity/diabetes epidemic.

In a remarkable study of 2,000 Americans those people with the highest blood levels of PCBs, dioxins and pesticides had a rate of diabetes 38 times higher than those with the lowest levels. Just as startling, in the group with the lowest levels of chemical pollutants there was no correlation between diabetes and obesity.

**The air, water and soil of even the most wild and remote places on earth are now contaminated with obesogens from agribusiness food production, growth hormones, pesticides, residues from pharmaceuticals and personal care products and the rest of the 83,000 chemicals manufactured and emitted by modern industrial society that have penetrated every ecosystem on the planet.**

In another study newborn babies' blood was analyzed for HCB (hexachlorobenzene), a ubiquitous contaminant byproduct of chemical manufacturing processes that use chlorine. Six years later, those same children with the highest blood levels of HCB had a rate of obesity two to three times higher than other children.

Even though DDT hasn't been used in this country for 35 years, one of its metabolites, DDE, is still measurable in virtually all of us. People who have higher blood levels of DDE have higher rates of diabetes.

Recently the lead article in the Journal of the American Medical Association demonstrated increased rates of heart disease and diabetes in people with higher levels of the additive in plastic drinking bottles and food can lining, Bisphenol A (BPA). But these studies merely confirm hundreds of previous studies regarding the far-reaching health impacts of endocrine-disrupting/obesogen chemicals at blood levels most of us and our children live with right now. Many obesogens appear to increase levels of cholesterol and trigger cancer as well. For the first time in 200 years, children now have a shorter life expectancy than their parents, primarily due to obesity and diabetes.

Perhaps most startling of all, it's not just people that are getting fatter. A statistical analysis of more than 20,000 animals, from eight different species suggests that the obesity epidemic involves family pets, wild animals living in close proximity to humans,

and animals housed in research centres. Last time I wandered the forest I did not see wild animals sitting around watching NASCAR, eating Cheetos and drinking Mountain Dew.

But like humans they live in an environment contaminated with endocrine disrupting/obesogen chemicals. The air, water and soil of even the most wild and remote places on earth are now contaminated with obesogens from agribusiness food production, growth hormones, pesticides, residues from pharmaceuticals and personal care products and the rest of the 83,000 chemicals manufactured and emitted by modern industrial society that have penetrated every ecosystem on the planet. In the second half of the twentieth century synthetic chemical production has doubled every 7 to 8 years with a 100 fold increase over the last 2 generations. Every year the world produces six billion pounds of BPA alone and it is detectable in 93% of Americans.

Our regulatory agencies and even the courts are still playing by a rule book written by the tobacco industry which states that we must always wait for unequivocal proof of damage before we can regulate. Of course there is never unequivocal proof, more study is always needed. But that is not an excuse to not act on the evidence that we already have.

Take a look in the mirror and at your glucometer. If you don't like what you see, you may want to reconsider whether you support the anti-regulation/personal accountability fever sweeping over the country with the new Congress. Whether you can ever be thin again or get over your diabetes may be more a matter of what happens in Congress than what happens in your gym.

Dr. Brian Moench is President of [Utah Physicians for a Healthy Environment](#) and a member of the Union of Concerned Scientists. He can be reached at: [drmoench@yahoo.com](mailto:drmoench@yahoo.com)

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JUNE 13, 2011 DOI:10.1021/CEN060911161819  
<http://pubs.acs.org/cen/email/html/8925news.html>

### **Formaldehyde, Styrene Added To Cancer Warning List**

Toxicology: Government recommends limited exposure to the industrial chemicals

Despite intense pressure from the chemical industry, formaldehyde and styrene have been added to a government warning list of known and potentially carcinogenic compounds. Released June 10--four years late because of the opposition--the [12th Report on Carcinogens \(RoC\)](#), compiled by the [National Toxicology Program \(NTP\)](#) under the aegis of the Department of Health & Human Services (HHS), also adds six other substances to its list of 240 compounds.

But the listing of formaldehyde as a known carcinogen has generated the most heat, with industry claiming evidence of its carcinogenicity to be insufficient. The compound is predominantly used to make industrial resins, which are found in numerous consumer products including composite wood, pulp and paper, plastics, and synthetic fibers. It is also used as a disinfectant and antimicrobial agent.

Environmental groups applauded HHS for finally releasing the report and not caving to industry pressure. “The chemical industry has been fighting tooth-and-nail” to prevent the report from being finalized, says Jennifer Sass, senior scientist with the [Natural Resources Defense Council](#). “The public has a right to know about the chemical risks that are foisted upon us.”

“We are extremely disappointed that HHS has moved forward with listing formaldehyde in its 12th RoC as a known human carcinogen,” said Calvin M. Dooley, president and chief executive officer of the chemical industry trade group the [American Chemistry Council](#), in a statement. “By doing so, HHS ignored the recently released, independent, peer-review report from the [National Research Council](#), which strongly questioned whether the scientific evidence supports the claim of human carcinogen for leukemia.”

Likewise, a styrene industry group has called the evidence for that compound’s potential carcinogenicity “scientifically unsupportable.” Threatening legal action and continued advocacy against the NTP listing, the Styrene Information & Research Center has vowed “to get styrene removed from the RoC.”

Styrene is a building block used to make the ubiquitous chemical polystyrene, which is found in food containers, toys, automobiles, carpet backings, house paints, ink cartridges, insulation, wood polish, adhesives, and several other products. Styrene is also used to produce polyester resins for making boats, bathtubs, shower stalls, and other glass-fiber reinforced plastic products.

Although some leaching of styrene from consumer products that contain polystyrene does occur, human exposures are “probably not very large,” said John Bucher, and NTP associate director, during a June 10 press briefing. “The evidence that we’ve used for listing styrene,” he said, “is largely from industrial situations.”

Last month, 63 members of Congress wrote a letter to HHS Secretary Kathleen Sebelius, urging that NTP delay the styrene listing in the report until a “thorough review can be conducted that weighs the full body of scientific evidence available to decision makers.” The lawmakers warned that thousands of workers in the U.S. styrene industry might lose their jobs as a result.

The other six substances added to the report include aristolochic acids, found in botanical products; captafol, a fungicide that is banned in the U.S.; cobalt-tungsten carbide, used in cutting and grinding tools; ortho-nitrotoluene, used in producing azo dyes; riddelliine, found in medicinal herbal products; and inhalable glass wool fibers.

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## More Chemicals Added To HHS List Of Known or Suspected Carcinogens

by [Lloyd Alter, Toronto](#)

Share <http://www.treehugger.com/files/2011/06/more-chemicals-list-of-suspected-carcinogens.php>

As noted this morning in our post about [formaldehyde](#), The Health And Human Services Report on Carcinogens lists two categories: agents, substances, mixtures, or exposures **known** to be a human carcinogen and **reasonably anticipated** to be a human carcinogen. Some are found in strange places, like the Aristolochic Acids that are found in herbal medicines and are now known to be carcinogenic. Avoid them completely; [here is a list](#) of everything from weight loss formulae to allergy relief to chinese medicinals. Another herb that is reasonably anticipated to be carcinogenic is Riddelliine.

Of much more interest are the addition of "certain glass wool fibers" and styrene. These affect all of us in our daily lives.

The late punk rocker Poly Styrene from her album, Generation Indigo

**Styrene** is reasonably anticipated to be a human carcinogen. It is used in the production of polystyrene, and small amounts of it are believed to leach out of styrofoam cups and plates. But the real risk is to workers who work with reinforced plastics; that fiberglas smell is probably styrene. The National Toxicology Program notes:

Workers in certain occupations are potentially exposed to much higher levels of styrene than the general population. For example, workers who fabricate boats, car and truck parts, tanks, and bath tubs and shower stalls with glass fiber-reinforced polyester composite plastics, may breathe in high levels of styrene in the workplace. Workers may also absorb styrene through the skin. Exposures in the workplace have decreased over time. But it is also released from building materials, tobacco smoke and laser printer/copiers; if you have a copier in your home it should be in a well ventilated area. **And it is another reason not to use disposable styrofoam containers.**

Download the [NTP fact sheet here](#)

Certain Glass Wool Fibers are also again a suspected carcinogen. Here, the NTP is being very circumspect and careful. They separate conventional insulation glass fibers from special purpose ones, and suggest that the general home insulation kind is not as much of a danger. There are generally two categories of glass wool fibers that consumers might use: low-cost general-purpose fibers and premium special-purpose fibers. Most home and building insulation projects use general-purpose glass wool. Special-purpose glass fibers are used for applications, such as separating the negative and positive plates in a battery, and in high-efficiency air filters and aircraft, spacecraft, and acoustical insulation. In general, insulation fibers are less durable and less biopersistent than special-purpose fibers, and may be less likely to cause cancer than the more durable, more persistent special-purpose fibers.

Two decades ago the the National Toxicology Program listed fiberglass as "reasonably anticipated to be a human carcinogen" based on animal data. In 2001, the International Agency

for Research on Cancer looked at all the studies and took it off the list of possible carcinogens, and concluded that there was not enough evidence to consider it a cancer risk. Now it is creeping back on. Although the NTP is specifically excluding conventional insulation in their listing, they tested it and [it did not come up totally clean](#):

Types of insulation glass wool fibers tested in experimental animals included Owens-Corning glass wool, MMVF 10 and 10a (both of which represent the respirable fraction of Manville 901 glass fiber), MMVF 11 (the respirable fraction of CertainTeed B glass fiber), and unspecified glass wool fibers. Inhalation exposure of F344 rats to Owens-Corning FG insulation fiberglass with binder (4 to 6 µm in diameter and > 20 µm long) significantly increased the incidence of mononuclear-cell leukemia in rats (males and females combined). Glass-fiber-related pulmonary and tracheal-bronchial lymph-node lesions were observed but were less severe than for exposure to special purpose fibers.

OK, the effects are less severe, but still something that would be an issue. But then almost every house in America is insulated with fiberglass, and I suspect the industry had a lot to say about this one. The NTP's recommendations for dealing with it:

Follow safe work practices and wear appropriate protective equipment, such as long-sleeved work clothing or disposable coveralls, a respirator, safety glasses, and gloves.

Once the stuff is in the wall and covered with drywall, there isn't going to be a lot of risk from glass fibers getting into the air. But anyone working with the stuff should be going beyond just regular work clothing that goes home in the car with you, and should start thinking about tyvek suits and high quality respirators, forget the cheap paper things. Calling fiberglass the asbestos of the 21st century is an overstatement, but it is clear that the stuff should be handled properly and carefully.

Download the [NTP fact sheet here](#) and see also: [Fiberglass: Is Pink Really Green?](#)

It is getting harder and harder to figure out what one can safely use as an insulation in green, healthy design. [Expanded polystyrene](#) has, yes, styrene, and fire retardants; [sprayed polyurethane](#) has issues; we are running out of options.

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Published on Friday, June 24, 2011 by [Huffington Post](#)

## **Roundup: Birth Defects Caused By World's Top-Selling Weedkiller, Scientists Say**

by Lucia Graves

WASHINGTON -- The chemical at the heart of the planet's most widely used herbicide -- Roundup weedkiller, used in farms and gardens across the U.S. -- is coming under more intense scrutiny following the release of a new report calling for a heightened regulatory response around its use.

Critics have argued for decades that glyphosate, the active ingredient in Roundup and other herbicides used around the globe, poses a serious threat to public health. Industry regulators, however, appear to have consistently overlooked their concerns.

Critics have argued for decades that glyphosate, the active ingredient in Roundup and other herbicides used around the globe, poses a serious threat to public health. Industry regulators, however, appear to have consistently overlooked their concerns.

A comprehensive review of existing data released this month by Earth Open Source, an organization that uses open-source collaboration to advance sustainable food production, suggests that industry regulators in Europe have known for years that glyphosate, originally

introduced by American agricultural biotechnology giant Monsanto in 1976, causes birth defects in the embryos of laboratory animals.

Founded in 2009, Earth Open Source is a non-profit organisation incorporated in the U.K. but international in scope. Its three directors, specializing in [business](#), [technology](#) and [genetic engineering](#), work pro-bono along with a handful of young volunteers. Partnering with half a dozen international scientists and researchers, the group drew its conclusions in part from studies conducted in a number of locations, including [Argentina](#), [Brazil](#), [France](#) and the [United States](#).

Earth Open Source's study is only the latest report to question the safety of glyphosate, which is the top-ranked herbicide used in the United States. Exact figures are hard to come by because the U.S. Department of Agriculture stopped updating its [pesticide use database](#) in 2008. The EPA estimates that the agricultural market used 180 to 185 million pounds of glyphosate between 2006 and 2007, while the non-agricultural market used 8 to 11 million pounds between 2005 and 2007, according to its [Pesticide Industry Sales & Usage Report for 2006-2007](#) published in February, 2011.

The Earth Open Source study also reports that by 1993 the herbicide industry, including Monsanto, knew that visceral anomalies such as dilation of the heart could occur in rabbits at low and medium-sized doses. The report further suggests that since 2002, regulators with the European Commission have known that glyphosate causes developmental malformations in lab animals.

Even so, the commission's health and consumer division published [a final review report](#) of glyphosate in 2002 that approved its use in Europe for the next 10 years. As recently as last year, the German Federal Office for Consumer Protection and Food Safety (BLV), a government agency conducting a review of glyphosate, told the European Commission that there was no evidence the compound causes birth defects, according to the report. The agency reached that conclusion despite almost half a dozen industry studies that found glyphosate produced fetal malformations in lab animals, as well as [an independent study from 2007](#) that found that Roundup induces adverse reproductive effects in the male offspring of a certain kinds of rats.

German regulators declined to respond in detail for this story because they say they only learned of the Earth Open Source report last week. The regulators emphasized that their findings were based on public research and literature.

Although the European Commission originally planned to review glyphosate in 2012, it decided late last year not to do so until 2015. And it won't review the chemical under more stringent, up-to-date standards until 2030, according to the report.

The European Commission told HuffPost that it wouldn't comment on whether it was already aware of studies demonstrating the toxicity of glyphosate in 2002. But it said the commission was aware of the Earth Open Source study and had discussed it with member states.

"Germany concluded that study does not change the current safety assessment of glyphosate," a commission official told HuffPost in an email. "This view is shared by all other member states." John Fagan, a doctor of molecular and cell biology and biochemistry and one of the founders of Earth Open Source, acknowledged his group's report offers no new laboratory research. Rather,

he said the objective was for scientists to compile and evaluate the existing evidence and critique the regulatory response.

"We did not do the actual basic research ourselves," said Fagan. "The purpose of this paper was to bring together and to critically evaluate all the evidence around the safety of glyphosate and we also considered how the regulators, particularly in Europe, have looked at that." For its part, Earth Open Source said that government approval of the ubiquitous herbicide has been rash and problematic.

"Our examination of the evidence leads us to the conclusion that the current approval of glyphosate and Roundup is deeply flawed and unreliable," wrote the report's authors. "What is more, we have learned from experts familiar with pesticide assessments and approvals that the case of glyphosate is not unusual.

"They say that the approvals of numerous pesticides rest on data and risk assessments that are just as scientifically flawed, if not more so," the authors added. "This is all the more reason why the Commission must urgently review glyphosate and other pesticides according to the most rigorous and up-to-date standards."

Monsanto spokeswoman Janice Person said in a statement that the Earth Open Source report presents no new findings.

"Based on our initial review, the Earth Open Source report does not appear to contain any new health or toxicological evidence regarding glyphosate," Person said.

"Regulatory authorities and independent experts around the world agree that glyphosate does not cause adverse reproductive effects in adult animals or birth defects in offspring of these adults exposed to glyphosate," she said, "even at doses far higher than relevant environmental or occupational exposures."

While Roundup has been associated with deformities in a host of laboratory animals, its impact on humans remains unclear. One laboratory [study done in France](#) in 2005 found that Roundup and glyphosate caused the death of human placental cells and abnormal embryonic cells. [Another study](#), conducted in 2009, found that Roundup caused total cell death in human umbilical, embryonic and placental cells within 24 hours. Yet researchers have conducted few follow-up studies.

"Obviously there's a limit to what's appropriate in terms of testing poison on humans," said Jeffrey Smith, executive director of the Institute for Responsible Technology, which lobbies against genetically modified food. "But if you look at the line of converging evidence, it points to a serious problem. And if you look at the animal feeding studies with genetically modified Roundup ready crops, there's a consistent theme of reproductive disorders, which we don't know the cause for because follow-up studies have not been done."

"More independent research is needed to evaluate the toxicity of Roundup and glyphosate," he added, "and the evidence that has already accumulated is sufficient to raise a red flag." Authorities have criticized Monsanto in the past for soft-peddling Roundup. In 1996 New York State's Attorney General [sued Monsanto](#) for describing Roundup as "environmentally friendly" and "safe as table salt." Monsanto, while not admitting any wrongdoing, agreed to stop using the terms for promotional purposes and paid New York state \$250,000 to settle the suit.

Regulators in the United States have said they are aware of the concerns surrounding glyphosate. The Environmental Protection Agency, which is required to reassess the safety and effectiveness all pesticides on a 15-year cycle through a process called registration review, is currently examining the compound.

"EPA initiated registration review of glyphosate in July 2009," the EPA told HuffPost in a written statement. "EPA will determine if our previous assessments of this chemical need to be revised based on the results of this review. EPA issued a notice to the company [Monsanto] to submit human health and ecotoxicity data in September 2010."

The EPA said it will also review a "wide range of information and data from other independent researchers" including Earth Open Source.

The agency's Office of Pesticide Programs is in charge of the review and has set a deadline of 2015 for determining if registration modifications need to be made or if the herbicide should continue to be sold at all.

Though skirmishes over the regulation of glyphosate are playing out at agencies across the U.S. and around the world, Argentina is at the forefront of the battle.

## THE ARGENTINE MODEL

The new report, "[Roundup and birth defects: Is the public being kept in the dark?](#)" comes years after Argentine scientists and residents targeted glyphosate, arguing that it caused health problems and environmental damage.

Farmers and others in Argentina used the weedkiller primarily on genetically modified Roundup Ready soy, which covers nearly 50 million acres, or half of the country's cultivated land area. In 2009 farmers sprayed that acreage with an [estimated 200 million liters](#) of glyphosate.

The Argentine government helped pull the country out of a recession in the 1990s in part by promoting genetically modified soy. Though it was something of a miracle for poor farmers, several years after the first big harvests residents near where the soy crop grew began reporting health problems, including high rates of [birth defects and cancers](#), as well as [the losses of crops and livestock](#) as the herbicide spray drifted across the countryside.

Such reports gained further traction after an Argentine government scientist, Andres Carrasco conducted a study, "[Glyphosate-Based Herbicides Produce Teratogenic Effects on Vertebrates by Impairing Retinoic Acid Signaling](#)" in 2009.

The study, published in the journal [Chemical Research in Toxicology](#) in 2010, found that glyphosate causes malformations in frog and chicken embryos at doses far lower than those used in agricultural spraying. It also found that malformations caused in frog and chicken embryos by Roundup and its active ingredient glyphosate were similar to human birth defects found in genetically modified soy-producing regions.

"The findings in the lab are compatible with malformations observed in humans exposed to glyphosate during pregnancy," wrote Carrasco, director of the Laboratory of Molecular Embryology at the University of Buenos Aires. "I suspect the toxicity classification of glyphosate is too low." "In some cases this can be a powerful poison," he concluded.

Argentina has not made any federal reforms based on this research and has not discussed the research publicly, Carrasco told HuffPost, except to mount a "close defense of Monsanto and its partners."

The Ministry of Science and Technology has moved to distance the government from the study, [telling media at the time](#) the study was not commissioned by the government and had not been reviewed by scientific peers.

Ignacio Duelo, spokesman for the the Ministry of Science and Technology's National Council for Scientific and Technical Research [CONICET], told HuffPost in an statement that while Carrasco is one of its researchers, CONICET has not vouched for or assessed his work. Duelo said that the Ministry of Science is examining Carrasco's report as part of a study of the possible harmful effects of the glyphosate. Officials, he added, are as yet unable to "reach a definitive conclusion on the effects of glyphosate on human health, though more studies are recommended, as more data is necessary."

## REGIONAL BANS

After Carrasco announced his findings in 2009, the Defense Ministry [banned planting of genetically modified glyphosate-resistant soy](#) on lands it rents to farmers, and a group of environmental lawyers [petitioned the Supreme Court of Argentina](#) to implement a national ban on the use of glyphosate, including Monsanto's Roundup product. But the ban was never adopted.

"A ban, if approved, would mean we couldn't do agriculture in Argentina," said Guillermo Cal, executive director of CASAFE, Argentina's association of fertilizer companies, [in a statement at the time](#).

In March 2010, a regional court in Argentina's Santa Fe province [banned the spraying of glyphosate](#) and other herbicides near populated areas. A month later, the provincial government of Chaco province issued a report on health statistics from La Leonesa. The report, [which was carried in the leftist Argentinian newspaper Página 12](#), showed that from 2000 to 2009, following the expansion of genetically-modified soy and rice crops in the region, the childhood cancer rate tripled in La Leonesa and the rate of birth defects increased nearly fourfold over the entire province.

## MORE QUESTIONS

Back in the United States, Don Huber, an emeritus professor of plant pathology at Purdue University, found that genetically-modified crops used in conjunction with Roundup contain a bacteria that may cause animal miscarriages.

After studying the bacteria, Huber wrote Secretary of Agriculture Tom Vilsack in February warning that the "pathogen appears to significantly impact the health of plants, animals, and probably human beings."

The bacteria is particularly prevalent in corn and soybean crops stricken by disease, according to Huber, who asked Vilsack to stop deregulating Roundup Ready crops. Critics such as Huber are particularly wary of those crops because scientists have genetically altered them to be immune to Roundup -- and thus allow farmers to spray the herbicide liberally onto a field, killing weeds but allowing the crop itself to continue growing.

Monsanto is not the only company making glyphosate. China sells glyphosate to Argentina at a very low price, Carrasco said, and there are more than one hundred commercial formulations in the market. But Monsanto's Roundup has the longest list of critics, in part because it dominates the market.

The growth in adoption of genetically modified crops [has exploded](#) since their introduction in 1996. According to Monsanto, an estimated 89 percent of domestic soybean crops were Roundup Ready in 2010, and as of 2010, there were 77.4 million acres of Roundup Ready soybeans planted, according to the Department of Agriculture.

In his letter to the Agriculture Department, Huber also commented on the herbicide, saying that the bacteria that he's concerned about appears to be connected to use of glyphosate, the key ingredient in Roundup.

"It is well-documented that glyphosate promotes soil pathogens and is already implicated with the increase of more than 40 plant diseases; it dismantles plant defenses by chelating vital nutrients; and it reduces the bioavailability of nutrients in feed, which in turn can cause animal disorders," he wrote.

Huber said the Agriculture Department wrote him in early May and that he has had several contacts with the agency since then. But there's little evidence that government officials have any intention of conducting the "multi-agency investigation" Huber requested.

Part of the problem may be that the USDA oversees genetically modified crops while the EPA watches herbicides, creating a potential regulatory loophole for products like Roundup, which relies on both to complete the system. When queried, USDA officials emphasized that they do not regulate pesticides or herbicides and declined to comment publicly on Huber's letter.

A spokesman eventually conceded their scientists do study glyphosate. "USDA's Agricultural Research Service's research with glyphosate began shortly after the discovery of its herbicidal activity in the mid 1970s," said the USDA in a statement. "All of our research has been made public and much has gone through the traditional peer review process."

While Huber acknowledged his research is far from conclusive, he said regulatory agencies must seek answers now. "There is much research that needs to be done yet," he said. "But we can't afford to wait the three to five years for peer-reviewed papers."

While Huber's claims have roiled the agricultural world and the blogosphere alike, he has fueled skeptics by refusing to make his research public or identify his fellow researchers, who [he claims](#) could suffer substantial professional backlash from academic employers who received research funding from the biotechnology industry.

At Purdue University, six of Huber's former colleagues [pointedly distanced themselves](#) from his findings, encouraging crop producers and agribusiness personnel "to speak with University Extension personnel before making changes in crop production practices that are based on sensationalist claims."

Since it first introduced the chemical to the world in the 1970s, Monsanto has netted billions on its best-selling herbicide, though the company has faced stiffer competition since its patent expired in 2000 and it is [reportedly working to revamp its strategy](#).

In a lengthy email, Person, the Monsanto spokeswoman, [responded to critics](#), suggesting that the economic and environmental benefits of Roundup were being overlooked:

The authors of the report create an account of glyphosate toxicity from a selected set of scientific studies, while they ignored much of the [comprehensive data](#) establishing the safety of the product. Regulatory agencies around the world have concluded that glyphosate is not a reproductive toxin or teratogen (cause of birth defects) based on in-depth review of the comprehensive data sets available.

Earth Open Source authors take issue with the decision by the European Commission to place higher priority on reviewing other pesticide ingredients first under the new EU regulations, citing again the flawed studies as the rationale. While glyphosate and all other pesticide ingredients will be reviewed, the Commission has decided that glyphosate appropriately falls in a category that doesn't warrant immediate attention.

"The data was there but the regulators were glossing over it and as a result it was accepted in ways that we consider really questionable," he added.

#### CORNERING THE INDUSTRY?

Although the EPA has said it wants to evaluate more evidence of glyphosate's human health risk as part of a [registration review program](#), the agency is not doing any studies of its own and is instead relying on outside data -- much of which comes from the agricultural chemicals industry it seeks to regulate.

"EPA ensures that each registered pesticide continues to meet the highest standards of safety to protect human health and the environment," the agency told HuffPost in a statement. "These standards have become stricter over the years as our ability to evaluate the potential effects of pesticides has increased. [The Agency placed glyphosphate into registration review](#). Registration review makes sure that as the ability to assess risks and as new information becomes available, the Agency carefully considers the new information to ensure pesticides do not pose risks of concern to people or the environment."

Agribusiness giants, including Monsanto, Dow Chemical, Syngenta and BASF, [will generate much of the data the EPA is seeking](#) as part of a 19-member task force. But the EPA has emphasized that the task force is only "one of numerous varied third-party sources that EPA will rely on for use in its registration review."

The EPA is hardly the only industry regulator that relies heavily on data supplied by the agrochemical industry itself.

"The regulation of pesticides has been significantly skewed towards the manufacturers interests where state-of-the-art testing is not done and adverse findings are typically distorted or denied," said Jeffrey Smith, of the Institute for Responsible Technology. "The regulators tend to use the company data rather than independent sources, and the company data we have found to be inappropriately rigged to force the conclusion of safety."

"We have documented time and time again scientists who have been fired, stripped of responsibilities, denied funding, threatened, gagged and transferred as a result of the pressure put on them by the biotech industry," he added.

Such suppression has sometimes grown violent, Smith noted. Last August, when Carrasco and his team of researchers went to give a talk in La Leonesa they were [intercepted by a mob](#) of about a hundred people. The attack landed two people in the hospital and left Carrasco and a colleague cowering inside a locked car. Witnesses said the angry crowd had ties to powerful economic interests behind the local agro-industry and that police made little effort to interfere with the beating, [according to the human rights group Amnesty International](#).

Fagan told HuffPost that among developmental biologists who are not beholden to the chemical industry or the biotechnology industry, there is strong recognition that Carrasco's research is credible.

"For me as a scientist, one of the reasons I made the effort to do this research into the literature was to really satisfy the question myself as to where the reality of the situation lies," he added. "Having thoroughly reviewed the literature on this, I feel very comfortable in standing behind the conclusions Professor Carrasco came to and the broader conclusions that we come to in our paper. "We can't figure out how regulators could have come to the conclusions that they did if they were taking a balanced look at the science, even the science that was done by the chemical industry itself."

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*Published on Thursday, June 30, 2011 by [Greenpeace International](#)*

## **Time to End the Chemical War Against Superweeds**

by [Lasse Bruun](#)

Have you ever thought about how your favorite picnic spot in the local city park is managed? Or what happens when herbicides are sprayed on the crops that make up your breakfast cereal? The truth is that in both city parks and the intensive agriculture used to produce breakfast cereals, weed killers are used on a massive scale, under the unproven assumption that they are safe. Roundup, one of the most common commercially available herbicides, is marketed by US agrochemical company Monsanto as "safe" for the environment, and for humans – but "deadly for weeds". Our new report, [Herbicide Tolerance and GM Crops](#) written jointly with fellow non-governmental organization GM Freeze, however, paints a very different picture.

One of the main ingredients of Roundup, as well as several other herbicides, is a chemical known as glyphosate. Numerous studies covered in the report associate exposure to glyphosate with cancer, birth defects and neurological illnesses (including Parkinson's). Alarming, lab testing suggests that glyphosate can cause damage to cells, including human embryo cells. Other studies mentioned in the report indicate that glyphosate may be a gender-bender chemical that interferes with our hormonal balance. Do you still feel like having your picnic and breakfast cereal?

The environmental impacts of glyphosate are not much better with evidence suggesting that the chemical has a damaging impact on our rivers and on the animals that live in them. It also disrupts nutrients in soil, exposing plants (that are not weeds) to disease and could end up contaminating drinking water.

Whether we like it or not, we all receive exposure to herbicides: sometimes from aerial spraying, sometimes through chemical residues in our food and sometimes because of chemical run off

from agricultural land that pollutes nearby fields, seas or rivers. Nobody is happy with this situation, as [an extensive survey on attitudes to the environment published by the European Commission](#) last week shows that, across the board, Europeans feel they need more information on chemicals and farming.

Of particular worry is the association between glyphosate and the cultivation of genetically modified (GM) herbicide-tolerant crops, known as Roundup-Ready. These crops, so far are mostly grown in the Americas, are genetically engineered to tolerate glyphosate, so that they can survive massive spraying of Roundup to eliminate weeds. However, these weeds are now becoming increasingly resistant to glyphosate-based herbicides like Roundup.

Resistance to glyphosate has now been confirmed in over 20 weed species, with over 100 resistant strains identified, covering nearly 6 million hectares, primarily in Argentina, Brazil and the U.S, where GM Roundup Ready crops are grown. Controlling these glyphosate-resistant weeds has become a major problem for farmers, prompting manufacturers of glyphosate and GM crops like Monsanto to recommend further increases in the deployment and concentration of herbicides - including the use of chemicals that are even more toxic than glyphosate. This escalation in the pesticide 'arms race' is creating a vicious circle that is producing a new breed of superweeds.

There are no winners in the war against superweeds - but human health, the environment, farmers and you, the consumer, all the losers. Given the problems identified so far, Greenpeace is demanding a review of the use of glyphosate in the EU and that no glyphosate-tolerant GM crops should be authorized in Europe or elsewhere. With a major reform of European farming policy just underway, governments need to recognize that the industrial agriculture system where GM crops and chemicals thrive is profoundly unsustainable.

Failure to act will threaten food production, jeopardize human lives and put the environment severely at risk. It is time to round up glyphosate for good and embrace ecological farming allowing us to once again enjoy our picnic and breakfast cereal.

[Download the report: \*Herbicide tolerance and GM crops\*](#)

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### **J-S LETTER: Mega Dairy seminar was a swell day**

[http://www.journalstandard.com/opinions/letters\\_to\\_the\\_editor/x601862997/J-S-LETTER-Mega-Dairy-seminar-was-a-swell-day](http://www.journalstandard.com/opinions/letters_to_the_editor/x601862997/J-S-LETTER-Mega-Dairy-seminar-was-a-swell-day)

Warren, Ill. -

So what's the problem? If you do not believe in pollution and degraded health, the mega dairy seminar put on by the Jo Daviess County League of Women Voters would have been extremely educational. You would learn that by dissecting the acronym for CAFO and the nonexistent dictionary definition of "mega dairy," one shouldn't try to wrap one's brain around the "scale" issue. It could become too complicated when you start talking animal units.

And then that "the untold costs of confined animal feeding operations by the Union of Concerned Scientists" and the study from the PEW Commission, do you know who those guys are?

They were only talking about beef, swine and poultry pollution anyway. Dairy pollution must be “different.” And don’t get me going about that “precautionary moratorium on new concentrated animal feeding operations” by the American Public Health Association, Canadian Medical Association, and the Michigan State Medical Society. That was so 2002 and 2003. Who cares how smart those Doctors and Scientists are? The IDOA just ignores those types anyway. Those types are just jealous of those Dutch businessmen and how successful they are, and dairy market take overs only happen because the Dutch businessmen produce superior milk compared to “local” dairymen.

Boy did I learn a bunch.

And this was worth the \$15 registration fee. Warren Goetsch was honest enough to say that the LMFA is obsolete — not wanting to make fun of Ron Lawfer sitting front and center. Warren also admitted that the manure storage wouldn’t leak for 10 maybe 20 years, unless a crack formed. Living in a karst region, this really cracked me up. Saturday, June 11, it was a swell day.

Susan Turner Warren

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*Posted: Wednesday, June 29, 2011 7:00 am |*

**Organic farmers don’t follow ‘get big’ mantra**

[http://www.pantagraph.com/news/opinion/mailbag/article\\_5c5c59ee-a1df-11e0-bd35-001cc4c002e0.html](http://www.pantagraph.com/news/opinion/mailbag/article_5c5c59ee-a1df-11e0-bd35-001cc4c002e0.html)

My necessarily limited responses to “Going hog wild” (The Pantagraph, May 15) follow.

A major mantra of industrial agriculture — get big or get out — may be true for confined animal feeding operations, such as Bane Family Pork Farms, but it is not true for those who raise farm animals organically.

I reject the claim that CAFOs provide the best environment for farm animals. This claim fails to recognize that these animals are sentient beings whose behaviors are the products of long evolutionary histories.

Farm animals raised organically are much more able to express their innate behaviors. I disagree with the claim that the unfavorable “image” of CAFOs, and indeed of all industrial agriculture, is due mainly to unfounded criticisms by “activist” groups, based on misinformation and lack of information.

I find rather that much misinformation and lack of information comes from certain organizations such as Farm Bureau and Illinois Pork Producers Association. The further claim that CAFO’s “image” problems are made worse by many Americans receiving poor science education and being generations removed from life on the farm is not true for me and many others.

Pat Bane says, “We are the face of family farming in the 21st century.” Fortunately, CAFOs are not the face of family organic farming.

Finally, we find once again the oft-repeated canard that “We (industrialized agriculture) are feeding the world.”

On the same page of The Pantagraph, Alan Guebert refutes this claim in his column, “First of all, we need to feed ourselves.”

Herman Brockman, Rural Congerville

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**End Green Mission News**

**July 2011**