

MAINE GARDENER

After disappointing season, partnership will sow wildflowers in the snow

TOM ATWELL

November 15, 2009

The Maine YardScaping Partnership is going to plant a wildflower meadow in its Back Cove demonstration garden. Later this year. Probably after the first snow.

And it is perfectly safe to try this experiment at home.

Gary Fish, coordinator of the YardScaping Partnership, said the group attempted to create a wildflower meadow last spring by aerating the sod and planting wildflower seeds. A few wildflowers sprouted, but not as many as they would have liked. Fish then consulted with Jeff Tarling, an arborist for the city of Portland and a member of the YardScaping Partnership, and they came up with a new plan.

"One of the best ways of getting wildflowers to grow in an established turf area," Fish said, "is to do dormant seeding sometime around Thanksgiving, maybe even a little bit later than that. Usually you put the seed on the first layer of snow, putting it down when you're pretty sure you will not have a spell warm enough to affect the seed. As the winter goes on and the soil cracks and heaves, the seeds get down into the soil, pretty much the way they would in nature."

Fish said that Tarling and the city had pretty good luck with the dormant seeding method on a sloping area on the northwest side of Munjoy Hill. The city used to mow that area, but since the meadow with native lupine and other plants was established, the city has been able to stop mowing.

The dormant seeding requires that the meadow be cut fairly short in the fall before the seed is put down.

Fish admitted that the meadow likely will develop flowers that some people might consider weeds. The old-time recommendation for creating a wildflower meadow is to first create a sterile soil. But the YardScaping Partnership did not want to disturb the soil.

"You can't get a field that is going to be pure flowers," Fish said. "You have to have some grasses mixed in with it."

And you shouldn't fertilize the meadow, because fertilizer would encourage the grasses to take over the wildflowers.

The home Fish owns in Wayne had three acres of mowed grass when he bought it, and he has added wildflowers to it over the years.

"It's become a very beautiful wildflower field, with all sorts of various things, over the years," he said. "You have to mow it once a year, or maybe every two years, or it would get filled in with invasive shrubs like honeysuckle, autumn olive and buckthorn."

GARDEN UPDATE

That the YardScaping Partnership is continuing with its planting might show the victory of hope over experience.

"We had a terrible year for multiple reasons," Fish said in outlining progress on the Back Cove demonstration garden.

In June, the partnership put in about 400 plants, and the plan was to put raw wood chips over the grass, which would suppress weeds and take nitrogen out of the soil.

The idea, Fish said, was to demonstrate that you can create a garden without tilling the soil, which would be great next to lakes and streams. But the wood chips were not delivered in time, so a lot of weeds sprouted.

Then there was a lot of rain, and one area of the garden flooded, killing some plants. Then a construction project began, including the replacement of a drainage pipe, which cut off the water supply and vehicle access to the garden. That coincided with the summer's dry spell, so in an unbelievably wet summer, some plants died from lack of water, including two elm trees and a chestnut oak.

The mulch has now been delivered, but before it can be spread, Fish hopes to schedule a work party to remove some of the weeds.

In addition, some work is going to be done to raise the areas that have flooded, and to replace the plants that were killed by being flooded.

But Fish said the garden will continue, and he expects next year to be better. He also is sending out a plea for volunteer gardeners who could work on tending the garden over the course of next summer. They had some volunteers this summer, but the person who was going to do a lot of work and coordinate the volunteers became ill and could not work.

A RAIN GARDEN

The city of Portland, meanwhile, is planning to create a demonstration rain garden at the other end of the Back Cove parking lot from the YardScaping garden. Facing Back Cove from the Hannaford store, the rain garden will be at the left end of the parking lot.

Doug Roncarati, stormwater program coordinator for the city, said the area near Baxter Boulevard was chosen because of its high visibility so people can learn from it.

Stantec, an environmental consulting company with local offices, proposed creating the garden, which would serve to clean the water draining from half of the Back Cove parking lot. The garden should filter out the salt, silt, oil and other pollution that come from the lot.

Roncarati said there are plans to do tests to compare the stormwater going into the garden with what comes out of it and goes into Back Cove.

Some of the work, including moving part of the path around Back Cove, should begin soon.

"There is a lot of interest in rain gardens around the country," Roncarati said, "but they often are thought of as West Coast and warm-climate gardens. We want to demonstrate how well these can work here. And these gardens really can look nice."

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

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News from Augusta: Limiting our exposure

By Senator Dennis S. Damon, District #28
Sep 30, 2009

Augusta — We are all becoming more aware of our environment, and it's a good thing. Most of us, my family included, has a pantry speckled with organic products – free of pesticides, all natural and dye and chemical free. Ten years ago, my cupboards looked considerably different. I refrain from using weed killer on my lawn and seek out organic, pesticide free fruits and vegetables whenever possible. As more and more studies are released, the damaging effects these products have on our bodies and environment are causing us to think twice and really examine what we put in our mouths and expose ourselves to.

Last session, we passed a bill that will test, track and eliminate dangerous chemicals from products that children are exposed to in Maine. The bill requires the state to create a regularly-updated list of chemicals that the Maine Department of Environmental Protection identifies as harmful, and requires manufacturers to tell us if their products contain those chemicals. It establishes a process for replacing them with safer alternatives, and allows the Department to cooperate with other states, share information and promote safer chemical use. The list has been compiled and is available on the DEP's Web site, maine.gov/dep/oc/safechem/highconcern.

Chemicals like phthalates and bisphenol-A (BPA) - which have proven negative effects on fetal brain development and behavior - turn up in everything from shampoo to teething rings, and are among thousands of chemicals of concern that are currently unregulated by the federal government.

This past session, we enacted LD 1293, An Act To Require Citizen Notification of Pesticide Applications Using Aerial Spray or Air-carrier Application Equipment. This new law will provide a simple way to be notified about how, what, when and where pesticides are being sprayed near your home. This public registry, a list of names and contact information, will allow interested parties to receive notification about outdoor pesticide applications made by airplanes, helicopters, mist blowers, or air-blast sprayers.

The law gives the Maine Board of Pesticides Control (BPC) the responsibility for developing and maintaining the registry, where any resident of property in Maine can be included, free of charge. According to the law, anyone on the registry located within 1,320 feet (one-quarter mile) of an area being sprayed will have to be notified at least 24 hours, but not more than seven days, before a pesticide application by air or air-assisted equipment is to be made.

To be placed on the 2010 registry, names must be submitted by March 15, 2010. The registry will be made available to pesticide applicators no later than April 1, 2010. Names will remain on the registry until the BPC is notified in writing to remove a specific listing, or until it is determined that a contact is no longer valid.

To sign up on the registry, go to the BPC Web site, thinkfirstspraylast.org or contact the BPC at 287-2731 for a registry application form.

If I can ever be of any assistance to you or your family, please do not hesitate to contact me. I can be reached at home in Trenton at 667-9629, or in Augusta at 287-1515, or toll free, 1-800-423-6900. I look forward to hearing from you.



At its October meeting the Maine Board of Pesticides Control (BPC) held a public hearing to gather comments about its approach to rulemaking on LD 1293, An Act to Require Citizen Notification of Pesticide Applications Using Aerial

Spray or Air-Carrier Application Equipment. The BPC determined that some changes to Chapter 28 should be made to clarify and adapt to provisions required by LD 1293.

Growers and industry representatives who oppose LD 1293, but not necessarily the actions of the board, provided much of the testimony at the meeting. In many cases the comments were not pertinent to the goals of the public hearing but did give people an outlet to express their frustrations with the legislation. Many – especially those who operate in densely populated parts of Maine – noted the complexity and administrative burden that LD 1293 will place on them. This includes people in the pest control industry who spray for mosquitoes in urban areas. Board members responded that since the legislation is already written and has become law, it is not their job to change what is in place but to try to cover its responsibilities as required by the law and to make the requirements easiest for everyone involved.

All attendees agreed that the legislation is unclear in spots and parts of the rule need to be simplified. For example, who should be notified in new construction situations, large apartment buildings or complexes, campgrounds or schools within 1/4 mile of spray operations? Heather Spalding, MOFGA's associate director, offered to work with growers and with Rep. Seth Berry (D-Bowdoinham), who sponsored LD 1293, to propose changes that would clarify and simplify the legislation.

Another issue that warrants further discussion is the way the legislation relates to Integrated Pest Management (IPM). Growers use IPM to minimize the need for pesticides by considering several factors and spraying only when it is most advantageous or necessary. Some growers believe that provisions of LD 1293 will make them miss brief opportunities that arise for spraying, or that they will risk being in non-compliance with notification requirements. This is another area where more work and cooperation among stakeholders will be needed.

Board member Curtis Bohlen summed up the BPC's long-term, extensive conversation about notification in general by noting that neighbors just don't know neighbors anymore. Growers should be able to notify neighbors about spraying in a positive way, and those working on LD 1293 and Chapter 28 will strive to ensure this.

The registry that the BPC created as a result of LD 1293 is up and running. This free registry is for people who wish to be notified about pesticides applied by aerial or air-carrier equipment near their homes. The sign-up deadline is March 15, 2010, for the next growing season. To sign up, visit www.thinkfirstspraylast.org or call the BPC at 207-287-2731.

Pesticide Application Rule Violations

C&D Corporation of Deblois was fined \$1,000 for applying herbicide on property belonging to another landowner. This violation occurred after the person applying the herbicide for C&D Corporation was given



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, FOOD AND RURAL RESOURCES
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0028

Want To Know About Pesticides Sprayed Near Your Home?

New Pesticide Notification Registry In Effect

- New public registry provides simple and free way to be notified about how, what, when, and where pesticides will be sprayed near your home.
- Any resident of Maine property within a quarter mile of where pesticides are applied by airplanes, helicopters, mist blowers, or air-blast sprayers can be notified in advance.
- To be placed on the 2010 registry, names must be submitted by March 15, 2010.
- To sign up on the registry, go to www.thinkfirstspraylast.org, or call the Board of Pesticides Control at 207-287-2731 for an application form.

The Maine Board of Pesticides Control is the lead state agency for pesticide regulation. It is an administrative unit of the Maine Department of Agriculture, Food and Rural Resources, with policy decisions made by a seven-member, public board.

insufficient instructions on the boundary line of the property and continued his application onto the neighboring property. The owner of the adjacent property discovered the error as he began to treat his own field. He reported the violation to the BPC.

Pesticide Registrations

At its October meeting the BPC approved a Special Local Need (SLN) registration for Ethrel® Brand Ethepon Plant Regulator on greenhouse tomatoes at Backyard Farms in Madison. The board approved the same registration last January, but later withdrew it after EPA revoked all ethephon SLN registrations because worker safety and crop residues had not been fully reviewed. EPA has since completed the review and approved ethephon SLN registrations.

– *Katy Green*

EPA: United States Environmental Protection Agency

EPA Proposes New Pesticide Labeling to Control Spray Drift and Protect Human Health

Release date: 11/04/2009

Contact Information: Dale Kemery kemery.dale@epa.gov 202-564-7839 202-564-4355

IMMEDIATE RELEASE

November 4, 2009

WASHINGTON – The U.S. Environmental Protection Agency has rolled out proposed guidance for new pesticide labeling to reduce off-target spray and dust drift. The new instructions, when implemented, will improve the clarity and consistency of pesticide labels and help prevent harm from spray drift. The agency is also requesting comment on a petition to evaluate children’s exposure to pesticide drift.

“The new label statements will help reduce problems from pesticide drift,” said Steve Owens, the assistant administrator for EPA’s Office of Prevention, Pesticides and Toxic Substances. “The new labels will carry more uniform and specific directions on restricting spray drift while giving pesticide applicators clear and workable instructions.”

The new instructions will prohibit drift that could cause adverse health or environmental effects. Also, on a pesticide-by-pesticide basis, EPA will evaluate scientific information on risk and exposure based on individual product use patterns. These assessments will help the agency determine whether no-spray buffer zones or other measures – such as restrictions on droplet or particle size, nozzle height, or weather conditions – are needed to protect people, wildlife, water resources, schools and other sensitive sites from potential harm.

In addition to the draft notice on pesticide-drift labeling, EPA is also seeking comment on a draft pesticide drift labeling interpretation document that provides guidance to state and tribal enforcement officials. A second document provides background information on pesticide drift, a description of current and planned EPA actions, a reader’s guide explaining key terms and concepts, and specific questions on which EPA is seeking input. These documents and further information are available in docket EPA–HQ–OPP–2009–0628 at <http://www.regulations.gov>.

In a second Federal Register notice, EPA is also requesting comment on a petition filed recently by environmental and farm worker organizations. The petitioners ask EPA to evaluate children’s exposure to pesticide drift and to adopt, on an interim basis, requirements for “no-spray” buffer zones near homes, schools, day-care centers, and parks. EPA will evaluate this new petition and take whatever action may be appropriate after the evaluation is complete. For further information and to submit comments, please see docket EPA-HQ-OPP-2009-0825 at <http://www.regulations.gov>.

More information:

<http://www.epa.gov/pesticides/factsheets/spraydrift.htm>

From: Schlein, Paul B
Sent: Monday, November 09, 2009 1:02 PM
To: 'Heather Spalding'; Jennings, Henry
Subject: RE: Article for next packet

Hi Heather,

Thanks for the article. The EPA press release is already in next month's packet (attached), but this article adds more detail, so it will also be included.

Paul

Paul Schlein
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From: Heather Spalding [mailto:heathers@mofga.org]
Sent: Monday, November 09, 2009 9:49 AM
To: Schlein, Paul B; Jennings, Henry
Subject: Article for next packet

Hi Paul and Henry,
Here's another important article for inclusion in the next Board packet.
Thanks,
Heather

<http://www.ens-newswire.com/ens/nov2009/2009-11-04-092.asp>



EPA Proposes Labeling to Control Pesticide Drift, Evaluates Petition
WASHINGTON, DC, November 4, 2009 (ENS) – Pesticide labeling to reduce off-target spray and dust drift was proposed today by the U.S. Environmental Protection Agency.

The new instructions are aimed at improving the clarity and consistency of pesticide labels and help prevent harm from spray drift, the toxic spray or vapor that travels from treated agricultural fields and into neighboring communities.

The agency is also requesting comment on a citizens' petition to evaluate children's exposure to pesticide drift.

"The new label statements will help reduce problems from pesticide drift," said Steve Owens, the assistant administrator for EPA's Office of Prevention, Pesticides and Toxic Substances.

"The new labels will carry more uniform and specific directions on restricting spray drift while giving pesticide applicators clear and workable instructions," he said.

The new instructions will prohibit drift that could cause adverse health or environmental effects. Also, on a pesticide-by-pesticide basis, EPA will evaluate scientific information on risk and exposure based on individual product use patterns.

These assessments will help the agency determine whether no-spray buffer zones or other measures – such as restrictions on droplet or particle size, nozzle height, or weather conditions – are needed to protect people, wildlife, water resources, schools and other sensitive sites from potential harm, said Owens.



Crop duster sprays pesticide on a Louisiana field. (Photo by Paul Nettles)

EPA is also seeking comment on a draft pesticide drift labeling interpretation document that provides guidance to state and tribal enforcement officials.

A second document provides background information on pesticide drift, a description of current and planned EPA actions, a reader's guide explaining key terms and concepts, and specific questions on which EPA is seeking input.

These documents and further information are available in docket EPA–HQ–OPP–2009–0628 at <http://www.regulations.gov>.

In a second Federal Register notice, EPA is also requesting comment on a petition filed recently by environmental and farm worker organizations.

On October 13, 2009, EPA received a petition from Earthjustice and Farmworker Justice, on behalf of several other organizations, requesting that the agency systematically evaluate children's exposures to pesticide drift and require interim prohibitions on the use of certain pesticides near homes, schools, and other places where children congregate.

The petitioners assert that the agency does not adequately consider the exposures of children to pesticide drift, especially children who live in agricultural areas and they are requesting that the agency impose requirements for "no-spray" buffer zones near homes, schools, day-care centers, and parks.

In 1996, Congress required EPA to set standards by 2006 to protect children from pesticides. The petitioners contend that the agency has so far failed to ensure that children are protected from pesticide drift.

Earthjustice attorney Janette Brimmer filed the October petition on behalf of farm worker groups United Farm Workers, Oregon-based Pineros y Campesinos Unidos del Noroeste, California Rural Legal Assistance Foundation, and the Farm Labor Organizing Committee, AFL-CIO as well as Physicians for Social Responsibility, Washington-based Sea Mar Community Health Center, Pesticide Action Network, and the million-plus member MomRising.org.

"We're heartened by today's announcement, said Brimmer. "Children who live, go to school, or play near farms and orchards deserve to be kept safe from poisonous pesticides."

"Under the last administration, our petition for these protections might very easily have been consigned to a black hole," said Brimmer. "This new administration has instead committed itself to quickly bring this issue before the public - a welcome move in the right direction. We hope this momentum continues and that on-the-ground safety standards for children advance before another growing season begins."

In a background paper on exposure of children to pesticide spray, the petitioners point out that in 2007, air monitoring conducted near the Southwoods Elementary School in Hastings, Florida, detected at least one of four pesticides - endosulfan, diazinon, trifluralin, and chlorothalonil - in every sample, sometimes at levels that may pose serious health risks to young children.

The EPA is soliciting public comments on the petition. The agency says it will evaluate the petition and take whatever action may be appropriate after the evaluation is complete.

For further information and to submit comments, please see docket EPA-HQ-OPP-2009-0825 at <http://www.regulations.gov>.

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From: Heather Spalding [heathers@mofga.org], Sent: Tuesday, November 03, 2009 10:43 AM

To: Jennings, Henry; Schlein, Paul B; Subject: Interesting Commentary from Calgary Sun

Hi Henry and Paul, I know this is too late to include in the packet for this Friday's meeting, but I thought the Board members would find it interesting. Canada is doing a lot to address the concerns and health and environment problems of landscaping chemicals.

<http://www.calgarysun.com/comment/2009/11/01/11595276-sun.html>

See you on Friday. Heather

City pesticide ban would be good for business

By GIDEON FORMAN

Last Updated: 1st November 2009, 2:59am

One of the biggest issues before city council this fall is a proposed bylaw to phase-out lawn and garden pesticides.

Calgarians know some herbicides and insecticides are linked to cancer and birth defects and that Calgary is the largest city in Canada with no bylaw protecting its citizens from these poisons.

But there are a number of other, less familiar, reasons why phasing-out toxic lawn chemicals makes sense.

A Calgary pesticide bylaw will be good for business and employment.

Cities with pesticide bylaws have seen their lawn care industry prosper. In the five years following passage of a pesticide bylaw in Halifax, the number of landscaping and lawn care firms in the city grew 53%, according to Statistics Canada. The number of landscaping and lawn care businesses grew each year in Toronto.

In places like Ontario -- which has comprehensive pesticide restrictions -- reports of business growth come from the industry itself.

Following passage of the province's Cosmetic Pesticide Ban Act in April, one major lawn company said it viewed the ban as an opportunity to expand its base of service.

Another firm said it is gaining new customers from among people who object to pesticides and it expects to hire more staff because non-toxic lawn maintenance is more labour-intensive.

One Toronto-area lawn company offers only pesticide-free programs and has enjoyed a 400% increase in business in the last six month

Why have lawn firms done well in the new non-toxic climate? Pesticide-free maintenance requires more knowledge of plant and soil ecology, which homeowners sometimes lack -- hence an increased reliance on professionals.

With a pesticide bylaw, Calgary properties will look great.

If the legislation goes ahead, Calgarians will keep their lawns and gardens beautiful the way homeowners do in other cities with pesticide prohibitions.

They'll use effective non-toxic product now available at major retailers. It's never been more convenient.

Top health organizations -- along with Calgarians -- support a pesticide bylaw.

A Calgary pesticide ban is now supported by Canada's most respected health organizations including the Canadian Cancer Society, the Lung Association, the Leukemia and Lymphoma Society of Canada, the College and Association of Registered Nurses of Alberta, the Learning Disabilities Association of Alberta, and the Canadian Pediatric Society (Section on Environmental Health).

As well, polling released by the Cancer Society shows nearly nine of 10 Albertans support pesticide restrictions on private and public land.

If our medical authorities -- along with the vast majority of local citizens -- want a pesticide ban, shouldn't we be listening?

Under a pesticide bylaw, Calgarians are protected from any health threat.

The bylaw would only prohibit non-essential pesticides, i.e., chemicals used to change a property's appearance.

Any time pests (mice, termites, poison ivy, mosquitoes) presented a health threat, pesticides could be employed.

As well, these chemicals could be used on any commercial farming operation. (Protecting commercial agriculture is a health imperative.)

<http://www.calgarysun.com/comment/2009/11/01/11595276-sun.html>

11/4/2009

The bylaw will give Calgarians time to adjust.

Every pesticide bylaw in Canada has a phase-in period, allowing citizens and industry to adjust to non-toxic methods. It wouldn't be fair to ask people to make the change overnight.

A reasonable phase-in would be a year -- during which time Calgarians would learn about pesticide-free techniques and products.

Health professionals say phasing-out non-essential pesticides is common sense.

Calgary aldermen should pass a strong bylaw at the earliest opportunity. If we can grow local businesses, protect our rivers and drinking water, and safeguard our children, why would we hesitate?

GIDEON FORMAN IS EXECUTIVE DIRECTOR OF THE CANADIAN ASSOCIATION OF PHYSICIANS FOR THE ENVIRONMENT WWW.CAPE.CA

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The New York Times

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**February 20, 2009**

Crop Scientists Say Biotechnology Seed Companies Are Thwarting Research

By [ANDREW POLLACK](#)

Biotechnology companies are keeping university scientists from fully researching the effectiveness and environmental impact of the industry's genetically modified crops, according to an unusual complaint issued by a group of those scientists.

"No truly independent research can be legally conducted on many critical questions," the scientists wrote in a [statement](#) submitted to the [Environmental Protection Agency](#). The E.P.A. is seeking public comments for scientific meetings it will hold next week on biotech crops.

The statement will probably give support to critics of biotech crops, like environmental groups, who have long complained that the crops have not been studied thoroughly enough and could have unintended health and environmental consequences.

The researchers, 26 corn-insect specialists, withheld their names because they feared being cut off from research by the companies. But several of them agreed in interviews to have their names used.

The problem, the scientists say, is that farmers and other buyers of genetically engineered seeds have to sign an agreement meant to ensure that growers honor company patent rights and environmental regulations. But the agreements also prohibit growing the crops for research purposes.

So while university scientists can freely buy pesticides or conventional seeds for their research, they cannot do that with genetically engineered seeds. Instead, they must seek permission from the seed companies. And sometimes that permission is denied or the company insists on reviewing any findings before they can be published, they say.

Such agreements have long been a problem, the scientists said, but they are going public now because frustration has been building.

“If a company can control the research that appears in the public domain, they can reduce the potential negatives that can come out of any research,” said Ken Ostlie, an entomologist at the [University of Minnesota](#), who was one of the scientists who had signed the statement.

What is striking is that the scientists issuing the protest, who are mainly from land-grant universities with big agricultural programs, say they are not opposed to the technology. Rather, they say, the industry’s chokehold on research means that they cannot supply some information to farmers about how best to grow the crops. And, they say, the data being provided to government regulators is being “unduly limited.”

The companies “have the potential to launder the data, the information that is submitted to E.P.A.,” said Elson J. Shields, a professor of entomology at Cornell.

William S. Niebur, the vice president in charge of crop research for [DuPont](#), which owns the big seed company Pioneer Hi-Bred, defended his company’s policies. He said that because genetically engineered crops were regulated by the government, companies must carefully police how they are grown.

“We have to protect our relationship with governmental agencies by having very strict control measures on that technology,” he said.

But he added that he would welcome a chance to talk to the scientists about their concerns.

[Monsanto](#) and [Syngenta](#), two other biotech seed companies, said Thursday that they supported university research. But as did Pioneer, they said their contracts with seed buyers were meant to protect their intellectual property and meet their regulatory obligations.

But an E.P.A. spokesman, Dale Kemery, said Thursday that the government required only management of the crops’ insect resistance and that any other contractual restrictions were put in place by the companies.

The growers’ agreement from Syngenta not only prohibits research in general but specifically says a seed buyer cannot compare Syngenta’s product with any rival crop.

Dr. Ostlie, at the University of Minnesota, said he had permission from three companies in 2007 to compare how well their insect-resistant corn varieties fared against the rootworms found in his state. But in 2008, Syngenta, one of the three companies, withdrew its permission and the study had to stop.

“The company just decided it was not in its best interest to let it continue,” Dr. Ostlie said.

Mark A. Boetel, associate professor of entomology at North Dakota State University, said that before genetically engineered sugar beet seeds were sold to farmers for the first time last year, he wanted to test how the crop would react to an insecticide treatment. But the university could not come to an agreement with the companies responsible, Monsanto and

Syngenta, over publishing and intellectual property rights.

Chris DiFonzo, an entomologist at [Michigan State University](#), said that when she conducted surveys of insects, she avoided fields with transgenic crops because her presence would put the farmer in violation of the grower's agreement.

An E.P.A. scientific advisory panel plans to hold two meetings next week. One will consider a request from Pioneer Hi-Bred for a new method that would reduce how much of a farmer's field must be set aside as a refuge aimed at preventing insects from becoming resistant to its insect-resistant corn.

The other meeting will look more broadly at insect-resistant biotech crops.

Christian Krupke, an assistant professor at Purdue, said that because outside scientists could not study Pioneer's strategy, "I don't think the potential drawbacks have been critically evaluated by as many people as they should have been."

Dr. Krupke is chairman of the committee that drafted the statement, but he would not say whether he had signed it.

Dr. Niebur of Pioneer said the company had collaborated in preparing its data with universities in Illinois, Iowa and Nebraska, the states most affected by the particular pest.

Dr. Shields of Cornell said financing for agricultural research had gradually shifted from the public sector to the private sector. That makes many scientists at universities dependent on financing or technical cooperation from the big seed companies.

"People are afraid of being blacklisted," he said. "If your sole job is to work on corn insects and you need the latest corn varieties and the companies decide not to give it to you, you can't do your job."

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From: John Jemison [mailto:jjemison@umext.maine.edu]
Sent: Tuesday, August 04, 2009 8:35 AM
To: Jennings, Henry
Subject: FW: FYI - even Scientific American wakes up to manipulation of GM research results

----- Forwarded Message

From: "E. Ann Clark" <eaclark@uoguelph.ca>
Date: Thu, 23 Jul 2009 10:17:18 -0400
To: <undisclosed-recipients:;>
Subject: FYI - even Scientific American wakes up to manipulation of GM research results

<http://www.scientificamerican.com/article.cfm?id=do-seed-companies-control-gm-crop-research&print=true>

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Ann

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<http://www.plant.uoguelph.ca/research/homepages/eclark/>
<http://www.organicag.uoguelph.ca/faculty/eaclark.html>

----- End of Forwarded Message

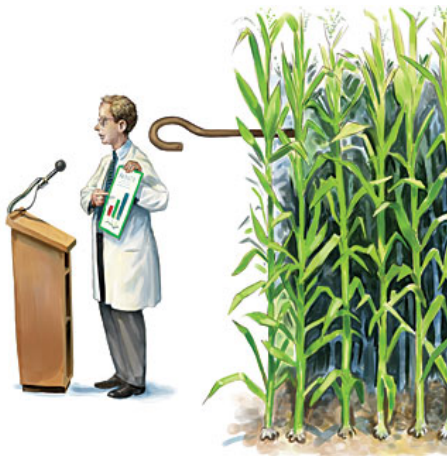


From the August 2009 Scientific American Magazine

Do Seed Companies Control GM Crop Research?

Scientists must ask corporations for permission before publishing independent research on genetically modified crops. That restriction must end

By The Editors



Advances in agricultural technology—including, but not limited to, the genetic modification of food crops—have made fields more productive than ever. Farmers grow more crops and feed more people using less land. They are able to use fewer pesticides and to reduce the amount of tilling that leads to erosion. And within the next two years, agritech companies plan to introduce advanced crops that are designed to survive heat waves and droughts, resilient characteristics that will become increasingly important in a world marked by a changing climate.

Unfortunately, it is impossible to verify that genetically modified crops perform as advertised. That is because agritech companies have given themselves veto power over the work of independent researchers.

To purchase genetically modified seeds, a customer must sign an agreement that limits what can be done with them. (If you have installed software recently, you will recognize the concept of the end-user agreement.) Agreements are considered necessary to protect a company's intellectual property, and they justifiably preclude the replication of the genetic enhancements that make the seeds unique. But agritech companies such as Monsanto, Pioneer and Syngenta go further. For a decade their user agreements have explicitly forbidden the use of the seeds for any independent research. Under the threat of litigation, scientists cannot test a seed to explore the different conditions under which it thrives or fails. They cannot compare seeds from one company against those from another company. And perhaps most important, they cannot examine whether the genetically modified crops lead to unintended environmental side effects.

Research on genetically modified seeds is still published, of course. But only studies that the seed companies have approved ever see the light of a peer-reviewed journal. In a number of cases, experiments that had the implicit go-ahead from the seed company were later blocked from publication because the results were not flattering. "It is important to understand that it is not always simply a matter of blanket denial of all research requests, which is bad enough," wrote Elson J. Shields, an entomologist at Cornell University, in a letter to an official at the Environmental Protection Agency (the body tasked with regulating the environmental consequences of genetically modified crops), "but selective denials and permissions based on industry perceptions of how 'friendly' or 'hostile' a particular scientist may be toward [seed-enhancement] technology."

Shields is the spokesperson for a group of 24 corn insect scientists that opposes these practices. Because the scientists rely on the cooperation of the companies for their research—they must, after all, gain access to the seeds for studies—most have chosen to remain anonymous for fear of reprisals. The group has submitted a statement to the EPA protesting that "as a result of restricted access, no truly independent research can be legally conducted on many critical questions regarding the technology."

It would be chilling enough if any other type of company were able to prevent independent researchers from testing its wares and reporting what they find—imagine car companies trying to quash head-to-head model comparisons done by *Consumer Reports*, for example. But when scientists are prevented from examining the raw ingredients in our nation's food supply or from testing the plant material that covers a large portion of the country's agricultural land, the restrictions on free inquiry become dangerous.

Although we appreciate the need to protect the intellectual property rights that have spurred the investments into research and development that have led to agritech's successes, we also believe food safety and environmental protection depend on making plant products available to regular scientific scrutiny. Agricultural technology companies should therefore immediately remove the restriction on research from their end-user agreements. Going forward, the EPA should also require, as a condition of approving the sale of new seeds, that independent researchers have unfettered access to all products currently on the market. The agricultural revolution is too important to keep locked behind closed doors.

Note: This article was originally printed with the title, "A Seedy Practice."

Bug spray likely killed infant, injured 2 in SC

AP Associated Press**By Seanna Adcox, Associated Press Writer | November 2, 2009**

COLUMBIA, S.C. --Bug spray that produces a fog to kill insects is likely to blame for the death of a 10-month-old South Carolina boy, and his 2-year-old brother was critically injured by the fumes, authorities said Monday.

Anderson County Deputy Coroner Don McCown said the boys' mother had been using foggers in their single-wide mobile home in Williamston, in the northwest part of the state, because of an insect problem. Elizabeth Whitfield, 25, called 911 on Sunday afternoon to report her youngest son was having trouble breathing.

Paramedics took all three to a hospital, and Jacob Whitfield was pronounced dead. His brother, Kenneth, was flown to another hospital about 20 minutes north to Greenville, where he remained Monday on a respirator, but was starting to stabilize, McCown said.

Elizabeth Whitfield was coated in chemicals when she first arrived to the hospital and had to remove her clothes and take a shower. She was released Sunday, but was re-admitted to the ER on Monday with breathing problems, McCown said.

Investigators found seven fogger containers. She told authorities she set off three when she began renting a month ago, then continued using them when the insects wouldn't die.

"Most people put these foggers in -- they do it one time a month or every couple of months. She was using two to three a week," McCown said. "She said she followed the directions, but you have to wonder. We can't attribute it to anything else."

A single fogger is typically used to treat 6,000 cubic feet and can leave an oily residue on furniture and floors. Directions call for residents to cover all furniture, vacate the home for four hours, then open windows and doors for an hour before returning, he said.

While the pesticides appear to be the cause of death, confirmation through toxicology reports could take eight weeks. Other air quality tests turned up nothing. The baby was otherwise healthy with no signs of abuse or neglect, McCown said.

He said the home was located in a rural area and "pretty infested with insects, roaches. It was her goal to get rid of all of them."

"The stuff didn't seem to have too much effect on the bugs," he said. "They're still running everywhere."

The scent at the home was so strong authorities called in a hazardous materials team before entering. One deputy complained of headaches, McCown said.

Investigators initially focused on a grease fire, but tests showed that didn't play any role in the illnesses, McCown said.

"Right now, we're just concerned about them. We're hoping the 2-year-old can make a recovery and hope the mom will be OK," said Sheriff's Sgt. Steve Reeves. ■

Economist.com

OPINION

Monsanto

The parable of the sower

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From The Economist print edition

The debate over whether Monsanto is a corporate sinner or saint

Monsanto



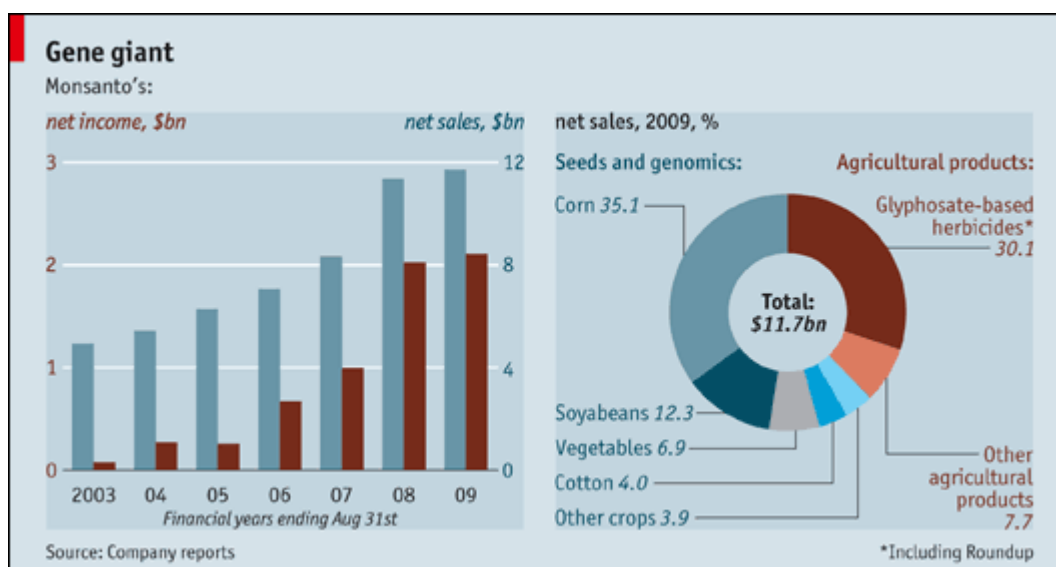
FEW companies excite such extreme emotions as Monsanto. To its critics, the agricultural giant is a corporate hybrid of Victor Frankenstein and Ebenezer Scrooge, using science to create foods that threaten the health of both people and the planet, and intellectual-property laws to squeeze every last penny out of the world's poor. The list of Monsanto's sins dates back to when (with other firms) it produced Agent Orange, a herbicide notorious for its use by American forces in Vietnam. Recently "Food Inc", a documentary film, lambasted the company.

To its admirers, the innovations in seeds pioneered by Monsanto are the world's best hope of tackling a looming global food crisis. Hugh Grant, the firm's boss since 2003, says that without the sort of technological breakthroughs Monsanto has achieved the world has no chance of doubling agricultural output by 2050 while using less land and water, as many believe it must. Mr Grant, of course, would say that. But he is not alone. Bill Gates sees Monsanto's innovations as essential to the agricultural revolution in Africa to which his charitable foundation is committed. Josette Sheeran, the head of the United Nations World Food Programme, is also a fan.

Monsanto has come a long way from its roots in pharmaceuticals and chemicals (in which capacity it made Agent Orange). The original company was formed in 1901 to make saccharine. In 2000 it merged with Pharmacia & Upjohn, a drugmaker. Two years later the group's agricultural activities were spun off into a new Monsanto. At that time the company was best known for Roundup, a herbicide popular with farmers. Roundup is still a leading brand, but margins have been eroded by competition from Chinese producers of other forms of glyphosate weedkiller. Roundup's share of Monsanto's revenue is shrinking towards 10%. There is talk that it might be sold. "It is no sacred cow. We look at it every year," says Mr Grant.

Today most of Monsanto's \$11.7 billion of annual sales come from seeds, increasingly of genetically modified

(GM), or transgenic, varieties (see chart), and from licensing genetic traits. Indeed, it is now best known, for better or worse, for applying biotechnology to seed production, winning a string of the sort of patents on living organisms that became legal in America only after a Supreme Court decision in 1980. In July it gave its GM seed a new master brand: Genuity, a name that evokes “being genuine, authentic and original”, according to a company spokesman. It will denote a “family of innovative products that will enable farmers to do what they do best, even better.”



In the 13 years since GM seed was first farmed commercially, agriculture—and Monsanto with it—has become increasingly central to several of the world's most pressing policy debates, says Mr Grant, a Scot who joined the company in 1981. Nowadays he spends a good deal of his time taking part in those debates, which range from concerns about higher prices and shortages of supply to the use of land for growing biofuels rather than food, climate change and water. Arguments over water, thinks Mr Grant, “will dwarf the discussion that has taken place so far over food.” Monsanto is also getting caught up in the debate over intellectual-property rights in food and their implications for antitrust policy, on which Barack Obama's administration sounds less friendly than that of George Bush. It has already marked agriculture for attention.

How successful Monsanto and rival makers of GM seed, such as DuPont and Syngenta, are in winning round a sceptical public and policymakers will play a big part in determining how lucrative their innovations prove to be. In public attitudes to GM food, Mr Grant believes “there's been progress everywhere compared with 15 years ago.” Still, Europe remains “slow, a real slouch. European farmers have been denied the right to choose.” Although the European Union is slowly becoming open to imports of GM food, it is still largely opposed to growing the stuff. Monsanto has still to complete a test of any GM seed in Britain because protesters have destroyed its experiments. In Latin America, by contrast, Argentina and Brazil are both growing GM corn (maize) and soyabeans. In some ways, rising awareness of the food crisis has helped people to see “GM as something with potential benefits other than just boosting the profits of Big Food,” says Mr Grant—to Monsanto's benefit. Well, maybe.

Turbo-charging Mendel

Monsanto's innovations fall into two categories. The first is breeding, which seedmakers have been doing with increasing sophistication for decades. Monsanto is able to accelerate the process of selective breeding through better mapping of a seed's genetic qualities and its suitability to grow in a particular place.

At Monsanto's research laboratory in St Louis, the company's home city, farmers on one of the many tours that are part of its marketing efforts are clearly fascinated by a piece of technology known as the corn chipper. A machine picks up an individual seed, rotates it to the right position, then chips off a sample, which has its genetic material analysed. (Getting the seed in the right position is the hardest step, because each one has a different shape and it is crucial that the chipper does not damage the embryo and thus stop the seed from growing properly.) The likely attributes of the plant that would grow from each seed are predicted from its

DNA, the most promising seeds are planted, and the process is repeated with the seeds that those plants go on to produce.

The tour guide refers to the operation as “CSI: St Louis”, although testing now goes on all year, at centres around the world. In the past three years this technology has helped speed up dramatically Monsanto’s ability to identify and grow the most productive seed for any given location. “It is the mother and father of all dating agencies: we can analyse every single seed we harvest, do a health check, guess what its grandchildren will be like, send it anywhere in the world,” says Mr Grant.

The second category of innovation, in which Monsanto is becoming increasingly adventurous, is genetic modification: identifying genetic traits with particular qualities and transplanting those traits into seeds to improve their performance. In essence, the goal is to pack as much technology into a seed as possible.

The biggest breakthroughs so far have been in weed and bug control. Perhaps the most common feature of Monsanto’s range of seeds is that they are Roundup Ready, meaning that they are guaranteed to survive spraying with Roundup that will take out any surrounding weeds. Some plants have been bioengineered to deter pests from eating their leaves and roots, which reduces or even eliminates the need for insecticides. Farmers on their tours cannot fail to miss the display cases in which a healthy Monsanto plant grows next to a seriously ailing traditional specimen of the same variety.

Monsanto has just launched two new varieties of seed that have been engineered to be far more productive: Genuity SmartStax corn, which company trials suggest can increase yields by 5-10%; and Genuity Roundup Ready 2 Yield soyabeans, which in trials have shown yields 7-11% higher than the first generation of Roundup Ready soyabeans. Over the past couple of decades, soyabean yields have risen at an annual rate of barely 1%.

In around 2012 or 2013 Monsanto expects to launch a soyabean whose processing will result in fewer transfats. It will also offer an “omega-3 soyabean”, genetically enhanced to give consumers the many proven health benefits of omega-3 fatty acids. Until now, omega-3 has been harvested from fish and so, in Mr Grant’s words, “products with omega-3 in them taste a bit fishy.” Fish derive omega-3 from algae, so Monsanto has done likewise, extracting the relevant genetic material from the algae and putting it into soyabeans. Now, he says, without the fishy taste, omega-3 will go well in yogurts, health bars and so forth.

The company is also aiming to engineer seed to use nitrogen more efficiently—and hence to require less fertiliser. This would reduce farmers’ exposure to the price of oil, from which fertilisers are made, and the damage done when nitrogen leaches into the water supply.

In about three years’ time Monsanto expects to launch its first “drought tolerant” products. It is examining several ways of making plants more tolerant of drought. One is to improve the roots’ take-up of water. Another is to reduce water loss through the leaves. A third is to alter plants’ reaction to lack of water. When stressed, a plant shuts down growth in order to conserve what it has. They often over-react, and use a lot of energy when they restart. Genetic modification can help it interpret water conditions more accurately and avoid unnecessary stops and starts.

Because water shortages are predicted for many parts of the world, Monsanto expects these drought-tolerant plants to be a huge commercial success. The first of them will be corn, intended for a dry strip of America running from northern Texas to the Dakotas. Drought-tolerant technology has also prompted Monsanto to start focusing on dry-land wheat. Wheat acres have declined in recent years, contributing to shortages. In July the company paid \$45m for WestBred, a wheat-seed firm.

Trust and antitrust

Acquisitions have been a key part of Monsanto’s strategy, giving it access to new seed markets. In 2005, it began to apply biotech to vegetables after buying Seminis, the world’s largest vegetable-seed company, for \$1.4 billion. Since it was spun off, Monsanto has made more than 20 acquisitions (as well as several disposals). Those purchases are one reason why it was singled out as an appropriate target for the antitrust authorities in a paper published in October by the American Antitrust Institute, an independent competition watchdog. The paper laments the “impaired state of competition in transgenic seed”—which it blames on Monsanto above all.

The company's acquisitions have been crucial in creating the horizontal and vertical integration that support its platforms in cotton, corn and soybeans. Last year its share of the markets for GM corn and soybeans was about 65% and that for GM cotton about 45%. The institute's paper argues that, thanks to its dominance, Monsanto is actually harming innovation in seed. Monsanto had to make concessions to win the antitrust authorities' approval for two of its biggest purchases, of DeKalb in 1998 and of Delta and Pine Land in 2007.

eyevine



The next generation in the greenhouse

True, for the past 13 years Monsanto has been licensing its technology broadly, to hundreds of firms, including some of its main competitors. This, the paper concedes, has ensured that Monsanto has not ended up in "control of large, totally closed platforms in transgenic seed that could be challenged only by the unlikely emergence of rival platforms." However, it cites Monsanto's reputation for defending its intellectual property fiercely through the courts as another reason why the antitrust authorities should take a look at the firm.

Monsanto's terms of business require farmers to buy fresh seed every year. Its new Violator Exclusion Policy denies farmers who break the terms of its licences access to all its technology for ever. This summer it achieved its latest success in enforcing its stern line when it won a case against some Canadian farmers who had held on to seed.

Agricultural markets have been mentioned as an area under review by officials in the antitrust division of the Department of Justice. The DoJ is expected to make Google its main target, but it will be no surprise if Monsanto comes a close second. Already, the DoJ is looking into complaints by DuPont, perhaps Monsanto's fiercest rival. In May Monsanto sued DuPont, alleging that Pioneer, DuPont's seed arm, had broken licensing terms for herbicide-resistant technology in corn and soybeans. After an ugly war of words, DuPont countersued and complained to the DoJ.

"We are in a hyper-competitive business. Farmers have no shortage of choice," insists the unapologetic Mr Grant. "Our goal is to be competitive every spring at the farmer's table. A farmer may be willing to abdicate the decision on what chemicals to use, but not on what seed to plant. We aim to win one field at a time, one spring at a time." Enforcing licences is crucial to that strategy. Just as in the drug industry, innovation is expensive: Monsanto has a research and development budget of nearly \$1 billion a year, and reckons it costs \$100m to bring a new GM seed to market. If there is to be innovation, the firm insists, intellectual property must be protected.

However, Monsanto is using different language—and a different approach from that of big drugmakers—when it comes to dealing with the millions of poor people in Africa. Mr Grant says that he is determined not to repeat the mistakes of the pharmaceutical industry in holding back on making valuable innovations available to the developing world. He believes that "in a perfect world, on the same day you launch [a drought-resistant seed] in Kansas, you would launch it similarly in Nairobi"—although in practice Africa and other poor places that are short of water will have to wait a while longer.

Over the past three years, the firm has started to play a leading role in efforts collectively described as an attempt to create a "green revolution in Africa". Mr Grant talks enthusiastically about his friendship with Norman Borlaug, the driving force behind the Green Revolution, first in Mexico, then in Asia, in the second half of the past century, which is generally reckoned to have saved at least 1 billion lives. Shortly before his death this year, aged 95, Borlaug reportedly expressed regret that he would not live to see the "gene revolution".

In white corn, a staple in Africa and Mexico, Monsanto has donated all its intellectual property, seed and know-how for developing drought-tolerant genes to Water Efficient Maize for Africa (WEMA), a public-private partnership that has received grants from the Bill & Melinda Gates Foundation and the foundation of Howard Buffett, an Illinois farmer (and son of Warren Buffett). The five countries to benefit are Kenya, Mozambique, South Africa, Tanzania and Uganda. Mr Grant expects to launch drought-tolerant corn in Africa within two or three years of the launch in America. The company is also working with Millennium Villages, an anti-poverty project led by Jeffrey Sachs, an economist at Columbia University.

Big Pharma versus Big Farma

In contrast to the anti-retroviral drugs that pharmaceutical companies sell in Africa, this product will generate no royalties for Monsanto, says Mr Grant. "The buzzword is the 'democratisation of technology' and we have learnt from Big Pharma the dangers of being too slow," says Mr Grant. The fact that seeds suited to one place do not necessarily grow well elsewhere greatly reduces the risk of parallel imports that affected the drugmakers. They feared that drugs given away in Africa would be shipped back to rich countries, undermining their business there.

That said, he does not believe that Monsanto could or should be expected to solve this problem on its own. "We studied what Borlaug did, which was work with local NGOs, tapped research institutes, brought disparate groups together. The new piece today is getting big companies involved, which hopefully means we can get this done much faster than Borlaug did."

Mr Grant nonetheless regards this approach as "good business", not least because the developing world will be a huge source of future growth for the firm. Monsanto sells more GM cotton in India than in America. Already, most of the countries where GM seed is sown are emerging ones. Around 90% of the world's 12m farmers with at least a hectare planted with GM seed are smallholders in developing countries. America has 250,000-300,000 active farmers; India has 15m cotton farmers alone, several million of whom Monsanto says it has reached already.

This reinforces the firm's fundamental message, that it is a driving force for higher farm productivity—and that higher productivity, not a return to the methods of the past, is likely to be the true source of agricultural sustainability. In America, GM seed has already brought about huge increases in productivity, says Mr Grant. He has no time for the "Malthusian thing about running out of food. This is eminently solvable." He sees huge potential in merely raising yields in the rest of the world to levels already achieved in America thanks to better farming practices, Roundup and improved seed productivity. American farmers average about 160 bushels (of 56lb, or 25.5kg) of corn per acre per year, against 60 in Brazil and 27 in sub-Saharan Africa (22 excluding South Africa).

Moreover, even in America there is the potential to double yields again. Already, farmers in Iowa are producing as many as 200 bushels an acre. Mr Grant believes that 300 bushels are achievable by 2030. "We have just scratched the surface," he says, pointing out that after the first GM crops came on the market in 1996, it took ten years for 1 billion acres to be planted. But the second billion took only another three years. "We are where transistors were in the 1970s."