

Pest Alert

Vol. 17 No. 24

November 29, 2000

**The Pest Alert is now found on the World Wide Web at
<http://www.colostate.edu/programs/pestalet>**

NOTE: BEGINNING JANUARY, 2001, PEST ALERT WILL ONLY BE AVAILABLE ON THE WEB. HARD COPY ISSUES WILL NO LONGER BE MAILED.

**SCHOOL IPM (P 1)
STARLINK (P 2)
STARLINK CAUSES AVENTIS TO DISPOSE OF AG BUSINESS (P 3)
THEN THERE'S THE GOOD NEWS (P 5)
AND THEN THERE'S MORE ON THE MONARCH (P 5)
TURF CONFERENCE AND WORKSHOP IN DENVER 11/29 - 12/1, 2000 (P 7)
HIGH PLAINS CROP WORKSHOPS IN DECEMBER & JANUARY (P 7)
COLORADO WEED MANAGEMENT WORKSHOPS 12/5&6 IN GRAND JUNCTION (P 8)**

SCHOOL IPM

There is an increasing interest in implementing IPM in schools, day care centers, and other public facilities where children spend large blocks of time. A recent EPS call for proposals specifically addresses this area.

Recently, Doug Jardine, the IPM coordinator in Kansas, pointed out a newly announced program that sets forth more than 700 IPM practices that can be implemented in school buildings, school grounds and other public places. This extensive document is produced by the IPM Institute of North America, a non-profit organization. The material includes references to more than 250 resources for usable information on how to implement IPM in schools.

It is titled: ***IPM STANDARDS FOR SCHOOLS: A PROGRAM FOR REDUCING PEST AND PESTICIDE RISKS IN SCHOOLS AND OTHER SENSITIVE ENVIRONMENTS.***

Colorado State University, U.S. Department of Agriculture and Colorado counties cooperating.
Cooperative Extension programs are available to all without discrimination.

The Institute developed it with information from 45 schools and professional IPM practitioners across the U.S.

It uses approaches used for evaluating IPM adoption in agriculture by getting users to calculate an "IPM score", thus developing a numerical rating of a school's pest management activities. Schools achieving a certain IPM score and then passing a rigorous on-site verification can qualify for IPM certification.

The program is available, free, on the Institute's web site in both PDF (116 pages) and HTML formats, along with other related information. The web site address is www.ipminstitute.org (Brown)

STARLINK

I am passing on some articles gleaned from the internet on the current problems with the genetic enhanced corn from Aventis. Many of you are getting lots of questions about this. I hope these will help, even if they contribute to an increased sense of frustration.

"Economy: Biotech-Corn Problems Lead to Recall Of 300 Products, Disrupt Farm Belt"
---- By Sarah Lueck and Scott Kilman Staff Reporters of the Wall Street Journal,
The Wall Street Journal via Dow Jones.

WASHINGTON -- The flap over StarLink corn, a biotechnology product not approved for human consumption, has led to the recall of nearly 300 food products and caused major disruptions in parts of the Farm Belt.

The recall involves companies ranging from restaurants such as Wendy's and Applebee's to small food companies. The products are included on a list released yesterday by the Food and Drug Administration, and its length suggests the costs of the recall are growing.

The products are made by Mission Foods of Irving, Texas, which initiated the recall last month after tests by an anti-biotechnology group found StarLink corn in some of Mission's products. The corn, made by French pharmaceuticals company, Aventis SA, contains a protein that acts as a pesticide and is supposed to be used only in animal feed or for industrial purposes because it may cause allergies in humans.

The list, which includes more than 70 types of taco chips, more than 80 taco shells and nearly 100 foods served in restaurants, is the first opportunity for consumers to see a comprehensive roster of products affected by the recall. It is available on the FDA's Web site at www.fda.gov.

Mission, which said it isn't sure how much the recall will cost, is telling consumers to take the products back to where they bought them for a refund or a replacement.

FDA officials have said they don't expect health problems if people eat the corn. The agency has received a few reports from people who believe they had allergic reactions after eating products that may have contained StarLink, but it hasn't confirmed any of them.

Many of the products on the list are already off the market, Mission spokesman Peter Pitts said. Officials of Wendy's International Inc., Dublin, Ohio, and Applebee's International Inc.,

Overland Park, Kan., said they immediately removed the taco chips in question from restaurants when the recall was announced.

To prevent further recalls, Aventis is scrambling to buy up this year's crop before it enters the food chain. But it might be years before every kernel of StarLink corn grown during the past three seasons is cleared from the system.

Indeed, some grain-industry officials said it is possible that roughly half the crop stored in grain elevators in Iowa, the nation's biggest corn-producing state, might accidentally contain tiny traces of StarLink corn. Iowa farmers planted 135,000 acres of StarLink corn this year, more than what was planted in any other state and 40% of what was planted across the nation.

Iowa's StarLink harvest of about 25 million bushels this year is a tiny fraction of the state's total corn harvest of two billion bushels. But the StarLink variety was grown so widely in the state -- and tests to detect it are so accurate -- that scores of Iowa farmer-owned cooperatives are worried they won't be able to fulfill contracts to deliver grain to the state's biggest millers, which use only food-grade quality corn.

Gary Alberts of the Iowa Institute for Cooperatives, a trade group, said yesterday that so far, about a dozen grain co-ops have reported finding StarLink in their inventories. The co-ops are trying to reroute the corn to livestock-feed producers, which are cleared to use StarLink but are beginning to demand a discount on the corn.

Gary Strube, manager of Superior Cooperative Elevator Co. in Estherville, Iowa, said StarLink was detected yesterday in 25 cars of an 81-car grain train he was preparing to send to an Archer-Daniels-Midland Co. mill. As a result, Mr. Strube is shipping the corn to a livestock operation at an additional cost to the elevator of about \$11,000 -- a lot of money in this low-margin business.

It was the second time in two weeks that has happened, bringing the elevator's StarLink-related costs to about \$35,000. Mr. Strube said he is sending a bill to Aventis, which has told him they will pay. "If they pick up the tab, we won't sue," he said.

ADM said it also plans to send a bill for its StarLink-related expenses to Aventis. To screen the hundreds of trucks and railcars pouring into its mills daily, the Decatur, Ill., grain-processing giant has hired dozens of people and used thousands of test kits. "Aventis is going to have to compensate us", an ADM spokesman said.

Copyright (c) 2000 Dow Jones and Company, Inc." (Brown)

STARLINK CAUSES AVENTIS TO DISPOSE OF AG BUSINESS

A report on the web from Dow Jones notes that Aventis is going to put its ag business on the market and stick to drugs. The parent company will rename Aventis CropScience - Agreva and get rid of it before the end of next year.

Aventis CropScience is the world's second-biggest ag chemical company behind the Anglo-Swiss rival Syngenta. Aventis was only recently formed with a merger of Novartis and Zeneca.

Even with this, several states are pressing Aventis on the "StarLink" issue. Led by Iowa, sixteen states say "Aventis must take additional action to effectively, quickly, and fairly meet its responsibilities for the consequences of marketing StarLink corn". The states want Aventis to take additional steps -- including establishing claims-handling procedures so farmers and elevators can obtain speedy compensation if they incur costs or losses as a result of StarLink corn. In a letter signed by the attorney generals from AL, CT, IL, IA, KY, MD, MI, MN, MO, NE, NM, ND, OH, OK, SD, and TN they listed several assurances the company already made including:

- Aventis extended the deadline for farmers to participate in the "StarLink Enhanced Stewardship Program" (SES), and agreed that farmers who participate in it do not waive any rights to recover any additional damages they may incur as a result of growing StarLink corn. Within the SES program, Aventis will pay 25 cents per bushel for StarLink and "buffer corn," but not for co-mingled corn. However Aventis will pay logistical costs (such as transportation and storage costs) for StarLink and commingled corn delivered to approved sites. Aventis also will "work with" growers if there are value discounts assessed against their commingled corn.
- "Buffer growers" - growers who grew corn within 660 feet of StarLink corn - also are eligible to participate in the SES Program for the buffer strip corn, if the corn is contained or fed on the farm. Again, Aventis will pay storage and transportation costs for delivering buffer corn and commingled corn to approved delivery sites. If buffer growers use StarLink Logistics (working with Aventis to move grain to approved sites), then Aventis agrees to "work with" them if there are value discounts for commingled grain.
- Grain elevators that receive StarLink corn will be paid for additional transportation, demurrage and testing costs incurred in getting StarLink and commingled corn to approved delivery points. Aventis will "work with" grain elevators if there are value discounts for StarLink and commingled grain delivered to an approved site.

The states said that while "We all view those assurances as important, but they are only a first step". They also want Aventis to:

- Quickly establish claims handling system to compensate farmers, elevators and others that incur costs. The attorneys general said they had reports that claims to Aventis are not being paid expeditiously. "Delays in payment can jeopardize the financial position of many in the grain handling industry," the letter said. "Undisputed claims should be paid within 30 days. This claims handling system should be made widely available, preferably on the Internet," it said.
- Markedly increase logistical capabilities to prevent serious disruptions of the grain handling system. The attorneys general said "the food system can be protected and economic losses can be reduced" if StarLink and commingled grain can be moved

efficiently to approved sites for feed and industrial uses. To reach that goal, Aventis should identify more approved sites, hire additional staff to answer questions and remove bottlenecks, provide additional testing resources, and improve its communications about StarLink Logistics through the Internet and other means.

- "Take further, concrete steps to accept responsibility for economic losses", the attorneys general said. "It is inevitable that StarLink corn and commingled corn will suffer some loss in value", at a scope to be determined. They said they wanted to have further discussions with the company about Aventis's pledge to "work with" producers, buffer growers, grain elevators and others concerning such loss in value.

It looks like this will dog Aventis even if they do sell off the ag division. And of course it is another set back for an extremely valuable technology that the world really needs.
(Brown)

THEN THERE'S THE GOOD NEWS

It was announced in late October that an edible vaccine for Hepatitis B is on horizon. Shucks, I got hepatitis from eating! But a Reuters Health report noted that scientists announced Monday that they are a step closer to developing a potato which can carry a vaccine to prevent infection with hepatitis B virus.

The report pointed out that more than 2 billion people worldwide are infected with hepatitis B virus. The illness causes complications of the liver and may lead to liver failure and even death.

A team of researchers developed a genetically modified potato that contains a protein made by the virus. When mice were fed potatoes that contained the protein, it stimulated the production of antibodies in the blood. As with many of these kinds of announcements, the results are very preliminary and it will be a long time before we see it in the field. But it is the kind of product that can be developed with technology that so many are characterizing as bad.

Injection vaccines in many developing countries are out of reach economically and potentially a problem in the possibility of spreading something even worse, such as HIV. A vaccine that can be grown and eaten will help developing countries which simply cannot afford or effectively use current varieties requiring refrigeration.

For more information go to Nature Biotechnology 2000; 18; 1167-1171. (Brown)

AND THEN THERE'S MORE ON THE MONARCH

In an article on Saturday, November 18, 2000 in the Minneapolis Star Tribune Sharon Schmickle reports the following.

Fears that genetically modified (GM) corn is killing monarch butterflies are not supported by new research, scientists reported this week at a national meeting in which they shared results of their long-awaited studies.

The research represents the first comprehensive review of risks to the butterfly where they matter -- on farms and near country roads and forests. Most previous research had been done in laboratories.

The outcome of these new studies is expected to influence decisions about the varieties that farmers can plant of one of Minnesota's biggest crops. They also provide important information about the well being of the monarch, which the Minnesota Legislature designated this year as the state butterfly. The researchers stress, however, that their results are preliminary and still under review by other experts.

"Comparisons of butterfly survival in conventional cornfields and in plots of GM corn turned up no significant differences in Minnesota, Iowa, Maryland, Michigan and southern Ontario near Guelph", scientists said at the workshop organized by the U.S. Department of Agriculture (USDA).

"If there are any differences out there, they aren't very profound", said Richard Hellmich, a USDA research entomologist at Iowa State University in Ames. Indeed, the monarchs fared better at the edges of one Minnesota GM cornfield than they did in a nearby wooded area, said William Hutchison, an entomologist at the University of Minnesota in St. Paul. Likely explanations are that more predators lurked in the woods and that overall conditions were more hospitable in the corn, he said.

While reassuring, the findings don't fully erase the concerns that erupted in early 1999 when a study at Cornell University showed that monarch caterpillars died after they were fed GM corn pollen in a laboratory. Scientists said it is important to continue looking for more subtle effects, such as whether the butterflies are weakened or produce smaller progeny after eating pollen from the corn.

One reason for the continued caution is that -- contrary to assumptions made by government regulators who set rules for the use of the crops -- the monarchs in the studies seemed to prefer cornfields to other areas for laying eggs. In one Iowa study, the eggs found in cornfields outnumbered those along country roadsides 7-1. Minnesota researchers reported similar findings.

Scientists don't quite know the reason why. Karen Oberhauser, a monarch expert at the University of Minnesota, said she won't relax about the possible risk from the crop until the importance of cornfields to monarchs is better understood.

The corn at issue is fortified with genes from a soil bacterium that is lethal to corn borers, a major pest in farm fields. The bacterium, *Bacillus thuringiensis* (Bt), produces a protein that ruptures cells in the guts of borers, killing the insects. The Bt corn contains the protein throughout the plant and in its pollen.

Humans, other animals and most insects don't have the specific receptors to connect with the protein, so it doesn't affect them. But because butterflies are closely related to the borers, it can kill them if they eat enough of it. Following reports that butterfly caterpillars did, indeed, die after they were fed Bt pollen in laboratories, the USDA and an industry group awarded \$200,000 in grants for studies at several major research universities and private labs.

The studies focused on butterflies in the caterpillar stage, when they feed on milkweed plants -- their sole source of food -- on which corn pollen might land. One finding is that pollen rarely collected on milkweed leaves in lethal concentrations, and what did land on the leaves often was washed away by rain or blown off by wind. The concentrations found in the Iowa studies were too low to impose even minor effects on the monarchs, said Hellmich at Iowa State.

The picture that is emerging from that aspect of the research is that "this is not a very big issue", said Eldon Ortman, associate director of agricultural research at Purdue University.

In one Minnesota study near Rosemount, researchers placed potted milkweed plants at the edge of a cornfield, on a strip of soil around the field and close to a nearby wooded area. They monitored caterpillars on the plants and found no significant differences between those near Bt and non-Bt corn, Hutchison said. But they were surprised to find that more caterpillars died near the forest than near the corn.

Most of the midwestern studies focused on field corn, which is used for processing and animal feed. But in Maryland, researchers studied sweet corn, which generally is heavily sprayed with synthetic insecticides as an alternative to Bt corn. They found the caterpillars quickly died in sprayed fields. But in non-sprayed fields, there was no difference between Bt corn and the conventional varieties, said Galen Dively of the University of Maryland in College Park." (Brown)

TURF CONFERENCE AND WORKSHOP IN DENVER NOVEMBER 29-DECEMBER 1, 2000

The annual Rocky Mountain Regional Turfgrass Association (RMRTA) holds its 47th conference and trade show at the Denver Convention Center November 29 through December 1, 2000. As usual there will be a wide range of speakers on a wide range of topics. The conference provides opportunity to take up to 15 hours of continuing education credits and a special track for Pesticide Applicators will be held on Thursday afternoon, November 30, and Friday morning December 1. Other CEC/CEU classes are scheduled throughout the conference.

For further information contact: **RMRTA** at (303) 770-2220.

HIGH PLAINS CROP WORKSHOPS IN DECEMBER & JANUARY

The ***High Plains Dryland Cropping Systems Workshop*** is scheduled for December 5, 2000 in Goodland, Kansas and December 6, 2000 in Sidney, Nebraska. For information call (785) 462-6281.

The ***Sunflower Management Clinic*** at Northeastern Junior College in Sterling is scheduled for January 3, 2001. Registration is \$25 for the clinic postmarked by December 4, 2000. That's Monday, folks! After that it goes up to \$50. For further registration information contact the Morgan County Extension Office via e-mail at ***morgan@coop.ext.colostate.edu*** or call (970) 867-2493 or fax (970) 867-8607.

The ***Alfalfa Management Clinic*** will also be held at Northeastern Junior College in Sterling but on the following day, January 4, 2001. Early registration is \$40 by December 4, 2000 and the late registration (i.e., after December 4) will be \$80. For further registration information

contact the Morgan County Extension Office via e-mail at morgan@coop.ext.colostate.edu or call (970) 867-2493 or fax (970) 867-8607.

COLORADO WEED MANAGEMENT WORKSHOPS DECEMBER 5 & 6 IN GRAND JUNCTION

The Colorado Weed Management Meetings are scheduled for Dec 5 and 6 in Grand Junction. You can check out the complete CWMA schedule at http://www.cwma.org/4_events.html

Here is the list of approved categories for CWMA 2000 Workshop, #01044. Only the following are approved.

- 1 credit - Laws and Regulations
- 1 credit - Pesticides and Their Families
- 1 credit - Environmental Protection
- 1 credit - Use of Pesticides
- 1 credit - Public Safety
- 1 credit - Pest Management - Category 106 - Forest Pest Control
- 1 credit - Pest Management - Category 107 - Rangeland Pest Control
- 1 credit - Pest Management - Category 109 - Industrial & Right of Way Weed Control

CONTACT: Cindy Owsley 303-678-6110 for more information. (Brown)

CONTRIBUTORS

K. George Beck, Extension Weed Specialist, Perennial and Range (970) 491-7568;
gbeck@lamar.colostate.edu

William M. Brown, Extension Plant Pathologist, IPM and General (970) 491-6470;
wbrown@lamar.colostate.edu

Whitney S. Cranshaw, Extension Entomologist, Urban and Horticulture (970) 491-6781;
wcransha@ceres.agsci.colostate.edu

Sandra McDonald, Extension Specialist, Environmental and Pesticide Education (970) 491-6027;
smcdonal@lamar.colostate.edu

Scott J. Nissen, Extension Weed Specialist, Row Crops (970) 491-3489;
snissen@lamar.colostate.edu

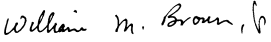
Frank B. Peairs, Extension Entomologist, Field Crops (970) 491-5945;
fbpeairs@lamar.colostate.edu

Howard F. Schwartz, Extension Plant Pathologist, Row and Vegetable Crops (970) 491-6987;
hfsp@lamar.colostate.edu

Philip H. Westra, Extension Weed Specialist, Row Crops (970) 491-5219;
pwestra@ceres.agsci.colostate.edu

Where trade names are used, no discrimination is intended, and no endorsement by the Cooperative Extension Service is implied.

Sincerely,


William M. Brown, Jr.
Extension Plant Pathologist