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OP-ED CONTRIBUTOR

Did Your Shopping List Kill a Songbird?

By **BRIDGET STUTCHBURY**

Woodbridge, Ontario

THOUGH a consumer may not be able to tell the difference, a striking red and blue Thomas the Tank Engine made in Wisconsin is not the same as one manufactured in China — the paint on the Chinese twin may contain dangerous levels of lead. In the same way, a plump red tomato from Florida is often not the same as one grown in Mexico. The imported fruits and vegetables found in our shopping carts in winter and early spring are grown with types and amounts of pesticides that would often be illegal in the United States.

In this case, the victims are North American songbirds. Bobolinks, called skunk blackbirds in some places, were once a common sight in the Eastern United States. In mating season, the male in his handsome tuxedo-like suit sings deliriously as he whirrs madly over the hayfields. Bobolink numbers have plummeted almost 50 percent in the last four decades, according to the North American Breeding Bird Survey.

The birds are being poisoned on their wintering grounds by highly toxic pesticides. Rosalind Renfrew, a biologist at the Vermont Center for Ecostudies, captured bobolinks feeding in rice fields in Bolivia and took samples of their blood to test for pesticide exposure. She found that about half of the birds had drastically reduced levels of cholinesterase, an enzyme that affects brain and nerve cells — a sign of exposure to toxic chemicals.

Since the 1980s, pesticide use has increased fivefold in Latin America as countries have expanded their production of nontraditional crops to fuel the demand for fresh produce during winter in North America and Europe. Rice farmers in the region use monocrotophos, methamidophos and carbofuran, all agricultural chemicals that are rated Class I toxins by the World Health Organization, are highly toxic to birds, and are either restricted or banned in the United States. In countries like Guatemala, Honduras and Ecuador, researchers have found that farmers spray their crops heavily and repeatedly with a chemical cocktail of dangerous pesticides.

In the mid-1990s, American biologists used satellite tracking to follow Swainson's hawks to their wintering grounds in Argentina, where thousands of them were found dead from monocrotophos poisoning. Migratory songbirds like bobolinks, barn swallows and Eastern kingbirds are suffering mysterious population declines, and pesticides may well be to blame. A single application of a highly toxic pesticide to a field can kill seven to 25 songbirds per acre. About half the birds that researchers capture after such

spraying are found to suffer from severely depressed neurological function.

Migratory birds, modern-day canaries in the coal mine, reveal an environmental problem hidden to consumers. Testing by the United States Food and Drug Administration shows that fruits and vegetables imported from Latin America are three times as likely to violate Environmental Protection Agency standards for pesticide residues as the same foods grown in the United States. Some but not all pesticide residues can be removed by washing or peeling produce, but tests by the Centers for Disease Control show that most Americans carry traces of pesticides in their blood. American consumers can discourage this poisoning by avoiding foods that are bad for the environment, bad for farmers in Latin America and, in the worst cases, bad for their own families.

What should you put on your bird-friendly grocery list? Organic coffee, for one thing. Most mass-produced coffee is grown in open fields heavily treated with fertilizers, herbicides, fungicides and insecticides. In contrast, traditional small coffee farmers grow their beans under a canopy of tropical trees, which provide shade and essential nitrogen, and fertilize their soil naturally with leaf litter. Their organic, fair-trade coffee is now available in many coffee shops and supermarkets, and it is recommended by the Audubon Society, the American Bird Conservancy and the Smithsonian Migratory Bird Center.

Organic bananas should also be on your list. Bananas are typically grown with one of the highest pesticide loads of any tropical crop. Although bananas present little risk of pesticide ingestion to the consumer, the environment where they are grown is heavily contaminated.

When it comes to nontraditional Latin American crops like melons, green beans, tomatoes, bell peppers and strawberries, it can be difficult to find any that are organically grown. We should buy these foods only if they are not imported from Latin America.

Now that spring is here, we take it for granted that the birds' cheerful songs will fill the air when our apple trees blossom. But each year, as we continue to demand out-of-season fruits and vegetables, we ensure that fewer and fewer songbirds will return.

Bridget Stutchbury, a professor of biology at York University in Toronto, is the author of "Silence of the Songbirds."

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Portland Press Herald Maine Sunday Telegram

In Montville, unengineered seeds of rebellion

The small Maine town has kicked up a controversy by banning the cultivation of genetically modified crops.

By TUX TURKEL, Staff Writer

April 13, 2008



John Patriquin/Staff Photographer

Claudette Nadeau runs an organic business, Roots-n-Shoots Greenhouses, at her farm in Montville. She and a group of local organic growers are concerned that corporations will use genetic engineering to control agriculture.

MONTVILLE — Yellow bumper stickers here proclaim: "Montville Maine: The way life is."

It's a twist on the state's former tourism slogan: "Maine. The way life should be."

Like its inspiration, the Montville moniker, which also appears on the home page of the town's Web site, is existential and open to interpretation. But it clearly shows a streak of independent thinking.

Two weeks ago, that tendency drew some worldwide attention to Montville. At their annual town meeting, voters passed a binding ordinance banning the cultivation of genetically engineered crops. Supporters say Montville is the first American community outside California to do this.

The Maine Legislature also weighed in on the issue last week. After more than a year of debate -- lawmakers approved a compromise that, among other things, offers some legal protection to organic growers who unintentionally are exposed to genetically engineered seeds.

TO SEE Montville's ban on genetically modified crops, go to www.montvillemaine.org.

For opposing views, see www.mainebioinfo.org and

www.foodformainesfuture.org

But it's hard to find middle ground in the Montville ban, and that's causing controversy. A Maine group that represents large biotechnology companies says the ban could chill research and development efforts and hurt the state's economy. Meanwhile, the Maine Department of Agriculture is asking the attorney general for an opinion on whether Montville's ordinance is legal, or violates the state's right-to-farm rules.

Genetically modified organisms, or GMOs, refer to plants, animals or microorganisms that are transformed by genetic engineering. In crops, changes to a plant's molecular biology can make it more resistant to drought or disease, for instance.

But opponents of genetic engineering say the technology is so new that the changes may have unintended, harmful consequences to people, animals and plants. In Europe, public concern over the safety of modified organisms has led to tight restrictions on imports and to consumer-labeling laws. Late last month, a French court upheld a controversial ban on a variety of pest-resistant corn produced by Monsanto, the large American seed company.

The global controversy over genetically modified products in the food supply rarely makes headlines in Maine. The votes in Montville and Augusta may bring the issue closer to home.

Behind the controversy are competing visions of agriculture, food safety, corporate power and, at the core, progress. They represent differing views of life in Maine -- how it is, how it should be.

FEARS OF CORPORATE INFLUENCE

Life, to take license with a slogan, is in the eye of the beholder in Montville.

The town of 1,000 residents has no school. No store. Not even a post office. Montville's a blur in the rear-view mirror for traffic sailing across Route 3 and the rolling hills between Augusta and Belfast.

Turn north on Route 220, however, and bump along muddy side roads. Pass front yards where melting snow has uncovered the junk cars, rusting appliances and other signs of rural poverty. In time, an outpost of another era appears in the hardwood forest -- plastic hoop greenhouses and a hand-built log home.

Thirty-eight years ago, Claudette Nadeau and Mike Beaudry followed their back-to-the-land instincts with \$2,000 and an 8-month-old baby. Beaudry, a timber framer, soon created a cozy house that he has since expanded. Nadeau pursued her passion for plants, a venture that thrives today.

For 19 years, Nadeau's Roots-n-Shoots Greenhouses has been selling an expanding mix of organically grown, open-pollinated seedlings, varieties that sprout true to seed. That means this season's tomato seeds will produce seedlings next year that are exactly like the parent plant.

Many organic gardeners value these plant varieties. They save exotic seeds to create heirloom plants, cultivars that can be handed down for generations. For Nadeau, any threat from engineered seeds that could cross-pollinate with her heirloom varieties and change their genetic makeup is a big concern.

But Nadeau's interests go way beyond business.

In 2006, Nadeau and friends in the local organic growers co-op gathered to watch a documentary, "The Future of Food." The movie bills itself as an investigation into how multinational corporations have quietly been filling supermarket shelves over the past decade with patented, unlabeled, genetically engineered food, part of a bid to control the world's seed and food supply.

The movie reinforced Nadeau's distrust for corporations and big government. It reminded her of past reassurances that chemical compounds, such as DDT and PCBs, were safe for humans and the environment.

Also watching the film was Kai George. An organic gardener who sells flowers and vegetables, George and her architect husband moved to town 35 years ago. They live on 63 wooded acres in a handsome, barn-inspired home.

"We came here wanting to have a healthy, rural environment for our kids, and it was the best thing we did," George said.

That health concern, George said, extends to the unknown, long-term effects of genetically modified food. Since the ordinance passed, she has received e-mails from as far away as Germany and South Africa wanting more information.

It's an unusual twist. The United States grows more genetically modified food than any country, but awareness and debate here is muted.

'PROMOTING INFORMED DISCOURSE'

In Maine, opponents of genetically modified organisms have been organizing on the local level. A few towns -- neighboring Liberty, and Lincoln and Brooklin -- have passed non-binding resolutions in recent years to be "GMO-free zones."

These votes trouble Doug Johnson, executive director of the Maine Biotechnology Information Bureau. The bureau is set up to "promote informed discourse on biotechnology issues" affecting Maine. It's supported in part by corporations, including Monsanto and DuPont.

Early last week, Johnson sent a press release saying Montville's ordinance could hurt the state's economy. The ban, in his view, also restricts other forms of genetic research and development. If The Jackson Laboratory were located in Montville, he said, it would have to close.

That opinion is open to dispute. The real impact of the ban in Montville may be more symbolic than practical.

The ordinance gives growers of genetically modified crops two years to phase them out. But the town has fewer than 10 commercial farms, according to the town clerk. And only one farmer has been growing genetically-engineered crops, George said, on leased land.

In a subsequent Internet blog, Johnson touched on a more-relevant theme: the split between commercial, commodity agriculture, such as Aroostook County's potato industry; and sustainable, organic enterprises, like those practiced by small growers in Waldo County.

"This isn't a fight over what may or may not be grown in Montville," he wrote. "It's a battle over the public's acceptance of science in shaping the future of agriculture."

Commodity growers see benefits from genetically-engineered crops that can resist insects or tolerate herbicide sprays. Over the past decade, for example, Maine farmers have used these varieties to grow soy and canola. This year, they have approval to plant field corn that is toxic to borers and other pests.

But Kai George and other organic growers oppose this trend.

Maine isn't Iowa, they say. Rather than compete with farm states in commodity crops that are dependent on genetic modification, why not capitalize on consumer demand and premium prices for organically-raised produce and animals? Rather than hurting the economy, George said, sustainable agriculture could generate new revenue.

SEEKING A LEGAL OPINION

Balancing these viewpoints has become delicate business at the Maine Department of Agriculture. But Ned Porter, the agency's deputy commissioner, said a law just passed in the Legislature attempts to do that.

The law directs the state to establish management practices that are specific to genetically-engineered crops. It also shields organic farmers from lawsuits by corporate seed makers for patent violations linked to the unintended presence of engineered plant material on their land.

"We're a big state with a lot of different markets," Porter said. "Farmers should be able to choose what they want to do. We ought to be able to accommodate all that."

But Montville's ordinance, Porter said, goes in the opposition direction. Farmers who plant genetically-engineered crops could get into a tussle with neighbors, he said, if other towns enact similar rules. That's why he's seeking a legal opinion on Montville's ordinance.

Prior to last month's vote, Kai George and ordinance supporters showed "The Future of Food" at the Montville Community Hall. Charles Fletcher came to watch the movie.

An organic gardener, Fletcher dreamed up, "Montville Maine: The way life is." It was a joke, he said, but the sarcasm seems to resonate with many people in town.

Fletcher joined more than 100 people who came to town meeting. The ordinance vote was a show of hands. Fletcher joined the majority.

Natives and folks from away generally coexist in Montville, Fletcher said. In passing the ordinance, though, tiny Montville has drawn a line in the soil.

"Things that belong to everybody seem to have been taken away by a few people in power," Fletcher said. "And we can't have that."

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[<< back to story >>](#)

KENNEBEC JOURNAL

KENNEBEC JOURNAL *Morning Sentinel*

Vote in Montville is boost for natural crops

BY MORNING SENTINEL STAFF

04/01/2008

MONTVILLE -- Organic supporters hailed Saturday's vote to adopt a town ordinance banning the use of genetically modified plants as a landmark decision -- but farmers who rely on the pest-resistant crops say farming communities are unlikely to follow suit.

Residents at Saturday's town meeting overwhelmingly approved an ordinance that prohibits growing genetically engineered crops for the next 10 years. The few Montville farmers currently growing the engineered crops are required to register with the code enforcement officer while phasing out use over the next two years.

Believed to be the first municipal ban on genetically engineered crops outside of California, it is unclear whether the ordinance conforms with state law, according to a spokesman for the Maine Department of Agriculture.

Ned Porter, deputy commissioner of the department, who had not seen the ordinance, said Monday that the department will seek input from the attorney general's office.

Maine statute requires the department to review town ordinances that impact agriculture, Porter said.

"How that may play out in this case I'm not sure," he said.

The moratorium is the latest turn in a sometimes heated debate over the use of genetically engineered crops.

While organic farmers worry about cross-contamination, the evolution of super-resistant pests and even lawsuits due to accidental contamination, farmers who rely on genetically engineered crops say the technology is a safe and efficient method for reducing the use of dangerous herbicides and turning a better yield.

Maine, which has allowed other forms of genetically engineered crops, in July became the last state in the union to allow the use of so-called Bt corn.

State representatives are expected to vote as early as today on L.D. 1650, a bill that would amend laws concerning genetically engineered plants and seeds.

While that bill has spawned debate, the Montville moratorium passed with ease, said Montville First Selectman Jay LeGore.

"A few people were concerned about government regulations," LeGore said.

"People don't want government telling them what they can and can't do on their property."

Montville's Diana George Chapin, who helped develop the ordinance over the past two years -- residents passed a resolution in 2006 demanding the town develop an ordinance banning genetically engineered crops -- breeds early American and Victorian-era plants at Heirloom Garden of Maine.

"The plants we have are pure plants that have been saved by ordinary people like ourselves for many generations," Chapin said.

But her primary motivation for helping make the moratorium a reality was concern for her family, friends and security of the food system, she said.

"We are not involved in this out of concern for our business," Chapin said. "We're concerned about the future of seed."

Saturday's decision, which was primarily rendered by consumers, not farmers, proves that concern runs across the spectrum, Chapin said.

"That, to me, made a powerful statement about this community and said something about who is concerned about this issue," Chapin said. "It's not just farmers."

Logan Perkins of Protect Maine Farmers, a statewide organization that opposes the use of genetically engineered crops, said Montville's decision was an example of what could happen in other communities.

"It's clearly a demonstration of where the public in general stands," Perkins said. "Montville happens to be the first place to get organized. In some ways, Montville is a bellwether of public opinion."

But Vernon DeLong, executive director of the Maine Agriculture Bargaining Council in Presque Isle, said similar ordinances are unlikely to be imposed in communities where farming is a lifeblood.

"If you were in an agricultural area I don't think you'd stand a chance of doing that," he said.

While he does not fear similar bans spreading throughout the state, DeLong said he is troubled by what he called Montville's willingness to put farmers at a disadvantage.

"We think growers struggling to make a living need all the tools available to them to grow the market," DeLong said. "There's nothing that says genetically engineered whatever is harmful. Even mother nature genetically engineers crops. This relates from fear more than science."

Rather than state or town intervention, the Department of Agriculture has always encouraged farmers to work together to keep each other informed of the types of crops they are growing and to resolve conflict.

"That's the way it works best," Porter said. "Farmers in these times need access to all the tools."

Chapin believes banning the use of genetically engineered crops will allow farmers to tap into a market eager to buy the freshest, healthiest food possible.

"I think there's a massive potential for genetically-engineered-free crops in this country and in this world," Chapin said. "The state of Maine should think really hard about the economic potential of having a genetically-engineered-free state."

But when DeLong switched to standard canola varieties rather than genetically engineered a number of years ago hoping to find a niche market, he found none existed.

"All in all we thought we could find a market that would reward us for doing that," DeLong said. "In the final analysis we gave up. You produce the market and it will take care of itself."

Heather Spalding, associate director of the Maine Organic Farmers and Gardeners Association, praised Montville for its decision and for proactively helping farmers phase out genetically engineered crops.

"The big thing is communicating the alternatives that organic farmers are using," Spalding said. "It doesn't have to be an adversarial approach. It can be a real bridge-building approach."

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[Beyond Pesticides Daily News Blog](#)

[Swedish Study Finds GMO Seeds Persist 10 Years After Planting](#)

(*Beyond Pesticides*, April 4, 2008) A study called “[Long-term persistence of GM oilseed rape in the seedbank](#),” recently published in the journal *Biology Letters*, has found a genetically modified (GM) crop to persist in spite of a decade of efforts to remove it from a field. Researchers from Sweden’s Lund University and the Danish Technical University found GM oilseed rape (also known as canola) plants still growing ten years after seeds were planted.

According to the study, the result contrasts previous trials: “In general, studies suggest that the majority of seeds disappear from the seedbank within two years.” The oilseed rape volunteer (rogue) plants were discovered by their resistance to the herbicide glufosinate. Researchers wrote, “This finding of volunteers, despite labour intensive control for 10 years [including intensive chemical spraying], supports previous suggestions that volunteer oilseed rape needs to be carefully managed in order for non-GM crops to be planted after GM crops.” They added, “These results are important in relation to debating and regulating coexistence of GM and non-GM crops.”

The study’s findings are consistent with previous research. A larger French study found similar survival of volunteer plants eight years after a GM trial. Swedish researcher Dr. Tina D’Hertefeldt pointed out the commercial implications of these results. “I would expect the same to happen in a commercial field too,” she said. “It may even be more prevalent as the trial had very stringent regulations, and higher controls than a farmer would probably carry out.” Furthermore, Dr. D’Hertefeldt said, “If you had a high number [of volunteer plants], you could get above the threshold for labeling GM ingredients.”

The results have spurred opponents of GM crops to speak out. “Despite the best efforts by the researchers to eliminate GM oilseed rape, it appears that once it is planted, it is virtually impossible to prevent GM contamination of future crops,” said Clare Oxborrow, GM campaigner with Friends of the Earth UK. “The government must now tear up its weak proposals for the ‘coexistence’ of GM with organic and conventional crops, and put in place tough rules that protect GM-free food and farming.” Mark Westoby, plant ecologist at Macquarie University in Australia, concurred, “This study confirms that GM crops are difficult to confine. We should assume that GM organisms cannot be confined, and ask instead what will become of them when they escape.”

In addition to the persistence of GM oilseed rape seeds, the plant has been found to pass on its GM traits to [nearby weeds](#), a side-effect [common](#) to GM crops. GM crops are being [planted more](#) and more, in spite of the [risks](#) at which they put conventional and organic farmers. For more information on GM crops, visit our [program page](#) and [Daily News archive](#).

Sources: [BBC News](#), [Navigator.com](#), [The Telegraph](#), [TopNews](#)

Rule protects farmers from GE suits

By Sharon Kiley Mack

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AUGUSTA, Maine — The Maine Legislature this week approved a major revision in the rules surrounding the use of genetically engineered crops in the state, changes that provide Maine's organic farmers protection against lawsuits and require specific growing practices for GE crops.

In the past, it has been the department's policy that GE crops do not differ, and are not to be treated separately, from conventional crops.

"The legislation is important in that it begins to clarify responsibility," Russell Libby, executive director of the Maine Organic Gardeners and Farmers Association said Wednesday. "By establishing Best Management Practices, this gets the [Maine] Department [of Agriculture] and farmers into a conversation about how to solve problems before they arise. To me, that is a good step forward."

Douglas Johnson of the Maine Biotechnology Information Bureau in Stonington, said the bill was a win-win piece of legislation.

"Farmers on both sides of the biotech issue had input into the final bill," he said. "Both sides can claim victory. This is what Maine needs, solutions that work for all farmers."

In the 10 years that GE crops have been grown in Maine, there have been no GE-related lawsuits here, although according to a study by the Center for Food Safety, more than 90 GE-based lawsuits have been filed against 147 farmers in 25 states. Most suits were against farmers because they saved seed from year to year, an age-old practice, yet they were charged with patent infringement.

GE advocates, however, say the protection could be unnecessary since the U.S. Patent and Trademark Office in July 2007 rejected the four patents that chemical giant Monsanto was using to sue farmers. Monsanto has since appealed the ruling.

While hailing the protection it affords them, organic farmers said they are disappointed that an eleventh hour amendment that would have required a GE crop tracking system was not included in the final bill.

The use of GE crops is an issue around the globe for both farmers and consumers. It pits commodity farmers, who say the GE crops provide protection against pests and results in a better yield, against organic farmers who feel cross-contamination from GE crops adulterates their organic crops. Organic farmers also worry about the long-term effects on humans and nature.

Passage of the bill comes on the heels of a ground-breaking vote last month in Montville, a town of about 1,000 in Waldo County. On March 29, at their annual town meeting, Montville voters approved an ordinance making it unlawful to grow genetically engineered crops in Montville for the next 10 years.

It was the first such vote outside of California.

Logan Perkins of Protect Maine Farmers, a grass-roots group that advocated for the GE bill, said it provides Maine's farmers with new protections and assurances, and has taken nearly two years to craft.

The legislation:

- Prevents lawsuits for patent infringement against farmers who unintentionally end up with genetically engineered material in their crops.

- Ensures that lawsuits that do occur against farmers involving GE crops or seeds will be held in the state

of Maine.

• Directs the Maine Department of Agriculture to develop and implement Best Management Practices for GE crops. Previously, GE crops had the same BMP's as all other conventional and organic crops.

An amendment by the House of Representatives, that was not included in the final Senate version, would have required manufacturers of GE seed to submit an annual report to the Department of Agriculture giving the total number of potential acres that could be planted in each type of genetically engineered crop. Perkins said this would have allowed the Department of Agriculture to track the use of genetically engineered crops, see trends in their use, and be alerted to new crops coming into the state.

"While I am pleased with the step forward that we have taken here, I know that we have more work to do to ensure that policymakers have all the information they need to make good decisions in the future," the amendment's sponsor Rep. Benjamin Pratt, D-Eddington, said Wednesday.

Perkins said the bill is similar to laws in other states, including North and South Dakota and Indiana.

"Maine's farmers now have some substantial assurance that if they save seed that has been contaminated by genetically engineered varieties, they are not at risk for a lawsuit," Perkins said.

Spencer Aitel of Two Loons Farm in South China is an organic dairy farmer who saves corn seed. "It's good to know that I won't be sued for saving my seeds, but I would like to see a way to make the companies take responsibility for the losses this technology can cause when it contaminates my crops. Maybe next year, the Legislature can work on that," Aitel said Wednesday.

Perkins also praised the requirement that the Department of Agriculture implement Best Management Practices for GE crops.

"Until now farmers had to follow Best Management Practices for spreading manure, a practice in use on farms for thousands of years, yet there were no regulations for genetically engineered crops, a technology only a few years old," she said.

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'GE' crop bill of huge import

KENNEBEC JOURNAL *Morning Sentinel*

04/13/2008

FROM STAFF REPORTS

Spencer Aitel says his livelihood is protected like never before, but he still feels disappointed and nervous.

Legislators last week revamped rules governing the use of genetically engineered crops, limiting organic farmers' exposure to lawsuits and forcing the state to develop best practices for growing the so-called "GE" crops.

But as important as those changes are for Aitel and other organic farmers, who hoped the law would require GE seed producers to report sales in the state, there is still a lot of work to be done.

"It's a big step forward but it's not as much of a step as it should be," said Aitel of Two Loons Farm, an organic dairy farm in South China. "In general, what we're looking for is better protection."

Maine's debate over the use of genetically engineered crops, which are modified to resist pests, has spiked in recent months.

Last year, Maine became the last state in the union to allow the use of Bt corn. Voters at last month's Montville town meeting approved a 10-year moratorium on growing genetically engineered crops within town limits.

Still, the number of farmers growing genetically engineered crops has grown quickly during the past 10 years. Farmers say the modified crops safely produce a better yield, while reducing exposure to pesticides and herbicides.

Organic growers disagree. They question the safety of genetically engineered crops and worry about cross-pollination with their natural crops. Organic growers worry that contamination could destroy a farm's organic certification and open the door to potential lawsuits for copyright infringement.

While no known lawsuits for have been filed in Maine, companies that produce genetically engineered seeds have sued farmers in other states for allegedly stealing technology.

LD 1650, a bill that passed the state House of Representatives on April 8 and is expected to be signed into law by Gov. John Baldacci, removes liability for unintended possession of a genetically engineered product and forces any infringement case brought against a grower to be tried in a Maine court.

"For us, it's of huge significance," said Aitel, who saves and cultivates his own seeds from year to year. "The threat of lawsuits is not just imagined, it's real."

While protection from lawsuits is vital, Russell Libby, executive director of the Maine Organic Farmers and Gardeners Association, believes the bill's real benefit is clarifying which seeds are subject to regulation and re-emphasizing the role seed companies play in reiterating the importance of planting directions.

Planting instructions are important in order to avoid problems with neighbors.

"The most important part is it directs the (Department of Agriculture) to come up with best-management practices to avoid conflict," Libby said.

"I think our solution is going to have to be based 98 percent on prevention."

Libby predicted those management practices will be rely heavily on guiding communication between farmers.

While crafted to curb cross-pollination, the bill should not pit conventional farmers against organic growers, said Rep. Benjamin Pratt, D-Eddington, one of the co-sponsors.

"I think it gives some protection to Maine farmers," he said. "What I don't want to see is farmers suing farmers. There's good things for everybody in here."

"All farmers care about the future of Maine agriculture," said Rep. John Piotti, D-Unity, a co-sponsor of the bill. "We don't know what the future is, all we know is it's going to be different from the present."

Tom Cote of Somerset Farms, a Pittsfield dairy farm in Pittsfield, said the legislation will not hinder his use of genetically engineered products, but he worries the new rules set a precedent that could lead to more restrictions.

"I don't see the need for this legislation," he said. "They're trying to solve a problem that doesn't exist."

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[Beyond Pesticides Daily News Blog](#)

[Connecticut Town Bans Pesticides on Athletic Fields](#)

(*Beyond Pesticides*, April 15, 2008) Thanks to the organizing efforts of the local Environmental Action Task Force, the town of Greenwich, CT has banned the use of pesticides on all of its athletic fields. The first application of the year, which was set for April 14, 2008, was cancelled after the Board of Selectmen passed a resolution mandating the ban.

“It’s very exciting,” Selectman Lin Lavery told *Greenwich Time* newspaper. “It shows the town’s commitment to being a leader on environmental issues.”

According to the newspaper, the Environmental Action Task Force proposed the resolution in response to a [state law](#) banning the use of pesticides on all elementary and middle school grounds, that goes into effect next year. But the task force took the mandate a step further, banning pesticides on all town athletic fields and instituting it a year early.

It seemed logical to move forward with a ban as quickly as possible once it was determined that these pesticides were toxic and potentially harmful to children, Lavery told *Greenwich Time*.

Pesticides, such as Barricade- containing the active ingredient prodiamine, which is used on town fields, is a possible human carcinogen and suspected endocrine disruptor. Michael Franco, M.D., a local pulmonologist who is chairman of the task force’s pesticides sub-committee is concerned about the pesticide’s carcinogenicity, developmental toxicity, links to behavioral problems and persistence in the soil.

A spokesperson for the Greenwich Parks Department called the move a “noble” thing to do, but believes an organic approach will be more labor intensive. However experience shows, organic management of playing fields can be cheaper, does not require “rest” time, as once believed, and are safer for the athletes.

For more information on organic athletic fields, see “[Pesticides and Playing Fields](#),” published in the Summer 2006 issue of *Pesticides and You*, and *Beyond Pesticides’* [Lawns and Landscapes](#) project page.

[Beyond Pesticides Daily News Blog](#)

[CA Defends Spray Plan for Moth, Critics Charge Scare Tactics](#)

(*Beyond Pesticides*, April 16, 2008) The California Department of Food and Agriculture (CDFA) is warning that if pheromone spraying in the San Francisco Bay area is postponed this summer, more conventional insecticides could be used in the future to manage a larger-scale light brown apple moth (LBAM) infestation. The related legal brief was released Monday in response to a lawsuit that demands an environmental review before the pheromone, CheckMate, is sprayed this summer. A number of cities and counties [have taken a stand](#) against the spray, including Santa Cruz county's lawsuit, the hearing for which is coming up on April 24.

CDFA is resisting the counties' attempts to delay their LBAM action plan. "The risk of greater conventional pesticide is out there," said CDFA spokesman Steve Lyle. According to the brief, the pesticide to be used would be [bacillus thuringiensis](#) (Bt), which is commonly used in [other areas of the country](#) to fight insects like the gypsy moth. One concern of local researchers is the area's populations of endangered and threatened moths and butterflies, which would be further threatened by a non-selective insecticide.

Santa Cruz Councilman Tony Madrigal dismissed the brief as employing scare tactics. "They're proposing a choice to the people between bad and worse," he said.

In addition, the state has gone on the offensive against injury reports from the [first round of pheromone spraying](#), which occurred last fall. The Office of Environmental Health Hazard Assessment, Department of Pesticide Regulation, and California Department of Public Health released [a report](#) last week that argues a lack of evidence showing reported illnesses were caused by the spraying. After analyzing a total of 463 reports of human symptoms after the spraying, most of which included respiratory symptoms, the report concluded, "It is not possible to determine whether or not there is a link between any of the reported symptoms and the aerial spraying." Among several shortcomings found in the data, the report argued, "the reported symptoms are nonspecific and, and are quite common among the general population . . . Given the range of causes for these symptoms and the large number of individuals expected to experience such symptoms at any given time, the symptoms in the 463 reports cannot be clearly attributed to any specific cause."

To improve future reporting, the three agencies are designing a streamlined program to collect illness reports, including providing training to physicians on how to identify pesticide-related symptoms. The report includes full recommendations to help prevent any "unexpected health events" in conjunction with future LBAM spraying.

State Senator Carole Migden released a statement following the report. She said, "OEHHA says that it was unable to confirm a link between spraying and adverse health effects because most health complaints did not contain enough information to determine the cause of symptoms. Clearly, people should refrain from assuming that this means that no link exists. What residents must understand is that the spraying plan for the Bay Area will be much longer in duration than last fall's and that no long-term studies have been done on the health affects [*sic*] of the spray that will be used - a spray that encapsulates the pesticide in tiny plastic spheres that people will inhale. How can that possibly be good for us?"

Sources: [The Mercury News](#), [eFluxMedia](#), [San Francisco Bay Guardian](#)

New Tactics Take A Bite Out of Bedbugs

By SARA SCHAEFER MUÑOZ
Wall Street Journal, March 20, 2008; Page D1

Several years after Americans woke up to a bedbug problem, the pest-control industry is rolling out an arsenal of methods that promise an easy yet thorough assault on the bloodthirsty pests.

Bedbugs, which can be difficult to spot, are becoming even tougher to eradicate as they spread and their resistance to some pesticides grows. In response, pest-control companies are adopting new tactics.

Stern Environmental Group LLC, a Secaucus, N.J., company that serves the New York City area, recently started using a technology that sprays the bugs with icy carbon dioxide to kill them. ThermaPure Inc., of Ventura, Calif., uses devices similar to giant hair dryers to heat up a room and bake the bugs to death. Bedbugs & Beyond LLC in New York will remove people's furniture from their homes and fumigate it with a poisonous gas. Another method uses specially trained dogs to track down tiny bedbugs and their eggs, helping exterminators target spraying. Meanwhile, researchers at the University of Minnesota are studying bedbugs' behavior in an attempt to develop a trap that simulates a typical victim -- a sleeping human.

Professional treatments, including many of the conventional methods still being used, can start at about several hundred dollars and reach into the thousands.

A simple solution to rid a home of the common bedbug, or *Cimex lectularius*, has proven elusive since the brown, wingless creatures made a resurgence in the U.S. about five years ago. Both entomologists and the pest-control industry say they have seen a rise in infestations of homes and hotels; Steven Jacobs, an urban entomologist at Penn State University who identifies insects for homeowners and pesticide companies, says he now receives about 30 bedbug specimens a year, compared with almost none about five or six years ago.

Bedbugs are slightly smaller than an apple seed and hide in the folds and seams of mattresses and other furniture, emerging at night to feed on a warm-blooded host. Part of what makes bedbugs so tricky to eradicate is that the insects aren't confined to the bed. They live in drapes, behind wall hangings, in the cracks of wall plaster -- and even in light fixtures and electronics. Further complicating matters, a female can deposit the tiny eggs around a room. The bugs are transported from one location to another in luggage or clothing; pest experts say the bugs likely accompany travelers home from hotels or enter a house on secondhand furniture.

Entomologists say it is unclear why the pests have made a comeback, but theories include a more restrained use of other pesticides that in the past might have helped to nab bedbugs, and an upswing in international travel.

Bedbug bites can produce itching welts, but the bugs aren't known to carry disease. Still, they can be quite a nuisance and take a powerful psychological toll. Some people don't sleep well for months, worrying that every itch is a bug on them, and many feel ashamed to tell their relatives or neighbors about the problem.

Bedbugs typically have been treated with a class of chemicals known as pyrethroids. Yet entomologists who study bedbug control say the insects have developed some resistance to these chemicals. Other chemicals are more effective but can take longer to work. Mattress encasements may be successful in eliminating bugs -- but only from the mattresses.

Companies pitching the latest eradication methods -- such as heat or icy sprays -- say they are more effective as well as more palatable for people worried about using pesticides. Yet

entomologists caution there still are drawbacks: The cold spray might not reach every bug; dogs can miss hiding places high up in a room; and heating might cause bugs to flee to a cooler place in the home. Except for heating, the latest methods usually require the homeowner to go through the onerous process of clearing out rooms, drawers and closets, and washing or dry cleaning all clothing and linens.

"We don't have any easy method of elimination," says Michael Potter, a professor of entomology at the University of Kentucky who has observed an increase in bedbugs through his research and work with pest-control companies. "We are looking for the silver bullet."

While visiting her father's home over Christmas, Chance Fechter developed 40 bites on her body that doctors suspected were from bedbugs. Convinced she had brought the bugs home with her, Ms. Fechter took apart her bed and went through her clothes looking for them. She even started waking up in the middle of the night and donning a headlamp in hopes of nabbing them.

After doing some research, she came across Advanced K9 Detectives in Milford, Conn., which trains dogs to spot bedbugs. A dog found some bugs in the mattress, the carpet, a drawer and behind a radiator. The house was sprayed with pesticides, and Ms. Fechter says her Boston-area home has since remained pest-free.

"It was very stressful," she says. "The idea that there were I don't know how many bugs on me while I was sleeping completely grossed me out."

Pest-control experts and researchers say dogs can indeed be helpful for finding bedbugs humans might miss or to confirm a treatment has gotten rid of all the bugs. Pepe Peruyero, who last year started training bedbug-sniffing dogs for pest control companies at his J & K Canine Academy in High Springs, Fla., says the cost can be about \$200 an hour, depending on home size and travel time.

Another solution is killing the bugs and their eggs by heating a room to between 120 and 140 degrees Fahrenheit for several hours. ThermaPure uses infrared heaters to uniformly heat the room, says President and Chief Executive David Hedman. Treatment costs between \$500 and \$1,000 per room. (Easily melted items like candles and lipstick must first be removed.)

At the opposite end of the temperature spectrum, Cryonite, made by CTS Technologies, a unit of [Venteco](#) PLC in London, aims to eradicate the bugs by dousing them with a snowy spray of carbon dioxide. A drawback: Some bugs can survive if they aren't directly hit by the spray. Treatments cost between \$600 to \$700 per room, or as much as 50% more than a conventional chemical treatment, says Douglas Stern, managing partner of Stern Environmental, one of the companies using the method.

Meanwhile, desperate homeowners who don't want to pay hundreds of dollars are taking matters into their own hands, putting sticky tape on or near their beds to snare the bugs, vacuuming compulsively or ordering do-it-yourself solutions online. Entomologists say tape and vacuuming aren't likely to eliminate the bugs and over-the-counter products might kill only the bugs that people can see.

"It's getting the ones that are hiding that is the problem," says Susan C. Jones, an associate professor of entomology at Ohio State University.

washingtonpost.com

Family Study Associates Pesticide Use With Parkinson's Risk

Friday, March 28, 2008; 12:00 AM

FRIDAY, March 28 (HealthDay News) -- Parkinson's disease has been linked to exposure to pesticides in a new study comparing people with the neurological disorder and their unaffected relatives.

The study, published online in the open-access journal *BMC Neurology*, found the strongest ties to the use of herbicides and insecticides, such as organochlorides and organophosphates. Drinking well water or living or working on a farm, two common experiences for pesticide exposures, did not appear to be associated with Parkinson's.

Many Parkinson's disease cases are thought to be due to an interaction between genetic and environmental factors. By studying related individuals who share environmental and genetic backgrounds, researchers said they could identify specific differences in exposures between individuals with and without the disease.

"Previous studies have shown that individuals with Parkinson's disease are over twice as likely to report being exposed to pesticides as unaffected individuals, but few studies have looked at this association in people from the same family or have assessed associations between specific classes of pesticides and Parkinson's disease," study author Dana Hancock said in a prepared statement.

Researchers from both Duke University Medical Center and the University of Miami Miller School of Medicine interviewed 319 Parkinson's patients and more than 200 of their relatives to get details about whether they ever were exposed to pesticides, lived or worked on a farm, or drank water from wells.

Parkinson's disease, which affects about 1 million people in the United States, is characterized by symptoms such as tremors and muscle rigidity. Several gene variations have been tagged as contributing to the disease, but these rare defects account for a small proportion of those affected by disorder.

While several other studies have supported pesticides as a risk factor for Parkinson's, "biological evidence is presently insufficient to conclude that pesticide exposure causes PD," Hancock said.

"Further investigation of these specific pesticides and others may lead to identification of pertinent biological pathways influencing PD development," he said.

More information

The U.S. Environmental Protection Agency has more about [pesticide safety](#).

SOURCE: BioMed Central, news release, March 27, 2008

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Another Weapon Found for Emerald Ash Borer Arsenal

4/4/08

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EAST LANSING, Mich. -- Valuable landscape ash trees may now be protected from emerald ash borer (EAB) with a new insecticide called emamectin benzoate.

Research at Michigan State University (MSU) showed that the new product, which will be sold as Tree-age™, was “remarkably effective” in controlling EAB, reports Deborah McCullough, MSU forest entomologist and EAB researcher. The Michigan Department of Agriculture (MDA) approved a special registration for the product for use in ash trees for controlling EAB. It has also been used on fruit and vegetable crops.

“The results from 2007, our first year of research with the product, were dramatic,” McCullough said. “We had seen some preliminary tests with the product and thought it might work, so we set up research trials in three sites in May 2007.”

The researchers looked at the mortality rate of adult EAB beetles that were caged with leaves from emamectin benzoate-treated trees, trees treated with other insecticides and non-treated trees. They repeated the trial three times during the summer. In all three trials, leaves from the emamectin benzoate-treated trees killed all the beetles. In contrast, at least 70 to 80 percent of the beetles survived on the untreated leaves, and no more than 80 percent of the beetles died when they fed on leaves from trees treated with other products.

Last fall, some of the emamectin benzoate-treated ash trees were felled and debarked to see how many EAB larvae were feeding on each tree. The emamectin benzoate-treated trees showed more than 99 percent fewer larvae than untreated ash trees.

Though the results are promising, McCullough cautions that more study is needed.

“This is only one year’s worth of data, so the study will continue,” she said. “This year we will treat some of the trees again, but others won’t be treated so we can see if emamectin has to be applied every year or every other year.”

Entomologist Therese Poland, from the United States Department of Agriculture (USDA) Forest Service, is assisting with the study, and Phillip Lewis, from the USDA Animal and Plant Health Inspection Service, is measuring the amount of each insecticide product that is present in the ash leaves throughout the summer.

Emamectin benzoate can be purchased and applied only by trained, certified pesticide applicators, who inject the product into the base of the tree. To be effective, the insecticide must be transported by the tree up the trunk and into the branches and leaves. This means that the product will probably be most effective if the tree is still relatively healthy when it is treated. (EAB feeds on the tissues that transport nutrients up into a tree, so if the pest has already killed those tissues, it is too late to save that part of the tree.)

“This product affects insects that eat ash tree tissue,” McCullough said, “but it won’t hurt anything that lands or climbs on the tree, such as butterflies, birds and squirrels.”

“Though this is not a ‘silver bullet’ for eradicating EAB across the country, it could be a quantum leap forward in our ability to slow the spread of this deadly insect,” said Ken Rauscher, director of the MDA Pesticide and Plant Pest Management Division. “This product affords municipalities, homeowners and others the opportunity to save landscape trees, municipal park trees or other trees of value that would have otherwise received a death sentence because of EAB.”

Tree-äge™ will be available beginning May 14. Certified applicators can order it now.

“We are excited about this product’s possibilities,” McCullough said. “This could be a tool that we can integrate with our other options to slow the advance of EAB in newly discovered infestations.”

For more information on emerald ash borer, go to www.emeraldashborer.info or www.michigan.gov/eab.

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Insecticide DDT could be associated with aggressive breast cancer tumours

<http://www.topcancernews.com/news/1624/1/Insecticide-DDT-could-be-associated-with-aggressive-breast-cancer-tumours>

Published on 04/9/2008

Research has shown that the main metabolite of the insecticide DDT could be associated with aggressive breast cancer tumours, but there has been no explanation for this observation to date. Now a new report shows how DDT could act to disrupt hormone-sensitive breast cancer cells.

Michel Aube and colleagues from Universite Laval and Institut national de sante publique in Quebec, Canada have published findings suggesting that DDT's main metabolite, 1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene (p,p'-DDE), could increase breast cancer progression. They suggest a mechanism whereby p,p'-DDE opposes the androgen signalling pathway that inhibits growth in hormone-responsive breast cancer cells.

The team tested the effect of p,p'-DDE on the proliferation of CAMA-1 cells, a human breast cancer cell line that expresses the estrogen receptor alpha (ER α) and the androgen receptor (AR), either with or without physiological concentrations of estrogens and androgens. They also assessed p,p'-DDE-induced modifications in cell cycle entry and the expression of sex-steroid dependent genes including ESR1 and CCND1, the latter coding for a key protein involved in cell proliferation.

When estrogens and androgens were present in the cell culture medium, increasing concentrations of p,p'-DDE accelerated the growth of CAMA-1 breast cancer cells. p,p'-DDE had a similar effect on the proliferation of MCF7-AR1 cells, an estrogen responsive cell line genetically engineered to over express the AR. Adding the potent androgen dihydrotestosterone together with estradiol to the cell culture medium decreased the recruitment of CAMA-1 cells in the S phase and the expression of ESR1 and CCND1, by comparison with cells treated with estradiol alone. These androgen-mediated effects were blocked with similar efficacy by p,p'-DDE and the potent antiandrogen hydroxyflutamide.

'Our results suggest that in addition to estrogenic compounds, which have been the main focus of researchers over the past decades, chemicals that block the AR could favour breast cancer progression' says Pierre Ayotte, who is leading the research team.

Ayotte's team had previously linked concentrations of p,p'-DDE with tumour aggressiveness in women with breast cancer. They are now investigating the effect on breast cancer cell proliferation of a complex mixture of environmental chemicals, similar to that found in the blood of women, which comprises compounds with estrogenic and antiandrogenic activities.

Journal reference: 1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene (p,p'-DDE) disrupts the estrogen-androgen balance regulating the growth of hormone-dependent breast cancer cells. Michel Aube, Christian Larochelle and Pierre Ayotte. Breast Cancer Research (in press)

Adapted from materials provided by BioMed Central/Breast Cancer Research, via EurekAlert!, a service of AAAS.

March 25, 2008

Bats Perish, and No One Knows Why

By [TINA KELLEY](#)

Al Hicks was standing outside an old mine in the Adirondacks, the largest bat hibernaculum, or winter resting place, in New York State.

It was broad daylight in the middle of winter, and bats flew out of the mine about one a minute. Some had fallen to the ground where they flailed around on the snow like tiny wind-broken umbrellas, using the thumbs at the top joint of their wings to gain their balance.

All would be dead by nightfall. Mr. Hicks, a mammal specialist with the state's [Environmental Conservation Department](#), said: "Bats don't fly in the daytime, and bats don't fly in the winter. Every bat you see out here is a 'dead bat flying,' so to speak."

They have plenty of company. In what is one of the worst calamities to hit bat populations in the United States, on average 90 percent of the hibernating bats in four caves and mines in New York have died since last winter.

Wildlife biologists fear a significant die-off in about 15 caves and mines in New York, as well as at sites in Massachusetts and Vermont. Whatever is killing the bats leaves them unusually thin and, in some cases, dotted with a white fungus. Bat experts fear that what they call White Nose Syndrome may spell doom for several species that keep insect pests under control.

Researchers have yet to determine whether the bats are being killed by a virus, bacteria, toxin, environmental hazard, metabolic disorder or fungus. Some have been found with pneumonia, but that and the fungus are believed to be secondary symptoms.

"This is probably one of the strangest and most puzzling problems we have had with bats," said Paul Cryan, a bat ecologist with the [United States Geological Survey](#). "It's really startling that we've not come up with a smoking gun yet."

Merlin Tuttle, the president of Bat Conservation International, an education and research group in Austin, Tex., said: "So far as we can tell at this point, this may be the most serious threat to North American bats we've experienced in recorded history. "It definitely warrants immediate and careful attention."

This month, Mr. Hicks took a team from the Environmental Conservation Department into the hibernaculum that has sheltered 200,000 bats in past years, mostly little brown bats (*Myotis lucifugus*) and federally endangered Indiana bats (*Myotis sodalis*), with the world's second largest concentration of

small-footed bats (*Myotis leibii*).

He asked that the mine location not be published, for fear that visitors could spread the syndrome or harm the bats or themselves.

Other visitors do not need directions. The day before, Mr. Hicks saw eight hawks circling the parking lot of another mine, waiting to kill and eat the bats that flew out.

In a dank galley of the mine, Mr. Hicks asked everyone to count how many out of 100 bats had white noses. About half the bats in one galley did. They would be dead by April, he said.

Mr. Hicks, who was the first person to begin studying the deaths, said more than 10 laboratories were trying to solve the mystery.

In January 2007, a cave explorer reported an unusual number of bats flying near the entrance of a cavern near Albany. In March and April, thousands of dead bats were found in three other mines and caves. In one case, half the dead or living bats had the fungus.

One cave had 15,584 bats in 2005, 6,735 in 2007 and an estimated 1,500 this winter. Another went from 1,329 bats in 2006 to 38 this winter. Some biologists fear that 250,000 bats could die this year.

Since September, when hibernation began, dead or dying bats have been found at 15 sites in New York. Most of them had been visited by people who had been at the original four sites last winter, leading researchers to suspect that humans could transmit the problem.

Details on the problem in neighboring states are sketchier. "In the Berkshires in Massachusetts, we are getting reports of dying/dead bats in areas where we do not have known bat hibernacula, so we may have more sites than we will ever be able to identify," said Susi von Oettingen, an endangered species biologist with the United States [Fish and Wildlife Service](#).

In Vermont, Scott Darling, a wildlife biologist with the Fish and Wildlife Department, said: "The last tally that I have is approximately 20 sites in New York, 4 in Vermont and 2 in Massachusetts. We only have estimates of the numbers of bats in the affected sites — more or less 500,000. It is impossible for us to count the dead bats, as many have flown away from the caves and died — we have over 90 reports from citizens across Vermont — as well as many are still dying."

People are not believed to be susceptible to the affliction. But New Jersey, New York and Vermont have advised everyone to stay out of all caverns that might have bats. Visitors to affected caves and mines are asked to decontaminate all clothing, boots, ropes and other gear, as well as the car trunks that transport them.

One affected mine is the winter home to a third of the Indiana bats between Virginia and Maine. These pink-nosed bats, two inches long and weighing a quarter-ounce, are particularly social and cluster together

as tightly as 300 a square foot.

“It’s ironic, until last year most of my time was spent trying to delist it,” or take it off the endangered species list, Mr. Hicks said, after the state’s Indiana bat population grew, to 52,000 from 1,500 in the 1960s.

“It’s very scary and a little overwhelming from a biologist’s perspective,” Ms. von Oettingen said. “If we can’t contain it, we’re going to see extinctions of listed species, and some of species that are not even listed.”

Neighbors of mines and caves in the region have notified state wildlife officials of many affected sites when they have noticed bats dead in the snow, latched onto houses or even flying in a recent snowstorm.

Biologists are concerned that if the bats are being killed by something contagious either in the caves or elsewhere, it could spread rapidly, because bats can migrate hundreds of miles in any direction to their summer homes, known as maternity roosts. At those sites, females usually give birth to one pup a year, an added challenge for dropping populations.

Nursing females can eat up to half their weight in insects a day, Mr. Hicks said.

Researchers from institutions like the [Centers for Disease Control and Prevention](#), the United States Geological Survey’s National Wildlife Health Center, [Boston University](#), the New York State Health Department and even Disney’s Animal World are addressing the problem. Some are considering trying to feed underweight wild bats to help them survive the remaining weeks before spring. Some are putting temperature sensors on bats to monitor how often they wake up, and others are making thermal images of hibernating bats.

Other researchers want to know whether recently introduced pesticides, including those released to stop [West Nile virus](#), may be contributing to the problem, either through a toxin or by greatly reducing the bat’s food source.

Dr. Thomas H. Kunz, a biology professor at Boston University, said the body composition of the bats would also be studied, partly to determine the ratio of white to brown fat. Of particular interest is the brown fat between the shoulder blades, known to assist the bats in warming up when they begin to leave deep hibernation in April.

“It appears the white nose bats do not have enough fat, either brown or white, to arouse,” Dr. Kunz said. “They’re dying in situ and do not have the ability to arouse from their deep torpor.”

His researchers’ cameras have shown that bats in the caves that do wake up when disturbed take hours longer to do so, as was the case in the Adirondack mine. He also notes that if females become too emaciated, they will not have the hormonal reactions necessary to ovulate and reproduce.

In searching for a cause of the syndrome, researchers are hampered by the lack of baseline knowledge about habits like how much bats should weigh in the fall, where they hibernate and even how many bats live in the region.

“We’re going to learn an awful lot about bats in a comprehensive way that very few animal species have been looked at,” said Dr. Elizabeth Buckles, an assistant professor at Cornell who coordinates bat research efforts. “That’s good. But it’s unfortunate it has to be under these circumstances.”

The die-offs are big enough that they may have economic effects. A study of Brazilian free-tailed bats in southwestern Texas found that their presence saved cotton farmers a sixth to an eighth of the cash value of their crops by consuming insect pests.

“Logic dictates when you are potentially losing as many as a half a million bats in this region, there are going to be ramifications for insect abundance in the coming summer,” Mr. Darling, the Vermont wildlife biologist, said.

As Mr. Hicks traveled deeper in the cave, the concentrations of bats hanging from the ceiling increased. They hung like fruit, generally so still that they appeared dead. In some tightly packed groups, just individual noses or elbows peeked through. A few bats had a wing around their nearest cavemates. Their white bellies mostly faced downhill. When they awoke, they made high squeaks, like someone sucking a tooth.

The mine floors were not covered with carcasses, Mr. Hicks said, because raccoons come in and feed on them. Raccoon scat dotted the rocks along the trail left by their footprints.

In the six hours in the cave taking samples, nose counts and photographs, Mr. Hicks said that for him trying for the perfect picture was a form of therapy. “It’s just that I know I’m never going to see these guys again,” he said. “We’re the last to see this concentration of bats in our lifetime.”

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March 26, 2008

A Turn to Alternative Chemicals

By **SUSAN MORAN**

JOEL TICKNER is trying to build a greener future one molecule at a time. Dr. Tickner directs the chemicals science and policy program at the Lowell Center for Sustainable Production at the [University of Massachusetts](#), Lowell. The center researches and promotes environmentally sound chemicals policy and production.

When he's not teaching, Dr. Tickner may be darting off to Washington, New York, Montreal and cities in Europe to speak with legislators, regulators and executives about making safer, more competitive products. He also works with chemists in the industry and at Lowell to help them think about designing environmentally benign chemicals.

"We're at a turning point," Dr. Tickner said. "Companies and states are taking leadership where the federal government isn't." He spoke to a reporter before flying to Pittsburgh to speak to executives at [Bayer's](#) United States headquarters about European and American chemicals policies. "It's not about banning chemicals one by one, but about thinking more holistically about how we use chemicals in the design process itself."

This approach is the core of green chemistry, which tries to eliminate waste, use renewable or environmentally benign materials and avoid relying on toxic reagents and solvents when designing chemical products.

European mandates, and to some degree state regulations, have propelled manufacturers to adopt a deeper shade of green. More recently, some businesses have been creating change by demanding safer products from suppliers. One such heavyweight is Kaiser Permanente, a nonprofit health care system with nearly \$38 billion in revenue last year.

A few years ago, some Kaiser managers grew alarmed by studies showing that a plastic used in many supplies — polyvinyl chloride, or PVC — turns to chlorinated dioxin, a toxin, when burned. Other studies showed that DEHP (diethylhexyl phthalate, a chemical that makes PVC malleable), can leach into the contents of intravenous bags, potentially causing reproductive problems in male babies.

So the team summoned experts to identify hospital products containing hazardous ingredients. Soon after, a Kaiser sourcing manager called suppliers to see if they could come up with safe and functional PVC-free alternatives for carpets, medical gloves and other supplies.

None were available. So Kaiser challenged manufacturers to create them and compete for its business. As of

2004, Kaiser has been rolling out carpets made by Tandus, of Dalton, Ga., which use a nontoxic polymer called polyvinyl butyral, or PVB. Meanwhile, Kaiser found a supplier, [Baxter International](#), for intravenous bags free of PVC, DEHP and latex. It also buys nitrile gloves, a latex substitute, from [Cardinal Health](#).

Kathy Gerwig, vice president and environmental stewardship officer at Kaiser, said it would be financially prohibitive to test the toxicity of all its products.

“We want to eliminate exposure of toxic chemicals among our patients and in our communities,” she said. “It’s really hard to do that in the absence of the kind of information we need that’s available.”

In 1976, Congress passed the Toxic Substances Control Act, which required that chemicals produced from 1979, when the toxic inventory began, be subject to review for toxicity before entering the market. But the act let some 62,000 chemicals that were produced before then avert scrutiny. That makes it tough for companies like Kaiser to know what potentially toxic chemicals might be in products they buy.

Many experts say that the federal [Environmental Protection Agency](#) is too lenient on product manufacturers. “This is a major regulatory and market failure,” said Michael P. Wilson, a toxicologist with the School of Public Health at the University of California, Berkeley.

The E.P.A. has preferred the carrot over the stick approach with industry. In 1995, it started a voluntary program to encourage manufacturers and researchers to create more environmentally sensitive processes and products.

Many companies are not waiting for the stick. They are making their products conform to stricter chemical regulations enacted by the [European Union](#), Canada, Japan and other places.

“The benefit of more restrictive policies globally is that it allows us to make one product that we sell everywhere,” said Sean Cady, director of environment, health and safety for Levi Strauss & Company, the jeans maker in San Francisco. Eight years ago, Levi began publishing a list of chemicals that it prohibits or restricts in its products.

The list, which is updated annually, dictates the type of fabric and raw materials that Levi buys from suppliers. For example, four years ago, designers created a shirt fabric that incorporated an antimicrobial chemical called isothiazolinone to prevent underarm odor and stain. But once Mr. Cady’s team saw that the chemical was on its list, the idea was abandoned.

Peter Dunn, who heads [Pfizer](#)’s green chemistry projects in Sandwich, England, said the company’s efforts have yielded “tens of millions in savings” in the production of two of its top-selling drugs: [Viagra](#), the erection-enhancing drug, and Lyrica, a pain killer.

Much of the savings have come from reducing organic solvents like acetone. For Viagra, the company has reduced the amount of organic solvents from 1,300 liters per kilogram of drug produced in 1990 to 6.3 liters today, Mr. Dunn said. Some solvents, like acetone, were eliminated or replaced with renewable solvents like water.

March 26, 2008

Regulators Stamp Copper as a Germ Killer

By [BARNABY J. FEDER](#)

The market for antimicrobial doorknobs, hospital fixtures and other products that kill germs on contact may be about to take on a coppery sheen.

The Copper Development Association, a trade group for copper companies, said Tuesday that federal regulators had approved its application to market a group of copper alloys, including brass and bronze, as capable of killing bacteria and microbes effectively enough to protect human health.

Copper ions can penetrate the cell walls of microbes and can disrupt reproduction and other cell functions.

The approval is the first time that the [Environmental Protection Agency](#) has allowed health claims to be attached to a solid antimicrobial material rather than a liquid or aerosol disinfectant. The agency regulates antimicrobials not applied directly to the body under the laws intended to control agricultural pesticides.

How widely the copper products will penetrate the multibillion-dollar market for antimicrobial products remains unclear. Copper is a relatively soft, easily tarnished metal that may not be suitable for many applications.

Researchers who worked on the concept expect hospitals and other public institutions to be the initial market for the product, based on the approvals gained by the trade group. The tests showed 99.9 percent kill rates within two hours against the leading antibiotic-resistant bacteria now plaguing hospitals, said Harold T. Michels, senior vice president for technology and technical services at the trade group.

“This is very, very solid data,” said Mr. Michels, who said that the tests involved more than 3,000 samples and included a requirement to reinfest a surface eight times in a single 24-hour period to prove the results were durable. Mr. Michels said clinical trials were under way to test how copper bed rails, arm rests and other hospital fixtures can reduce the numbers of bacteria in hospitals.

Scores of consumer products are already in the market with coatings impregnated with silver and other antimicrobial substances, some of which have been advertised in ways that lead users to believe they reduce infection risks. But the only legal claims those products can make is that they protect the product itself from bacteria, mold or other microbial organisms — for instance, they eliminate odors from the product, prevent stains or slow its decay.

That limit was spotlighted this month when Aten Technology agreed to pay a \$208,000 penalty to settle E.P.A. charges that it had violated the regulations by implying human health benefits to the silver-based

coatings on computer mice and keyboards made by its subsidiary, Iogear.

Jeffrey A. Trogolo, chief technical officer of Agion Technologies, the leading supplier of antimicrobial silver particles, conceded that companies using Agion's products cannot make any claims about the type of bacteria killed, how many are killed or their health impact because Agion had not attempted to present such data to the regulators. But Mr. Trogolo said many studies suggest silver is as potent an antimicrobial as copper.

"There is a difference in the claim language, but that doesn't mean there is a difference in performance," Mr. Trogolo said.

The Copper Development Association, based in New York, will not market products itself but member companies will be able to do so after filing "me too" applications with the E.P.A., according to Joseph J. Green, the lawyer in Washington who represented the group through the four-year testing and review process.

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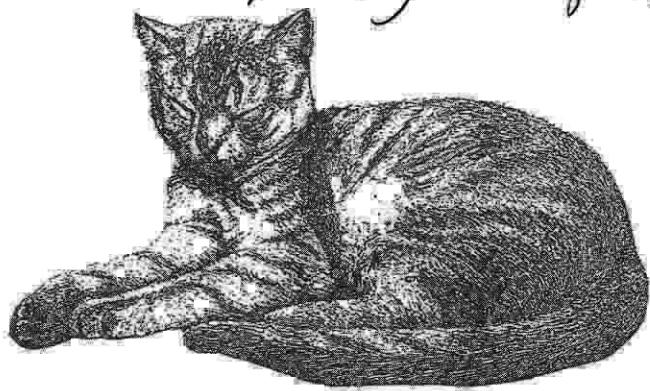
Ms Nancy Goodspeed
79 Spring St
Brunswick ME 04011
23 FEB 2008 PM

To Whom it may Concern,

2/28/08

I'm writing because it worries me that there is a study that indicates bioengineered corn has a negative effect on the Caddisfly. This is troubling, and I'm hoping that this type of corn isn't allowed in the state.

Many Thanks,
Nancy Goodspeed



From: Jennings, Henry
Sent: Monday, March 24, 2008 9:28 AM
To: Schlein, Paul B
Subject: FW: With Rights Come Responsibilities: Strong Rules for Bt corn

-----Original Message-----

From: dawn gee [mailto:dawnnguimo@hotmail.com]
Sent: Saturday, March 22, 2008 11:32 AM
To: Jennings, Henry
Subject: With Rights Come Responsibilities: Strong Rules for Bt corn

Dear Members of the Board of Pesticide Control:

I am writing to you today to encourage you to make strong rules for Bt corn. In your July decision, you gave chemical companies the right to sell Bt corn in the state, and you gave farmers the right to grow Bt corn in Maine. Now its time to attach responsibilities to those rights. In every venue of our society, rights come with responsibilities. In order to drive a car, we have to follow certain regulations, getting a driver's license, following speed limits, and yielding to other vehicles. The same should apply to Bt corn.

In light of the new study on Bt corn's effects on aquatic insects, I hope you will recognize how much scientific work there is still to be done on Bt corn's impacts on farmers, environment and people. While this work is being done, we should be as cautious as possible in letting Bt corn loose in Maine. Please, do the right thing to protect Maine's farmers, people and the environment, and assign responsibilities for the safe use of Bt corn to its makers and users.

I urge you to consider the following while you make regulations for Bt corn:

A one mile buffer zone is a critical requirement for minimizing genetic contamination and satisfying market and consumer demands for GE-Free products, and it is the RESPONSIBILITY of the transgenic grower to provide that buffer.

An annual training and licensing for both growers and dealers is a necessary precaution to ensure RESPONSIBLE handling, storage and use of Bt corn and compliance with all labels, requirements and regulations, as well as to educate growers about alternatives to transgenic technology and its associated risks.

Reporting requirements for seed dealers and farmers should be mandatory and available to the public to allow people to take precautions to protect themselves from the potential negative effects of pollen drift.

The existing statute allowing neighbors to request notification is not enough in this case. The RESPONSIBILITY of notifying all neighbors in a one mile radius should lie on the transgenic user. This is novel technology, unlike any existing pesticide and demands that users accept extra RESPONSIBILITY.

Thank you for your attention to this matter.

Sincerely,

dawn gee
10 old school house rd
norridgewock, ME 04957