

Down to Earth

Thoughts on Maine's environment

March 09, 2007

John Richardson covers environmental issues for the Portland Press Herald/Maine Sunday Telegram. A reporter for 20 years, he always hoped to find some use for his undergraduate degree in International Environmental Studies. He also has a master's degree in journalism, though back then they taught writing on a thing called a typewriter. He's married and has two children.

About this blog Down To Earth is a place to keep tabs on the environment beat at the Portland Press Herald/Maine Sunday Telegram. Staff Writer John Richardson will post updates on past news stories, share tidbits and behind-the-story stories, answer questions and get feedback and ideas from you.

How green is your lawn?

It was hard to imagine this week, but lawns and gardens will soon be reemerging, brightening spirits and demanding attention.

A lot of people are getting help with the imagination part this weekend at the Portland Flower Show, where you can step into colorful gardens, sit next to waterfalls and talk spring with the experts. And the talk this year is a little greener than usual.

Organic gardening and environmentally friendly lawn care are hot topics these days. Maine's Legislature dug into them this week by taking up a proposal to discourage the sale and use of lawn fertilizer containing phosphorous, a nutrient that can get into lakes and turn them as green as the front lawn in July.

Two new Maine-based initiatives are at the Flower Show teaching gardeners and homeowners how to beautify their environment and keep it healthy at the same time.

Paul Tukey, founder of People, Places & Plants magazine, is making that his latest mission.

Tukey, of New Gloucester, created [SafeLawns](#), a non-profit foundation to promote organic gardening and lawn care. He also just finished a book, "The Organic Lawn Care Manual," which was getting snatched up at the Flower Show like bags of weed-n-feed on Memorial Day weekend.

Tukey said he became convinced that synthetic chemicals are not only unnecessary but dangerous after using so much of them as a landscaper in the early 1990s that he'd get regular nose bleeds and shortness of breath. "Why would you let your kids play on this stuff?"

That message seems to be taking root. Tukey spoke to 750 people about organic lawns last weekend in Ohio.

"It just would have been unthinkable five years ago," he said. "It's a real tipping point."

Not far from where Tukey is signing copies of his book this weekend, gardeners are learning about another initiative called [YardScaping](#).

A partnership of Maine state agencies, universities, environmental groups and the city of Portland, YardScaping is not so much about going organic as it is about minimizing overall harm to the environment. One of its core principles is simply reducing lawn area by switching to other plants. Not only does that reduce the need to fertilize and control weeds, it cuts mowing time, among other things. According to YardScaping, an hour behind a lawn mower pollutes as much as driving a car 350 miles.

Both SafeLawns and YardScaping have big plans to take advantage of the growing interest this spring.

YardScaping plans to break ground in June on a 2.5-acre demonstration yard with a variety of plants and shrubs next to Back Cove in Portland.

Tukey is thinking really big. He'll be on the National Mall in Washington, D.C., April 4 to kick off the SafeLawns campaign and start converting part of the mall, the Capitol's front yard, into an organic lawn. Tukey hopes to eventually wean the entire mall off synthetic chemicals.

[The Flower Show](#), taking place at the Portland Co. complex on Fore Street, is open from 10 a.m. to 8 p.m. today and 10 a.m. to 5 p.m. Sunday. Admission is \$15. If you're on your way this morning, Tukey is scheduled to speak there at 10:30 a.m.

Posted by [John Richardson](#) at 06:00 PM

[E-mail this entry to a friend](#)

Comments

Thank you Paul Tukey and John Richardson, the John Richardson that is the real environmentalist. I hope the Natural Resource Committee passes that bill, and your article helps to educate those people who spray and fill their yards with all those chemicals. I myself prefer el naturel, and I even love my dandelions.

Keep up the good work.

Sincerely, Joanne Twomey

Posted by [JoanneTwomey](#)

March 10, 2007 07:34 AM

As I've said before, "Pave the world and paint it green."

But let's not discount the benefits of having a lawn, particularly in urban areas: erosion control, produces oxygen, eliminates dust, a natural air filter, noise reducer, and air cooler, makes a safer play area for children and adults, contributes greatly to recreation, and is scientifically-proven to have a positive impact on mental health.

As a former greenkeeper I am sensitive to the environmentalist who points at a golf course as a polluter. They are not. Proper grass care creates too many benefits to people to advocate the reduction of grassy spaces.

True, some people apply too much phosphorus to their lawns, and some lawns need a lot of phosphorus. Instead of advocating a ban on phosphorus and the reduction of lawn area, it seems that recommending professionals to care for lawns along with stricter controls on the sales and regulated use of fertilizers would be in order.

Posted by [Dick](#)

March 10, 2007 08:42 AM

Both Dick and Joanne are right. That is why YardScaping is not about banning anything. It is all about minimizing reliance on pesticides, fertilizers and water on our landscapes. YardScaping is not anti-lawn, but it is about minimizing the amount of lawn you grow and mow so in turn less fertilizer, pesticides, water and gasoline will be wasted. Lawns and green spaces are very important, but many of us have gotten used to having too much of them. YardScaping tries to show us all how to have a beautiful yard that doesn't need a lot of extra inputs to keep it beautiful. Thanks to John for his article!

Posted by [Gary Fish](#)

March 10, 2007 10:27 AM

Letting lawns grow into fields of wildflowers has all the benefits of erosion control, noise buffer, beneficial insect habitat, and it's so easy!

I've been mulling over the lawn problem because I have been building an agility yard for training dogs, and I don't want to have to mow all that additional space! I'm thickly bordering the whole area with an extension of my "permaculture" styled garden (kiwi, espaliered pear and apples, hazelnut, a korean pine nut, weeping mulberry) and probably I'll wood chip or sand the center of the training area. But if I do decide planting grass makes the most sense, I might do as my parents did when I was growing up -- buy some goats to keep the grass trimmed (and I will rent my goat out by the day??) and turn that grass into milk. As the other headlines read, grocery prices are going up!

Wouldn't it be neat if our urbab communities became more tolerant of livestock and wildflowers in the city?

Great to see this blog springing into life. Congrats!

Posted by [Jenny Yasi](#)

March 11, 2007 06:43 PM

I know that planting crops or letting it grow wild is the right thing to do but it has been a matter of significant internal struggle. The desire to maintain a gigantic lawn must be something deep down in our inner psyche's, that feeling when you have finished mowing, looking over your land with that strange satisfaction.

I think at the very least you can let your lawn grow longer between mows and lay off the fertilizer.

Posted by [Bill Brasky](#)

March 12, 2007 10:24 AM

MAINE GARDENER

Award-winning potato resists destructive bugs

By Tom Atwell *Portland Press Herald / Maine Sunday Telegram*

Sunday, March 18, 2007

If you have had trouble with Colorado potato beetles -- or with other insects including potato leaf hoppers and flea beetles -- you now have an organic option.

Wood Prairie Farm, the organic potato company from Bridgewater in Aroostook County, is offering King Harry, a new hybrid developed by Cornell University that naturally repels such pests.

The catalog company has won the Mailorder Gardening Association's Green Thumb Award for the introduction.

"The award is given to the five best new plant varieties of the year," said Jim Gerritsen, who with his wife, Megan, runs the company. "Usually ornamentals, with all their beautiful flowers, win out. King Harry was the only vegetable that won this year."

Gerritsen said King Harry is a crossbreed of a common potato with a wild relative of the potato from Mexico that has hairy leaves -- thus the somewhat pun of a name -- that was developed over 12 years at Cornell, in Ithaca, N.Y.

Gerritsen stressed that the breed was traditionally hybridized and not genetically engineered.

"The hairy leaves make it uncomfortable for insects, so they leave it alone," Gerritsen said. "We have been working with Cornell for the last 10 or 12 years, doing field trials for them. We had another variety, Prince Harry, before. It was a pretty good variety, but had production problems and was a pretty blasÉ potato."

King Harry, he said, is a round, white, early season variety that is good as a new potato but also stores well.

If you want to try King Harry in your garden this year, you should order pretty quickly. Gerritsen said he has a limited supply, and it is selling well. It is the same price as Wood Prairie Farm's other organic seed potatoes -- \$14.95 for a 5-pound bag and \$7.95 for a 1-pound bag. The company's Web site is www.woodprairie.com and its phone number is 1-800-829-9765.

"The sales really tickle the guys at Cornell," Gerritsen said. "Sometimes they invent the best variety around, and people don't kick up any interest and it goes by the wayside."

He said King Harry is an example of the best kind of spending for public research, because it solves a real agricultural and environmental problem while it eliminates the need for pesticides on potatoes.

Tom Atwell can be contacted at 791-6362 or at:

tatwell@pressherald.com

Reader comments

Deb Levensailor of Harpswell, ME

Mar 18, 2007 6:46 PM

Congratulations to Jim and Megan Gerritsen for working with Cornell University to produce the King Harry potato. This is a wonderful organic addition to our food supply. My husband and I are originally from nearby Houlton, and it's great to see folks from Aroostook County leading the way in producing new healthy varieties of one of the best foods in the world -- the potato. There's nothing like picking up a small one from the field on a cold fall morning, cleaning it off and eating it, is there? Yum! We applaud your hard work and dedication and wish you continuing success. Thanks.



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Abstract View

[Volume 44, Issue 2 \(March 2007\)](#)**Journal of Medical Entomology**Article: pp. 175–178 | [Full Text](#) | [PDF \(148K\)](#)**Insecticide Resistance in the Bed Bug: A Factor in the Pest's Sudden Resurgence?**Alvaro Romero, Michael F. Potter, Daniel A. Potter, Kenneth F. Haynes¹

Department of Entomology, University of Kentucky, Lexington, KY 40546

Infestations of the bed bug, *Cimex lectularius* L. (Heteroptera: Cimicidae), are increasing around the world at an alarming rate and have become a major public health concern. The evolution of insecticide resistance could be a primary factor in explaining this resurgence. Extremely high levels of resistance to two pyrethroid insecticides, deltamethrin and γ -cyhalothrin, relative to a susceptible colony, were detected in populations collected from human dwellings in Kentucky and Ohio. Offspring of a cross between a resistant and susceptible colony had intermediate susceptibility. Evaluations of populations from across the United States indicate that resistance to pyrethroid insecticides is already widespread. Without the development of new tactics for bed bug management, further escalation of this public health problem should be expected.

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Keywords: bed bug, urban pest, resurgence, insecticide resistance, pyrethroids

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top ▲

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A shift of perspective

Mar 22nd 2007

From The Economist print edition

Recruiting mosquitoes to fight malaria

[Get article background](#)

MAKING an ally out of an enemy is often a good policy. And that is what Mauro Marrelli and Chaoyang Li of Johns Hopkins University are trying to do. Until recently, *Anopheles*, the mosquito that spreads malarial parasites, has been seen by those trying to eradicate the disease as a target. Now, a few far-sighted researchers see it as an opportunity.

Science Photo Library



Your friendly, neighbourhood ally

The idea put forward by these researchers, Dr Marrelli and Dr Li among them, is to break the chain of transmission by breeding mosquitoes that are themselves resistant to malarial parasites, and then to take the genes that confer this resistance and establish them in the wild. The first bit of this strategy is not too difficult; several resistance genes have already been found. It is the second part that seems ambitious for, in order to get these genes to spread through the *Anopheles* population of Africa and other infected areas, they will have to confer higher fitness on the insects that contain them than is found in the natural population. But, in a paper just published in the *Proceedings of the National Academy of Sciences*, Dr Marrelli and Dr Li describe an experiment which suggests that this may, indeed, be possible.

Dr Marrelli and Dr Li are part of a group which has already discovered a gene that protects mosquitoes from malaria. The gene in question, called *SM1*, encodes a small protein that stops malarial parasites from getting through a mosquito's gut, thus preventing infection. The question is, at what cost? Other genes that protect against the parasite do so by stimulating the insect's immune system. That works, but imposes a burden on the animal, since materials and energy have to be diverted to the boosted immune system. In practice, such insects are worse off than they would be without the gene. But because *SM1* prevents infection rather than suppressing it, Dr Marrelli and Dr Li hoped that different rules might apply.

Unnatural selection

And so, it seems, they do. The two researchers and their colleagues took a mixture of “wild type” mosquitoes and those that had had *SM1* added to their genomes and fed them on mice infected with malarial parasites. The genetically modified beasts did better.

To make absolutely certain, the team used two different strains of parasite in different groups of mice. One strain was a type that, in any circumstances, only breeds in mammals, not insects. The other can breed in both. The upshot was that in mosquitoes fed on the mice carrying the mammalian parasite, the *SM1* gene had no advantage. In mosquitoes fed on the other group, though, it spread rapidly. By the ninth generation, 70% of the insects were carrying it. So, not only is *SM1* protective, it has a clear evolutionary advantage over the wild type, at least in the cosseted conditions of the laboratory.

It is, of course, a long way from the laboratory bench to the stagnant pool, and many questions remain. There is first a question of principle—namely whether it can ever be sensible to release genetically modified organisms to achieve an end like this. But there are also practical questions. One is why *SM1* did not sweep the population completely. This is probably because the gene helps when only one copy is present, but hinders when there are two, one from each parent. However, the details are unclear. Another practical point is that the type of malarial parasite used in this and many other experiments is not actually one that causes human disease. Just as researchers use mice to model human physiology, so they use this parasite, *Plasmodium berghei*, to model the lethal *Plasmodium falciparum*. Nevertheless, Dr Marrelli and Dr Li have produced a noteworthy result. The idea that helping mosquitoes, rather than destroying them, may be the way to eradicate malaria is pleasingly counterintuitive, even if it would mean more mosquito bites at night.



<http://www.epa.gov/oppfead1/guidance/response-to-human-study.htm>

Last updated on Friday, February 9th, 2007.

Pesticides: Science and Policy

You are here: [EPA Home](#) [Pesticides](#) [Science & Policy](#) Response to Television Show Depicting Illegal Pesticide Human Study

Response to Television Show Depicting Illegal Pesticide Human Study

A Law and Order: Special Victims Unit episode with a story line about pesticide testing aired on February 6. The story depicted "research" involving intentional dosing of uninformed individuals, who were harmed by their exposure to an unregistered pesticide. The show was filled with factual inaccuracies. The kind of testing depicted on the show violates multiple requirements in EPA's regulations designed to protect all people from unethical research:

- The show alleged there were loopholes for "observational research" in EPA's rules that would allow pesticide companies to conduct such a fictional study. The fictional study, however, clearly involved intentional dosing of children with pesticides (not observational research), and EPA rules categorically prohibit all intentional dosing studies with children, as well as with pregnant or nursing women.
- While such a study would never be allowed, the fictional chemical company went even further and lied about the research and did not tell the subjects they were being exposed to dangerous organophosphate pesticides.
- The study unnecessarily put the subjects' health at serious risk – a risk that would never be tolerated under EPA rules, no matter how fully risks were disclosed.

In February 2006 EPA issued a tough new regulation governing human testing for pesticides by pesticide companies and other parties not affiliated with the government. Our rule put in place the nation's strongest protections for subjects in third-party research, including:

- A prohibition against research involving intentional dosing of pregnant women, nursing women, or children;
- A prohibition against EPA relying on such testing in its decisions under the pesticide laws; and
- A requirement that all new intentional dosing human studies on non-pregnant, non-nursing adults be reviewed by EPA and a panel of independent experts for ethical and scientific acceptability.

For more information, see these Websites:

EPA's [Human Studies](#) Web page;

The [Common Rule](#), a set of existing requirements that govern the conduct of all human research performed by EPA and 18 other federal departments and agencies.

[Article submitted by Rob Fish, GE Free Maine]

GM WATCH daily

<http://www.gmwatch.org>

- 1.French Scientists Express Doubt About Genetically Modified Corn - DeutscheWelle
- 2.New study reveals signs of toxicity of GE maize approved for human consumption - Greenpeace
- 3.Strong Suspicions of Toxicity in a GMO Corn - Le Monde
- 4.Independent analysis of data uncovers evidence of scientific fraud - GM Free Cymru

1.French Scientists Express Doubt About Genetically Modified Corn
DeutscheWelle, 13 March 2007

<http://www.dw-world.de/dw/article/0,2144,2382626,00.html>

[image caption: Dark days ahead for GM maize?]

The environmental protection organization Greenpeace has long said genetically modified maize could be a health hazard. Now, in a new study, a group of French scientists have also expressed their doubts about the corn.

Greenpeace has warned about the potential dangers of genetically modified (GM) produce and maize for some time. On Tuesday they presented a study in Berlin to backup their claims.

Professor Gilles-Eric Seralini of the University of Caen said that according to studies by his group, CRIIGEN, Monsanto's maize type MON863 caused symptoms of poisoning and liver and kidney damage in rats that were fed the product during experiments.

Seralini's results call into question an earlier report by Monsanto that said genetically modified feed was harmless.

"There are significant deficits in the statistic evaluation of the Monsanto report," Seralini said.

Genetically altered maize could therefore not be deemed safe, Seralini said.

Greenpeace genetic engineering expert Christoph Then said the case shows that "German Consumer Affairs Minister Horst Seehofer must stop the sowing of GM seeds and the import of GM food in Germany."

Built in pest control

MON863 has been cultivated since 2003 in several countries, including the United States and Canada.

The GM maize, which can be legally imported into European Union countries since 2006 as a food and feed product, contains a protein to combat plant pests, allowing farmers largely to grow their maize crops without having to use pesticides.

Seralini, however, said he found that GM maize produced around one kilogram of poisonous substances per hectare. He said that is more than farmers would use in pesticides.

The scientist also pointed out that Monsanto ran tests with animals fed with MON863 for only 90 days. Long-term studies do not exist, he said.

As safe as unmodified corn

Andreas Thierfelder, spokesperson for Monsanto Agrar Germany, said Greenpeace had already been unsuccessful in several attempts to question studies done on the effects of MON863 in feed.

"But the allegations were refuted every time by competent authorities," Thierfelder said. He said the European Food Safety Authority and the German Office of Consumer Protection and Food Safety had evaluated Monsanto's experiments with GM feed.

Monsanto Germany's spokesman said the authorities had found that "MON863 to be as unquestionable for health and the environment as conventional maize."

- 2.New study reveals signs of toxicity of GE maize approved for human consumption
Greenpeace demands immediate withdrawal of high-risk GE products
Greenpeace Intl.

Press Release, Mar 13 2007

http://www.yubanet.com/artman/publish/article_52782.shtml

Laboratory rats, fed with a genetically engineered (GE) maize produced by Monsanto, have shown signs of toxicity in kidney and liver, according to a new study.(1) This is the first time that a GE product which has been cleared for use as food for humans and animals has shown signs of toxic effects on internal organs.

The study, published today in the journal "Archives of Environmental Contamination and Toxicology", analysed results of safety tests submitted by Monsanto to the European Commission when the company was seeking authorisation to market its GE Maize variety MON863 in the EU. (2)

The data shows that MON863 has significant health risks associated with it; nonetheless, the European Commission granted licences to market the maize for consumption by both humans and animals. (3)

The incriminating evidence was obtained by Greenpeace following a court case (4), and passed on for evaluation by a team of experts headed by Professor Gilles Eric Seralini, a governmental expert in genetic engineering technology from the University of Caen. (5)

In a joint press conference with Greenpeace at Berlin, Professor Seralini said, "Monsanto's analyses do not stand up to rigorous scrutiny " to begin with, their statistical protocols are highly questionable. Worse, the company failed to run a sufficient analysis of the differences in animal weight. Crucial data from urine tests were concealed in the company's own publications."

Greenpeace is demanding the complete and immediate withdrawal of Monsanto's MON 863 maize from the global market and is calling upon governments to undertake an urgent reassessment of all other authorised GE products and a strict review of current testing methods.

"This is the final nail in the coffin for the credibility of the current authorisation system for GE products. Once it's known that a system designed to protect human and animal health has approved a high-risk product despite clear evidence of its dangers, we need to start "strip-searching" all GE products on the market, and immediately abort this flawed approval procedure," said Christophe Then, Genetic Engineer campaigner, Greenpeace International.

The data in question has been the subject of fierce debate since 2003, when significant changes were identified in the blood of tested animals fed on MON863. MON863 was approved by the European Commission, in spite of opposition by a majority of EU member states, who raised concerns over the safety of the maize. Professor Seralini's analysis now scientifically confirms these concerns.

As the study states, "with the present data, it cannot be concluded that GM corn MON863 is a safe product." And yet, MON863 has been authorised for markets in Australia, Canada, China, Japan, Mexico, the Phillipines, and USA, besides the EU.

"This is an international emergency alert, requiring a global response," concluded Then, "Only a complete withdrawal from all markets will curtail the possible damage."

Notes:

1. The article is due to be published online ([http://www.springerlink.com/content/"k=1432-0703](http://www.springerlink.com/content/)) by the American journal Archives of Environmental Contamination and Toxicology; it will be printed in May. A copy can be faxed on request. A Greenpeace briefing on the study is available at: http://www.greenpeace.org/international/press/reports/gp_briefing_seralini_study

2. The tested GE maize named MON 863 produces a new insecticide called "modified Cry3Bb1" able to kill a pest insect in the soil (*Diabrotica virgifera*). This GE maize also contains a gene coding for antibiotic resistance.

3. The European Commission granted a license for MON 863 to be used in feed in August 2005, and subsequently approved it for human consumption in January 2006.

4. For details, please refer to the Greenpeace paper: "The MON863 case -a chronicle of systematic deception"
http://www.greenpeace.org/international/press/reports/mon863_chronicle_of_deception

5. The analysis team was headed by Professor Seralini from the University of Caen and included experts from the French independent scientific organisation CRI IGEN.

3.Strong Suspicions of Toxicity in One GMO Corn

By Stephane Foucart

Le Monde, March 14 2007

<http://freddevan.com/wordpress/2007/03/13/strong-suspicions-of-toxicity-in-one-gmo-corn/>

[for the French original <http://au2007alenconbis.canalblog.com/archives/2007/03/13/4297922.html>]

Allowed to go on the market in France and Europe, MON 863, a transgenic corn invented by Monsanto, has been at the center of a controversy over its innocuousness for over two years (April 23rd, 2004, Le Monde). These debates could resume after the March 13th publication in "Archives of Environmental Contamination and Toxicology" of a study suggesting this genetically modified organism (GMO) is toxic to the liver and kidneys.

According to this work, consumption of MON 863 corn disturbs numerous biological parameters in rats to a greater or lesser extent: weight of the kidneys, weight of the liver, the level of reticulocytes (new red blood cells), the level of triglycerides, etc. Urinary chemistry is also changed, with reductions in excreted sodium and phosphorus going as high as 35 percent. The effects vary with the sex of the animals. "Female rats exhibit an increase in blood fat and sugar levels, and an increase in body weight - all associated with greater hepatic sensitivity," says Mr. Seralini, principal author of this study and, moreover, president of the Research Committee for Independent Research and Information on Genetic Engineering (Criigen). "Among males, the impact is opposite, with a drop in body and kidney weights."

The authors of this work used data drawn from an experiment sponsored by Monsanto, which bore on the study of 400 rats for 90 days. The statistical treatment applied to these data by the experts of the agrochemical firm was published in August 2005, by "Food and Chemical Toxicology." That work brought to light significant variations in biological parameters between animals fed MON 863 and those fed with its isogene - the same plant variety without the genetic modification.

Monsanto researchers, for their part, had concluded that those disparities were within the frame of the natural variability of the measured parameters. The effects produced by the GMO were therefore not considered pathological. As for the "natural variability," it had been established by measuring the same series of data on rats fed with other varieties of non-GMO corn, with different nutritional values from MON 863 and its isogene.

The raw experimental data - over a thousand pages - were kept confidential by the agrochemical firm until Greenpeace obtained an order for its publication in spring 2005 from the Appeals Court of Munster (Germany).

Criigen was thus able to examine the data in detail and to apply a new statistical treatment to them. According to Mr. Seralini, that, notably, consisted of extracting from the raw data the most significant effects specifically imputable to GMO absorption.

"Of the 58 parameters measured by Monsanto," the researcher details, "all those that were altered concern kidney or liver functioning." He continued, "furthermore, Monsanto had deemed that, because the males and the females responded differently, there was no reason for worry." He added, "Yet, the liver, for example, is an organ that reacts differently as a function of sex." In the same way, the fact that the measured biological response was not always in exact correlation with the dose of GMO received was interpreted by the company's experts as proof that the transgenic corn being tested was not the cause. Mr. Seralini contests that principle: "When the disturbances are hormonal, for example, the impact may not be proportional to the dose."

Toxicologist Gerard Pascal, a member, like Mr. Seralini, of the Committee on Bio-molecular Engineering, deems certain that Criigen's conclusions are erroneous. "I reject the analysis of the animals' weight curves, conducted without taking their feeding into account," says Mr. Pascal. "But I agree that the biological responses may vary between males and females and with the principle that the effects of a GMO corn must be compared with its isogene only and not take into account effects produced by other corn varieties."

According to Mr. Pascal, the lack of direct correlation between the GMO doses received and the impacts observed on the hepatic parameters disqualifies the conclusions about liver toxicity. Significant differences with respect to "kidney weight" and "urinary sodium, phosphorus, and potassium" suggest a renal impact. "However," Mr. Pascal recalls, "at my request, the CGB pressed for investigations of the kidneys and had not found any definitive evidence of toxicity" (December 15th, 2004, Le Monde). "The variations in the levels of reticulocytes and eosinophiles (white blood cells) remain," adds M. Pascal. "I don't know how to interpret that, but those are parameters that move around a lot in experiments." As far as Mr. Pascal is concerned, the information developed by Criigen is not of a nature to call into question the favorable opinions delivered with respect to MON 863. "All that is nothing but a personal interpretation," adds the toxicologist.

Criigen's work has been financed by Carrefour and Greenpeace, but, as Mr. Seralini explains, "Unfortunately, today there is no public budget for conducting this type of research." A situation all the more harmful, according to Mr. Seralini, in that, "the whole toxicological study ought to be redone, controlling for hormonal dosages" and, above all, the tests should be continued well beyond 90 days and on species other than the rat to reach a definitive conclusion.

[Translation: t r u t h o u t French language correspondent Leslie Thatcher]

4.REVEALED -- WHY MONSANTO SUPPRESSED GM MAIZE FEEDING STUDY

Independent analysis of data uncovers evidence of scientific fraud

Press Notice from GM Free Cymru, 13th March 2007

It has been revealed today, at a Paris Press Conference (1), that the Monsanto GM maize referred to as MON863 caused serious damage to the liver and kidneys of rats which consumed it during feeding trials. This is the first time in the world that a study on the health risks of a GM maize authorized for consumption shows signs of hepatorenal toxicity (2). The study is published today in the peer-reviewed journal "Archives of Environmental Contamination and Toxicology".

The study, completed at CRIIGEN (Caen, France), contains an examination of the raw data on MON863 feeding experiments initially suppressed by Monsanto but later obtained in 2005 after a Court action in Germany. Prior to that court action, Monsanto had refused public access to the data on the spurious grounds of "commercial confidentiality", although it had been widely leaked that the feeding studies showed statistically significant negative health effects on animals fed with the GM maize (3).

The GM maize in question produces a new insecticide called "modified Cry3Bb1" which has the capacity to kill the coleopteran insect *Diabrotica virgifera*. The plant also contains a gene coding for antibiotic resistance. (There are many other commercial GM varieties which produce new insecticides, and many others which are herbicide-tolerant or herbicide-resistant. Almost all of these new varieties have been heavily criticized by independent scientists on the grounds that their safety has never been fully established.) In America the variety is classified as a pesticide since every cell is toxic to insects. In spite of widespread concern and protests from the scientific community and consumer organizations, MON863 was given formal approval by the EC on 8th August 2005.

The new study (4) involved a new and rigorous statistical analysis of all the raw data in the 1130 page document, concentrating on the blood and urine analyses of the test animals. The French researchers claim that the Monsanto statistics were not detailed enough and that their protocols were questionable. Real damage to test animals was therefore masked by the analytical methods chosen -- and there can be little doubt that Monsanto knew this.

Upon detailed analysis, the French team uncovered an increase of up to 40% in blood triglycerides in females, and a more than 30% decrease in urine phosphorus and sodium in males, specifically linked to the GM diet. The reasons for these changes are unclear, but they may provide clues to the deaths of many animals which have consumed Bt feed in other animal experiments (5).

Professor Seralini said: "These revelations are profoundly disturbing from a health point of view. They are certainly sufficient to require new and more carefully conducted feeding studies and an immediate ban from human or animal consumption of GM maize MON 863 and all its hybrids. This maize cannot now be considered safe to eat. We are now calling urgently for a moratorium on other approved GMOs while the efficacy of current health testing methods is reassessed."

Speaking for GM Free Cymru, Dr Brian John said: "Now we know why Monsanto wanted so desperately to keep this animal feeding study out of the public domain. There is scientific fraud here, and this must now be apparent to all of us, including the regulatory bodies. Goodness knows how many other studies showing real harm to animals fed on GM crops and foods have simply been hidden away from independent scrutiny. We support Professor Seralini's call for an immediate moratorium on ALL GM varieties, approved or unapproved, while the regulators put into place the robust and independent health testing methods that we have been calling for since 2001. There can now be no further doubt that GM crops and foods are damaging to health."

ENDS

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GM Free Cymru
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NOTES

(1) From the Independent Committee for Research and Information on Genetic Modification: Corinne LEPAGE, Presidente du CRIIGEN (Comite de Recherche et d'Information Independantes sur le Genie Genetique) vous convie a une conference de presse le mardi 13 Mars 2007 a 17h30 sur le theme : « OGM : de nouvelles revelations »

En presence du Professeur Gilles-Eric SERALINI, des Docteurs Dominique CELLIER et Joel SPIROUX de VENDOMOIS du Conseil Scientifique du CRIIGEN (www.criigen.org)

Au Pain Quotidien

18 rue des Archives 75004 Paris

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Merci de confirmer votre presence aupres de Celine ALONZO

par telephone au 06 03 53 19 07 ou par mail calonzo@free.fr

Un cas grave : un maïs OGM autorisé est impropre à la consommation

Pour la première fois au monde, une étude des risques sur la santé d'un maïs transgénique autorisé à la consommation montre des signes de toxicité hépatique et rénale. Des exigences et recommandations seront formulées.

(2) The article, entitled "New analysis of a rat feeding study with a genetically modified corn reveals signs of hepatorenal toxicity" is by Gilles-Eric Seralini, Dominique Cellier, and Joel Spiroux de Vendomois. It is published on line (www.springerlink.com/content/1432-0703) by the American journal Archives of Environmental Contamination and Toxicology. It will be printed in April.

(3) The peer review of the MON863 feeding study by Dr Arpad Pusztai was subject to a gagging order imposed by Monsanto as a condition for the report to be examined. Dr Pusztai also revealed statistically significant differences between the "GM-fed" group of rats and the control group. See these items:

http://www.gmfrecymru.org/news/Press_Notice31May2005.htm

http://www.gmfrecymru.org/pivotal_papers/monsanto.htm

(4) From CRIIGEN press release: Animal feed made from MON863 maize was given to rats in a laboratory over a period of 13 weeks. The associated tests on the GM-fed group and control groups were the longest and most detailed ones involving mammals which have consumed this plant, and they were used in support of its authorization throughout the world. These tests were controversial from the outset in France, and in 2003 they provoked a disagreement between experts, in particular in the French CGB (Commission du Génie Biomoléculaire). CRIIGEN (the Committee for Independent Research and Information on Genetic Engineering) was concerned about possible scientific fraud, and asked the GM regulatory authorities for sight of the raw data. These data were kept confidential until Greenpeace Germany won a Court verdict against Monsanto; this forced the company to make public the blood and urine analyses of rats fed with MON863 during the 3 month feeding trials. The data are contained within more than 1130 pages of tables of numbers and calculations. A group from CRIIGEN comprising Prof. Gilles-Eric Seralini (researcher on pesticides and governmental expert on GMOs, University of Caen), Dr. Dominique Cellier (biostatistician, University of Rouen), and Dr. Joel Spiroux de Vendomois (physician and specialist on environmental health), has now performed a re-evaluation of these data. The work has been done quite independently of Monsanto or any other GMO producer. The effects of the GM maize on animal weight variations were not studied by the Monsanto scientists. In 2006 the company published certain studies based on the feeding trials, but the scientists did not analyse animal weight or urine data. The statistics were not detailed enough and their protocols were questionable. Upon detailed analysis, the data are now shown to reveal an increase of up to 40% in blood triglycerides in females, and a more than 30% decrease in urine phosphorus and sodium in males, specifically linked to the GM diet. However, these effects were not picked up by the regulatory authorities including EFSA, and they did not request any repeat or prolongation of these experiments.

(5) http://www.gmfrecymru.org/news/Press_Notice16Feb2007.htm

http://www.gmfrecymru.org/pivotal_papers/ermakova.htm

http://www.gmfrecymru.org/pivotal_papers/toxic.htm

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[Article submitted by Melissa White, MOFGA]



WORA FEATURE:

GENETIC SCIENTIST WARNS OF RISKS OF GE

28 March 2007 - Seoul – “Genetic engineering is far from precise’, warns Dr Ricarda Steinbrecher, consultant genetic scientist of Pesticide Action Network Asia and the Pacific and also director of EcoNexus, a public-interest research organization based in the UK. “There are a number of steps in the genetic engineering process and most of them are subject to various uncertainties. A single gene mutation can have serious effectsyet genetic engineering is all about creating mutations... the outcome can be tremendous, and totally unpredictable and unexpected.”



Dr Ricarda speaking to the university students

Speaking on “Genetically Engineered Food and Crops: Issues and Concerns from a Scientific Perspective”. at the WORA Seminar entitled “How to Secure the Safety of Rice” in Seoul today, Dr Steinbrecher expressed her disbelief that agri-business corporations could guarantee that genetically engineered (GE) food or crops are stable and safe when there are so many indications to show they are not.

“Besides negative ecological, social and economic effects of the genetic engineering of crops, from a scientific perspective, there are health impacts, contamination effects and many scientific uncertainties associated with genetic engineering,” continued Dr Steinbrecher.

She cited a disturbing development about honey bees in the US. “Millions of these insects have disappeared over the last half year, their hives are empty. Bees are used as pollinators for various crops and the value that they generate in the US is estimated at over USD14 billion per year”. The problem is so severe that it has been called the Colony Collapse Disorder (CCD). “Nobody knows why the bees are dying. There is evidence though that GE crops contribute to this, in particular insect resistant crops producing the Bt-toxin. Though healthy bees do not seem to be affected by Bt pollen, a scientist called Hans-Hinrich Kaatz in Germany has found that bees infested with parasites and fed with Bt pollen were affected and died at a high rate. Beekeepers have for years reported that honeybees suffer from high rates of parasites and diseases. As reported last week in a German journal [Der Spiegel], this resembles new evidence that Bt pollen is a contributing factor in the death

of the bees. The areas where the bees have disappeared have a lot of Bt crops being grown there. We don't think this is a coincidence. No one would ever have thought that this could have been an outcome of Bt and yet here we are. Not only do we not know exactly how this interaction happened, we don't know how to deal with it or stop it or even if we can."

Dr Steinbrecher also cited experiments with rats and mice fed with a particular GE tomato and GE potato. Results showed damage to the mucosal cell lining of the gut in both cases and abnormal development of body organs in the latter case. Other experiments on rats fed with GE peas that contained a gene from beans showed heightened allergenicity and immunogenicity.

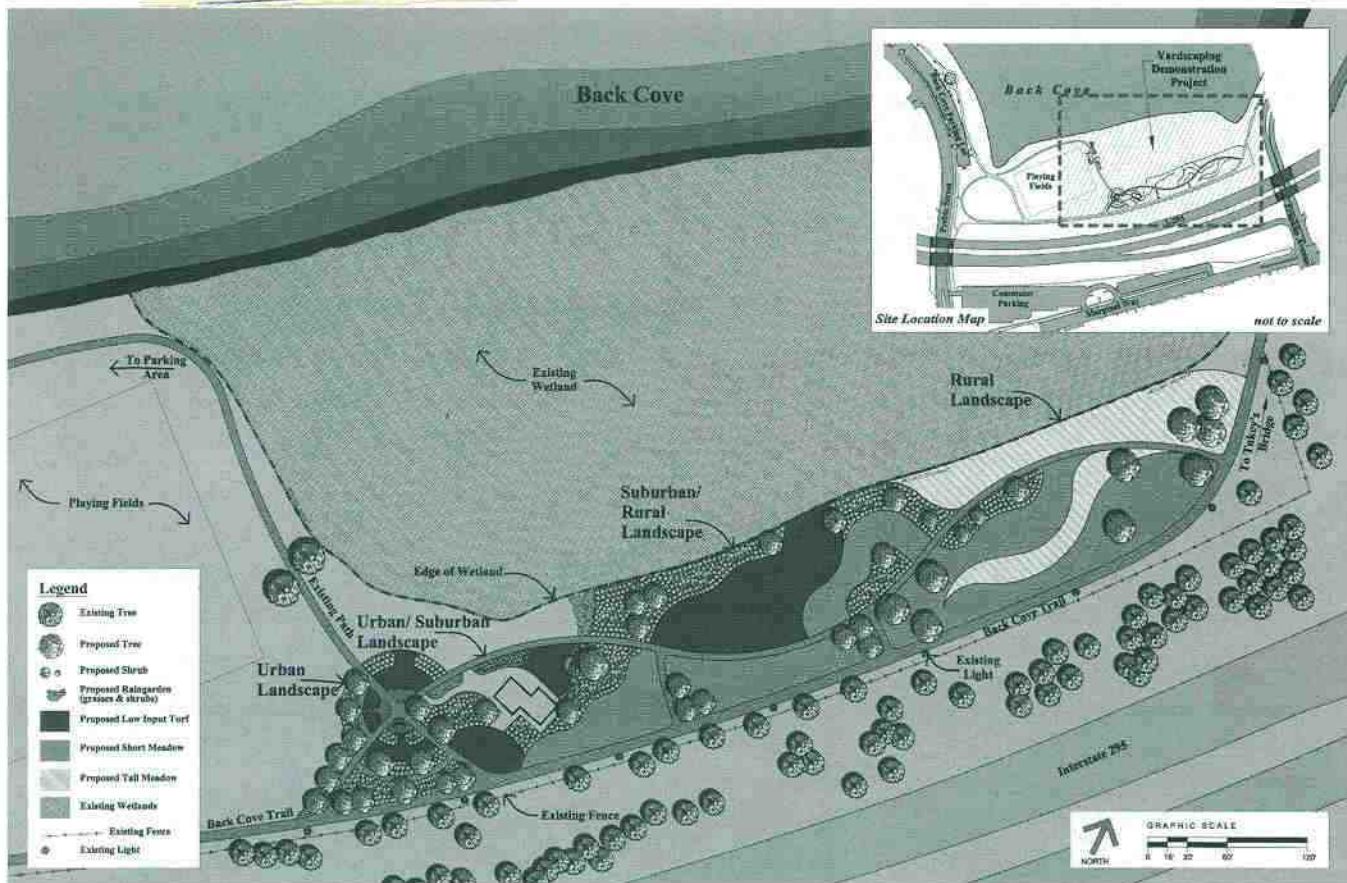
"Allergic reactions can be anything from rashes, sneezing and asthma to fatal shocks in some cases," warns Dr Steinbrecher.

Other possible impacts are gene silencing ie the plant that is being genetically engineered may 'silence' (turn off) that particular gene permanently. Dr Steinbrecher explains, "In 1992, a study was published about GE petunias in Germany. One summer, these GE petunias started to produce white and pink flowers instead of the characteristic red ones. Investigations revealed that the plant had somehow shut off the gene producing red flowers. Again, this was a totally unexpected effect. Gene silencing in GE plants has been repeatedly observed. We now know that environmental factors as well as homologies of the GE gene and the plant's own genes can trigger gene silencing."

She goes on to cite another disturbing case in the US. "In the US, a case reported in 1999, GE soya (resistant to the Roundup Ready herbicide) was found to have inexplicably produced 20% more lignin. This caused the stems to become harder than normal. During one exceptionally hot summer, the stems cracked because they were too brittle and tough to expand in the heat. Fungus penetrated the cracks and this greatly affected the yield that summer."

The final word from Dr Steinbrecher is one of extreme caution: "The moral of all these cases is that from the scientific angle, genetic engineering of crops is still a technology full of risks. Any number of totally unexpected things can happen. Worse, once grown, GE crops can contaminate the food supplies as just seen for two varieties of herbicide resistant rice (LL601 & LL). Worse still, GE plants can and will contaminate natural varieties and this contamination is irrevocable. The only fact we can be sure of is that we simply don't know enough to risk the consequences."

The delegates at the seminar were relieved to finally get such evidence of the risks of GE food. Their feelings were well articulated by Jung Woo Sick from the Buddhist Environment Association, "Before this, we were aware of a debate over the safety and stability of GE but we were never really sure. Now that we know the facts, we can have one clear message for our consumers here: that GE rice and GE food is a real risk, one that we should not take."



Maine Board of Pesticides Control

YardScaping Comes to Back Cove

BY PAUL B. SCHLEIN

YARDSCAPING—THE CONCEPT THAT healthy and beautiful landscapes can be created and maintained through ecologically based practices — is coming to Portland's Back Cove in the spring of 2007! The Maine YardScaping Partnership, a statewide alliance of government agencies, environmental groups, and businesses, including the City of Portland and Portland Trails, has chosen two-and-a-half acres along the shore of Back Cove for its first public YardScape. The YardScape will showcase a series of gardens in urban, suburban, and rural settings that demonstrate how homeowners can easily design and install low-maintenance lawns and landscapes that reduce pesticide and fertilizer use, lower water usage and runoff, promote native and non-invasive plants, support wildlife, and create a healthier environment.

The gardens, adjacent to the Preble Street soccer field, will be accessed along a 1,000-foot-long, eight-foot-wide walking path, connected at both ends to the existing Back Cove Trail. The plan is for path surfaces to change appropriately according to the setting, potentially using porous concrete, asphalt reclaim, stone dust, and super humus.

The project cost is estimated at \$100,000. A \$35,000

Pesticide Environmental Stewardship Grant was awarded by the US Environmental Protection Agency and a major fund-raising campaign is currently underway to raise the additional \$65,000 needed.

The YardScaping Partnership was formed out of a rising concern about yard care chemicals washing into water, as well

Portland Trails is also working with Portland Parks and Recreation to seek grant funding for major trail renovations on the Back Cove.

The City has already committed \$200,000 and the first phases of repair will begin soon!

as the risks of pesticide exposure to people, pets, and wildlife. Back Cove is an especially suitable site, since it, along with Casco Bay, receives runoff from thousands of yards and lawns in Greater Portland and testing by Friends of Casco Bay has detected multiple yard-care pesticides in the water. ☹️

For more information on the Back Cove project and YardScaping, go to www.yardscaping.org.