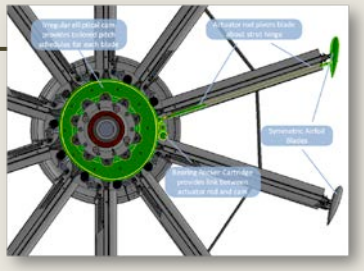
Green Mission News

August 2012 Green Mission News



External Article Links:

- "In Organic We Trust" is an eye-opening food documentary that looks beyond organic for practical solutions www.inorganicwetrust.org/

- What is Biomimicry?
http://www.asknature.org/article/view/what_is_biomimicry

- Food Waste Composting: Institutional and Industrial Applications
http://www.caes.uga.edu/Publications/pubDetail.cfm?pk_id=6288&pg=np&ct=food%20composting&kt=&kid=&pid=

- Why we need Extended Producer Responsibility
http://ncrarecycles.org/book/export/html/233
Also see: http://www.sustainablebizness.com/zw_home.html
NCRA Article linked

- "Zero Waste" business principles:
zwia.org/joomla/index.php?option=com_content&view=article&id=8&Itemid=7

- A New Direction for The Natural Step: Sustainability Literacy
www.thenaturalstep.org/en/about-us#strategic

- Wind turbine technology that can be mounted on rooftops at commercial sites with moderate wind conditions.
www.broadstarwindsystems.com/products_aerocams.php

- ‘Euro leaf’ organic logo now mandatory
www.thegrocer.co.uk/fmcg/euro-leaf-organic-logo-now-mandatory/230353.article#

- A new breed of innovator, determined to drive problems such as carbon, waste, toxics, and poverty to zero
www.thezeronauts.com/

- Salt, water and electricity –along with an onsite generator, which is all that is needed for safe and effective sanitization.
www.scgcorp.com/greenchem2011/pdfs/Doering.pdf

- Ditch the Plastic: 10 Reusable Produce Bags
www.thekitchn.com/ditch-the-plastic-10-reusable-produce-bags-174099

- The Switch Energy Project
www.energy4me.org/switch/

- The leading Cradle to Cradle knowledge Centre
www.c2c-centre.com/products

- Are GMOs Making You Fat?
www.dietsinreview.com/diet_column/07/are-gmos-making-you-fat/

- Averting biodiversity collapse in tropical forest protected areas
http://www.nature.com/nature/journal/vaop/ncurrent/full/nature11318.html

- The world is closer to a food crisis than most people realize (Lester Brown)
Unless we move quickly to adopt new population, energy, and water policies, the goal of eradicating hunger will remain just that.
www.guardian.co.uk/environment/2012/jul/24/world-food-crisis-closer

- Greenland ice sheet melted at unprecedented rate during July
www.guardian.co.uk/environment/2012/jul/24/greenland-ice-sheet-thaw-nasa

- Global Goal and Commitment to Stop Plastic Pollution
www.stopplasticpollution.org

- Factory-Fed Fish: How the Soy Industry is Expanding into the Sea
www.foodandwaterwatch.org/tools-and-resources/factory-fed-fish/

- Latest Cargill beef recall is one more reason to buy grass fed beef
http://www.examiner.com/article/latest-cargill-beef-recall-is-one-more-reason-to-buy-grass-fed-beef

- David Suzuki: Renewable energy, not carbon capture and storage
www.straight.com/article-724101/vancouver/david-suzuki-renewable-energy-not-carbon-capture-and-storage

- Going 'Beyond Pesticides' to Save the Bee Population (14 mins.)
www.youtube.com/watch?v=R-6oLrO7P3c

- Throwaway Economy Headed for Junk Heap of History
www.earth-policy.org/book_bytes/2012/wotech8_ss5

- Circular metabolism: turning regenerative cities into reality
http://globalurbanist.com/2012/04/24/circular-metabolism-oakland

- American Meteorological Society
NOAA National Climatic Data Center- explaining extreme events of 2011 from a climate perspective
www1.ncdc.noaa.gov/pub/data/cmb/bams-sotc/2011-peterson-et-al.pdf

- WATCH: Scientist Vandana Shiva on GMOs and the Food System (4 minutes)
www.onegreenplanet.org/news/watch-scientist-vandana-shiva-on-gmos-and-the-food-system/

- China cancels waste project after protests turn violent
www.reuters.com/article/2012/07/28/us-china-environment-protest-idUSBRE86R02Y20120728

- Vast F.D.A. Effort Tracked E-Mails of Its Scientists
nytimes.com/2012/07/15/us/fda-surveillance-of-scientists-spread-to-outside-critics.html?_r=1&pagewanted=all

- Former Monsanto Employee Exposes Fraud
readersupportednews.org/news-section2/312-16/12408-focus-former-monsanto-employee-exposes-fraud

- Monsanto Launches Massive Campaign to Stop GMO Labeling
infowars.com/monsanto-launches-massive-campaign-to-stop-gmo-labeling/

- John Robbins: Life on the Frontlines of the Food Revolution
http://www.alternet.org/story/156242/john_robbins%3A_life_on_the_frontlines_of_the_food_revolution

- Texas Judge Rules The Sky Belongs To Everyone
www.onthecommons.org/magazine/texas-judge-rules-sky-belongs-everyone

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Full Length Articles Below:

- Herbicides found in Human Urine
- New Benbrook data blow away claims of pesticide reduction due to GM crops:
  Implications of GM crop cultivation at large spatial scales

# # #

Herbicides Found in Human Urine

Ithaka Journal 1/2012: 270-272 (2012) www.ithaka-journal.net
Editor: Delinat-Institute for Ecology and Climate-farming, CH-1974 Arbaz
www.delinat-institut.org
German original here: http://www.ithaka-journal.net/herbizide-im-urin

Glyphosate is the main active substance used in most commercial herbicides. It poisons not only plants, but also animals and humans. When testing for glyphosate ontamination

in an urban population, a German university found significant contamination in all urine samples with levels 5 to 20 times above the legal limit for drinking water.

Most herbicides used in commercial agriculture and small gardens as well as for de-weeding railway lines, urban pavements and roadsides contain the active substance glyphosate. The most widely used glyphosate containing herbicides goes under the name "Roundup" by Monsanto. Since the patents on glyphosate have expired, several other agrochemical companies such as Syngenta, Bayer, Nufarm and Dow groScience have been producing and selling herbicides containing glyphosate. To date approximately half of the 800,000 tons of glyphosate produced annually worldwide are produced in China.

Glyphosate was invented in Switzerland in 1950 and first synthesized by Monsanto in 1970. The compound was found to radically affect the metabolism of plants by preventing them from forming essential amino acids. Glyphosate is a systemic-acting broad[-spectrum] herbicide that kills almost all green plants. Depending on the rate of metabolism, the affected plants die off completely within a few days.

Monsanto, Bayer and other companies genetically engineer crops that are resistant to glyphosate. Thus, plantations with genetically modified corn, soy or canola can be sprayed with glyphosate to exterminate weeds between the crop plants. This method, however, results in a glyphosate residue on the crop, which then enters the food chain of animals and humans.

Glyphosate in the Urine of Humans and Animals

To this day Monsanto continues to advertise its Roundup products as environmentally friendly and claims that neither animals nor humans are affected by this toxin. Environmentalists, veterinarians, medical doctors and scientists, however, have raised increasing alarms about the danger of glyphosate in the animal and human food chain and the environment. The fact that glyphosate has been found in animals and humans is of great concern. In search for the causes of serious diseases of entire herds of animals in northern Germany, especially cattle, glyphosate has repeatedly been detected in the urine, faeces, milk and feed of the animals. Even more alarming, glyphosate was detected in the urine of the farmers.

Contamination of Human Urine

To determine if only individuals who are in direct contact with contaminated feed or glyphosate laced compounds are at risk of glyphosate poisoning a study was conducted in December 2011 of an urban population in Berlin. The urine of city workers, journalists and lawyers, who had no direct con- tact with glyphosate, was examined for glyphosate contamination(*). The study found glyphosate in all urine samples at values ranging from 0.5 to 2 ng glyphosate per ml urine (drinking water limit: 0.1 ng/ml). None of the examinees had direct contact with agriculture.

Death-spray before Harvests

Glyphosate probably entered human populations over the past 10 years through its increasing presence in daily foods such as meat and dairy products, vegetable and fruit produce and grains products. Glyphosate laced genetically modified Roundup soya which enters the animal food chain, is only one of the risk factors. Even more dangerous now is the increasing use of herbicides in the EU over the past several years for the desiccation of entire stocks of harvestable crop. "Spraying crops to death", as desiccation should be more aptly called, means that herbicides are being sprayed directly on the crops shortly before they are to be harvested to facilitate the harvest by uniformly killing off all living plants (including the crops) on the field. If crops can not fully mature due to excessive rain, as was the case in the summer of 2011, herbicides are used to bring the crops to maturity by means of a "death-spray". The method facilitates the drying of the crops as well as removing all weeds for the next sowing period, and has become common for the harvest of potatoes, cereals, canola and pulses. For potatoes, spraying herbicides on the field immediately before harvest (2.5 l/ha), hardens the skin and reduces susceptibility to late blight and germination, which improved the potatoes shelf life. Active compounds of the herbicide directly enter the potato through the leaves; however, decomposition of the poison takes place in the body of the
consumer.

Syngenta's advertising brochure has the following to say about desiccation: "For professional producers chemical desiccation now counts among the standard measures to assure high quality production [...]. In this context one also speaks of the 'economic maturity' of crops, as the usage of herbicides allows for a safe termination of the harvesting procedure." With this in mind, authorities in the EU raised the legal limit of glyphosate in bread and wheat to 100 times the legal limit for vegetables. For feed grains, the legal limit was raised 200 fold, this without that these limits are being enforced by any form of relevant random sampling. Yet, the plant protection authorities are quite aware of the negative effects of glyphosate. For example, glyphosate may not be used on malting barley or for a "kill-off" during seed propagation, as this reduces germination capacity. Beer does not brew with grains that were "sprayed to death" with glyphosate. For bread and fodder grain, however, this reduced germination capacity is not a concern. Authorities, however, forbid desiccated cereal straw to be used for fodder in the same year. Unfortunately, this regulation is neither followed nor enforced.

Desiccation is one of the most egregious scandals of modern agricultural history, As such, it is worth taking a minute to consider what is actually happening in the process. Just before crops are harvested, threshed, and sold to bakeries, farmers soak them in broad-spectrum systemic herbicides to kill them off and give them the appearance of uniform maturity. One could just as well stir the glyphosate right into the bread dough. With protein-rich feed it is the same - the herbicide is spayed directly on the grain several days before it is sold as concentrated feed.

Pesticide and insecticide use is associated with considerable waiting periods before harvest. However, the waiting period for glyphosate [and similar drugs such as glufosinate-ammonium (Basta/Liberty Link), deiquat or diquat (Reglone), carfentzarone (Shark, cyanamide (Azodef), cinidonethyl (Lotus) and pyraflufen (Quickdown)], is completely inadequate because it is classified as a herbicide. While in viticulture, for example, a waiting period of 8 weeks before harvest is mandated for the usage of purely mineral sulphide, grains can be sprayed with glyphosate a mere 7 days before harvest.

There is an urgent need for action. Regardless of all the other risks associated with glyphosate, an immediate ban of desiccation must be enforced. Desiccation can be considered nothing less than negligent physical injury and is irreconcilable with current animal welfare laws.

Unlike the EU, Switzerland forbids desiccation with herbicides. Yet, Swiss livestock and their consumers are not safe, as nearly half of the food and nearly two-thirds of livestock feed is imported from countries where desiccation is a standard agricultural practice.

Other Applications of Glyphosate

Municipalities and cities use glyphosate-containing compounds for weed management on public spaces such as kindergartens, schools and parks, as well as roads and roadsides. Although the practice is legally prohibited in both Germany (§ 6 paragraph 2 Plant Protection Act) and Switzerland, municipal governments ignore this law. The Federal Railways use glyphosate to keep its railway facilities and tracks growth free, with the danger of considerable amounts of toxic vapors being released into the air on rail platforms. In allotment gardens, glyphosate is commonly used for renewing of lawns and keeping pathways clear. Since glyphosate-containing herbicides are available at retailers and over the internet in unlimited quantities, improper use in home and allotment gardens may not be ruled out. For conventional permacrops (ie, wine, raspberries, apples, kiwis, etc.), the area directly under the crops and, in some cases, the entire plantations are cleared with glyphosate. For certain permacrops such pineapples, enormous amounts of glyphosate are sprayed on the crops post-harvest, as this makes it easier to plow the remains of the dead plants into the ground.

Health Risks of Glyphosate

Several disconcerting health related effects of glyphosate are well known to the plant protection agency in Germany (see: Anfrage der Grünen im Bundestag and the NABU-Study). However, little is known about the spread of glyphosate contamination through fodder and food and the subsequent health risks.

Detection of glyphosate is relatively difficult and can as of yet only be carried out in a few specialized laboratories. Glyphosate in soil is strongly absorbed and bound by soil particles. It inhibits useful bacteria and kills off

algae, resulting in an increasing prevalence of phytopathogenic fungi. In addition, glyphosate can cause micronutrients, especially manganese, to become unavailable and thus lead to deficiency diseases. A similar process is suspected to take place in the digestive tract of humans and animals. In certain circumstances, glypohosate can affect the microflora of the gastrointestinal tract of humans and animals. The first studies dealing with this topic fear that the gradual negative impact on the intestinal microflora is most likely the cause of long-term health consequences. However, more research is needed to determine if and to what extent the inhibition of bacteria and reduction of micronutrients has an influence on human health. Glyphosate is becoming increasingly implicated in infertility and embryonic development of humans and animals. Adverse affects on fertility in cattle has been observed. Moreover, glyphosate is suspected to enhance cancers of the lymphatic system and promote the development of skin tumors in humans. By entering the digestive tracts of humans and animals, glyphosate becomes a time bomb that can be ignited by stress or an unbalanced or bad diet.

In early 2009, Prof. Gilles Seralini and his team of the University of Caen were able to prove ... that even small amounts of Roundup lead to the death of human cell cultures. Seralini concluded that the typical glyphosate presence in desiccated crops, as found in animal and human foods, causes cell damage.

In the middle of the last century, the insecticide DDT was highly praised and considered indispensable. For its producers, DDT was a big business. However, due to its chemical stability, DDT accumulated in the fatty tissue of animals and humans, which raised concerns that the substance might be carcinogenic. Following years of controversy, DDT was finally banned in the 1970s in most western countries. The evocative and thought-provoking 1962 book "Silent Spring" by Rachel Carson played a significant role in that.

We should ask ourselves what our health is worth to us and whether we want ourselves and our children to consume more and more glyphosate in the future. There were alternatives to DDT, and there are alternatives to Roundup now. It is up to consumers, farmers and the relevant agencies to stop to the accumulation of glyphosate in our food supply and environment.

(*) The editors are in knowledge of the address of the university laboratory undertaking the studies, their analytical values and the evaluation of the analytical methods. Not least due to considerable pressure from representatives of the agrochemical industry and the resulting concern that the work of the laboratory would be compromised, the complete analytical data will only be published later this year. Glyphosate analysis databases are currently being compiled in several laboratories throughout Germany, Austria and Switzerland to create a standardized and representative analysis of the glyphosate contamination of animals, humans, food and fodder. Because so far it has not even been possible to elaborate one's own glyphosate exposure or that of one's

livestock.

# # #

New Benbrook data blow away claims of pesticide reduction due to GM crops

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http://www.gmwatch.org/index.php?option=com_content&view=article&id=14041:new-benbrook-data-blow-away-claims-of-pesticide-reduction-due-to-gm-crops

See also www.organic-center.org

Data presented at a conference by Dr Charles Benbrook analyse pesticide use on GM and non-GM equivalent crops over the first 16 years of use, from 1996 to 2011. The analysis is based on widely accepted USDA data.

Crops considered are herbicide-tolerant corn, soy, and cotton; Bt corn varieties engineered to resist corn rootworm and European corn borer pests; and Bt cotton.

Benbrook's new data challenge "conventional wisdom" on GM crops and pesticide use. Dozens of papers in peer-reviewed journals assert GM crops reduce pesticide use, either based on no data or proprietary surveys of "representative fields". Scientists repeat the claim in professional meetings and policy venues and lack of independent analyses by government or university experts allows the claim to go unchallenged, despite growing evidence to the contrary.

Implications of GM crop cultivation at large spatial scales

Presentation given in Bremen, Germany, June 14-15, 2012
By Charles Benbrook, PhD, Center for Sustaining Agriculture and Natural Resources, Washington State University, Pullman, WA
Summary by GMWatch

1. Increased herbicide use on GM RR soy compared with non-GM soy:
*Use of glyphosate on GM RR soy acres INCREASED from 0.69 pounds per acre in 1996 to 1.56 in 2011.
*Use of other herbicides on GM RR soy acres DECREASED from 0.20 pounds per acre
in 1996 to 0.12 in 2011.
*Use of all herbicides on GM RR soy acres INCREASED from 0.89 pounds per acre in 1996 to 1.68 in 2011.
*Use of all herbicides on non-GM RR soy acres DECREASED from 1.19 pounds per acre in 1996 to 0.96 in 2011.

2. Non-sustainability of GM soy:
The differential between herbicides used on GM RR soy and non-GM soy is growing, showing that GM RR soy is increasing the use of herbicides over time whereas non-GM soy is decreasing herbicide use. In 1996 GM RR soy needed 0.30 pounds per acre less herbicide than non-GM soy. But in 2011 GM RR soy needed 0.73 pounds per acre more herbicide than non-GM soy.

3. Increased herbicide use on GM herbicide-tolerant (HT) crops as compared with non-GM crops in 2011:
*0.73 pounds per acre more in the case of soy
*0.41 pounds per acre more in corn
*0.86 pounds per acre more in cotton.

4. Impacts of HT crops on herbicide use 1996-2011:
*Herbicide-tolerant (HT) crops have INCREASED herbicide use by a total or 527 million pounds (239 million kgs)
*HT soybeans account for 72% of the total increase in herbicide use across the three HT crops.

5. Bt crop impacts on insecticide use and overall GM crop impacts 1996-2011:
*Bt corn and cotton have REDUCED chemical insecticide spray use by 124 million pounds (56 million kgs).
*GM crops have INCREASED overall pesticide use by 403 million pounds (183 million kgs). This means an additional 0.25 pounds (0.28 kg/ha) of active ingredient for every GM trait acre.

6. Increase in rate (pounds per acre) of glyphosate applications on GM glyphosate-tolerant corn, cotton and soy:
*Corn: increase of 54% between 1996 and 2010
*Cotton: increase of 206% between 1996 and 2010
*Soy: increase of 96.6% between 1996 and 2006.

[GMWatch comment: The above data should not surprise us - as Benbrook points out, the pesticide industry owns the seed industry:
*Changes in US patent and intellectual property law created unprecedented profit opportunities.
*The pesticide industry took over the seed industry, in the late 1980s-1990s.]

7. Bt corn for European corn border insecticide (endotoxin) production compared with chemical insecticide sprays displaced:
*0.12 pounds chemical insecticide sprays applied per acre for ECB control on non-GM corn in 2010
*MON 810 produces 0.18 pounds endotoxins per acre
*Bt 11 produces 0.25 pounds endotoxin per acre
*MON 89034, Cry1A.105 plus Cry2Ab2 produces 0.6 pounds of two endotoxins per

acre (5 X the amount of chemical insecticides displaced).

8. Bt corn for rootworm control insecticide (endotoxin) production compared with chemical insecticide sprays displaced:
*0.19 pounds chemical insecticide sprays applied per acre for rootworm control on non-GM corn in 2010
*MON 88017, Cry3Bb1 produces 1.7 pounds endotoxin per acre
*Dow/Pioneer DAS 59122-7, Cry34Ab1 plus Cry35Ab1 produces 2.5 pounds per acre (13 X the amount of chemical insecticides displaced).

9. Chemical insecticides displaced in fields planted to Monsanto-Dow AgroSciences SmartStax corn:
*Total expression of Bt proteins is 3.73 pounds per acre: 12 X more than the chemical insecticide sprays displaced (0.31 pounds active ingredients)

[GMWatch comment: The above data confirm that GM Bt crops do not reduce or eliminate insecticides, but simply change the way that pesticides are used, from sprayed on, to built in.]

10. HT technology has dramatically accelerated the emergence and spread of resistant weeds:
*Over 14 million acres (5.6 million ha) in the US are now infested with glyphosate-resistant weeds.
*22 weeds now resistant to glyphosate, and more than a dozen pose economic threat to US farmers.
*Some weeds have evolved resistance via two or more mechanisms of resistance.
*44% of multiple herbicide-resistant weeds have appeared since 2005.

11. Prospects for weed management for US farmers:
*Few, if any, viable chemical options will remain.
*Non-chemical options are costly and require significant system changes - return to rotations, heavy tillage to bury weed seeds, planting of cover crops, and mechanical cultivation and/or hand weeding.
*"It is very unlikely that new herbicides with new modes of action will be available within ten to 15 years." - MDK Owen, 2011, J. Consumer Protection and Food Safety: 85-89.

12. Industry "solutions":
*Industry push to market 2,4-D, dicamba, and paraquat HT crops.
*Even without 2,4-D HT crops, 2,4-D is the #1 cause of crop damage episodes investigated by state departments of agriculture in the US.
*Studies link 2,4-D exposure to reproduction problems, spontaneous abortions, birth defects, and non-Hodgkin's lymphoma.

13. Emerging issues in the wake of GM crop technology:
*Corporate control over seed industry and germplasm - profits now drive breeding

decisions in the US, not problem-solving.
*Passive role of US government in dealing with herbicide resistance and the collateral damage of HT crops.
*Erosion of investments in prevention-based IPM and farmer IPM skill sets.
*Rapidly growing reliance on systemic delivery of toxins - seed treatments, insecticides, Bt endotoxins - that alter risk profiles.

14. Lack of independent research on GM traits and systems:
*GM seed "technology agreements" contain language to effect that "This seed is for commercial use by farmers growing crops, and may not be used for any research purpose or to compare performance to other corn/soybean/cotton varieties."

Background to the new data

The new data is an update of Benbrook's previous reports of 2004 and 2009. The 2009 report found that herbicide use had increased 383 million pounds (173 million kgs) in first 13 years of GM crop use, due to herbicide-tolerant crops.
A modest reduction in chemical insecticide spray applications due to Bt crops (down 64.2 million pounds or 29.1 million kg) was swamped by an overall increase in pesticide use of 318 million pounds (144 million kg).

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