MICROFILM DIVIDER

OMB/RECORDS MANAGEMENT DIVISION
SFN 2053 (2/85) 5M

ROLL NUMBER

DESCRIPTION

1338

2001 HOUSE AGRICULTURE

HB 1338

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1338

House Agriculture Committee

☐ Conference Committee

Hearing Date 2--08--01

Tape Number	Side A	Side B	Meter #
THREE	A		5000 TO 6010
FOUR	A		00 TO 3741
Committee Clerk Signature			

Minutes:

CHAIRMAN NICHOLAS: Committee Members, we will open the hearing on HB 1338.

MIKE CLEMENS....FARMER: The following crops I grow are wheat, sunflowers, barley, corn and soybeans. Some of these crops are genetically modified crops,. Some are not. My experience with the ones that I have grown have been interesting. My soy beans experience has been that the crop has never really paid me a premium, it has always been at a discountin the market place. My experience with the corn is a biotech crop. It has been a real problem in the export market. I SUPPORT THIS BILL.

CHAIRMAN NICHOLAS: THANK YOU.....NEXT

DENNIS HAUGEN: FARMER PRES. GENERAL GRAIN: Mobil processing center. I am in favor of this bill. There is a sanitation problem with roundup ready wheat. The following year, you have volunteer, a nice cheap shot at 2-4-Dee and they are gone. Volunteer,

what are we going to do with that as to GMO'S A different crop with be tainted with the volunteer.

CHAIRMAN NICHOLAS: Anyone in opposition to this bill that can't be here this afternoon?

JEFF TOPP: I am a farmer in the great state of ND. I am here in opposition to this Bill today. I'd like the Bill to go to an adhock committee and an interim committee that you would put together. Study all the issues. It gets very emotional. We don't want to make it to difficulty for developers of seed to develop. I'd appreciate a no vote.

TOOK A BREAK FOR LUNCH

CHAIRMAN NICHOLAS: WE WILL REOPEN THE HEARING ON HB 1338

There are people here that have to catch a plane so we will accommodate them.

We want togive reasonable time to the proponents and the opposition.

REPRESENTATIVE MUELLER: I am here to talk to you about wheat, I grow wheat.

ND leads in production in hard spring wheat and has for many years. It is important to our economy. We are better of technology, but we have to be careful. GMO wheat could have a very devastating affect on our wheat market. Eight out of eleven of our top export customers have indicated resistance to taking GMO wheat. That amounts to 15 million metric tons in the

99--2000 marketing year. Japan and the European union represent over half of our export market. They have been very clear. They do not want GMO products. This is also true in the US. Certain foods. My greatest concern about the introduction of GMO wheat in ND is it's potentially negative impact. Potential impact. There are other concerns. Crops cross pollination. Will the crop really be non-contaminated wheat. There is the liability issue.

Who is responsible. The folks that raise the wheat??? I don't know.

There are a number of amendments. I will pass those out.

CHAIRMAN NICHOLAS: Who is next as to testimony.

TODD LEAKE: Passed out printed testimony. Please see attachments. RECOMMEND PASSAGE OF THIS BILL.

CHAIRMAN NICHOLAS: Rep. Johnson:

REPRESENTATIVE JOHNSON: The reason that I signed on to this Bill was the issue of GMO wheat. The contracts that have been offered. How is this going to fit into the future production agriculture across the state. I personally use GMO CANOLA. I intend on using GMO SOY BEANS this current crop year. The concern come with the acceptance level. We have to export one half to three fourths of our crops. This is a concern. This why this bill came to be. The bill leaves some blanks but amendments will tend to fill it. I have confidence in the committee to come to a solution.,

SENATOR WAYNE .....? If we raise something that no one wants to buy dose not help us any. It could reck our markets.

REPRESENTATIVE BRANDENBURG: Starling corn has hurt our marketing. There is an issue here that we need to resolve. I want to just give my support.

GAIL WILEY: FARMER SOUTH OF JAMESTOWN. Printed testimony. Please see attachments.

KEVIN KNODEL: Manager of Prairie Coop Elevators at Cleveland, ND.

RICHARD SCHLOSSER: FARMERS UNION.....Printed testimony. please see attachments.

UNKNOWN SPEAKER. Suggests that no one has talked on the health issues. People say they have been done. There are three agencies responsible for regulating GMO in the US. EPA. FOOD AND DRUG ADMINISTRATION AND THE USDA. None of these agencies have done independent studies as to the impact on health issues. I am sure Monsanto has done studies. I say they should be independent studies not Monsanto. Don't think that you have the upper hand with Monsanto.

CHAIRMAN NICHOLAS: We will take testimony in opposition to 1338.

MICHAIL J DIAMOND: I represent Monsanto Co. Please see attached testimony. We are opposed the this legislation. We are not trying to jam anything down anyone throat.

PAUL ISACKSON: I am a native of ND I have a masters in agronomy. I left ND a few years ago. I worked with Monsanto for a while. With the open mind, I would like to point out several things. Profitability, currently with roundup ready cotton, round up ready soy, and round up ready canola, All have roughly 50% market share. There is a good reason to have that market share. That is it simply make growers more profitable on their acres. Our preliminary tests say that roundup ready wheat would would do the same thing. What you will see is that if you use round up application verses a competitive commercial herbicide treatment.we are seeing a five to ten percent yield increase. That is preliminary data. We have a lot more work to do. This bill goes way beyond roundup ready and I want to point out that when they introduced the first computer, It was not user friendly. Each year computers get better and better. Biotechnology gets better each year also. Monsanto or some company will bring growers technology. We need your support when we go to management and say we

want you to support wheat.

We need a way to work together. Lets address the concerns appropriately.

WILLIAM PICACINSKI: I am regulatory affairs manager from Monsanto. I have been a research engineer for sixteen years. The last six years I have been with regulatory affairs. I would like to take some time to tell you about our plans for regulatory approvals. of roundup readily wheat as well as address an issue of out crossing. Our present plans for roundup ready wheat commercialization target at 2003 and 2005 for concurrent approval in Canada and US. An Important part of our commercialization are regulatory approvals. We started the paper work for regulatory approvals last July with submission to the EPA for label exention and the use of round up ready wheat. For 2001 we intend go go to the regulatory agencies of Canada and Japan. In addition to the US we anticipate regulatory approval from Canada, as well as Japan and several other countries by the time we launch the product. Let me answer questions about what I heard about wheat out-crossing. Wheat out-crossing is an issue that we are very interested in Monsanto. There is low level of out-crossing on the order of three to four percent. within the wheat field itself. If you look outside of the source of the pollen, at eight inches, the out-crossing drops to .88 percent [[[point eight eight percent]]] This literature data is consistent. with studies that Monsanto has funded for academics, more specifically at a distance of three feet from the pollen source, the out crossing is only .29% [[[point two nine percent]]] and at fifteen feet from the pollen source the out crossing drops to .05% [[[point zero five percent]]] A very low out crossing. We are very comfortable with the low out crossing. I know there are amendments to this bill. Section 2, line 1 SOMATIC CELL FUSION The use of the term somatic cell fusion greatly expands the definition of genetic engineering beyond the

present definition that is used by all three regulatory agencies. In the US BE sure that you define things correctly. as to somatic cell fusion. Please see amendments attached.

SECTION 2, PART 2 PART A. More than half of all US wheat exports, asdetermined by volume, are shipped to countries that allow the importation of genetically modified wheat and allow the use of genetically modified wheat products for hum human consumption. I would like to talk to you what is going on in Canada. We deal with Agr. Canada on a regular basis. They are very interested in developing varieties of round up ready varieties of wheat. We have had the grain commission in meetings with us. We are working with them to develop what we need to develop a grain handling system. These are all parts of the puzzle that we are putting together. We talk to all departments, growers. This Bill could leave ND behind.

JUSTIN WOLF: I am business lead for Montana and ND markets so I am on the opposite side of this bill. I am on the business side. I originally come from a farm in Montana. I went to Montana State University. We want to make sure that you all know that we are not faceless at Monsanto. Most of us are farm kids. Monsanto says, says should we continue to bring this product to market with all the controversy. We have learned a lot from other crops. Wheat is a different animal. A year ago Monsanto was really questioning whether growers really want this technology. We truly do have to work together. In Monsanto we pledge to work with the wheat industry to develop a grain handling system based on reasonable tolerance's and standard testing that will be supported by users and growers. The reasonable clause is important. I don't think it is true that you don't want our technology. DON'T STIFLE INVENTION.

CHAIRMAN NICHOLAS: ANY OTHER TESTIMONY OPPOSITION?

LOWELL BERNSTINE: Speaking on my own behalf. I am in opposition to the bill.

I don't think we are going to legislate our way out of this. Issue. I served on some of the same committees with Monsanto. We have to work this through dialog.

E AMUNDSTAD: NDFB My concerns and those by our members that have voiced their opinion on this are much the same as Rep. Mueller or Brandenburg and a lot of the other people we hear speak here today. I don't think we can limit private industry. The pasteurization process took twelve years. This will benefit all of ND

CAL ROLFSON: Crop Protection Association. The appear in opposition to the bill for the reason already expressed. The amendments somewhat improve the the bill but there are legal issues with the amendments. Restrain of trade issues. Several others. Representative Nelson stated that this is not the perfect method of addressing this issue. We want to seek direction from the legislature. This is an extremely complex issue We feel that the way to handle this is that all players will be brought to the table. That is the way to deal with this.

BRUCE FRETAG: FARM NEAR SCRANTON, ND. I am vice president of the NDGG. I would like to speak in opposition to this bill. Our export markets are very important. We must do everything reasonable to protect those markets. We are sending the wrong message from ND. We have competion, we adopt new technology, we stay on the top latest advances in Agr; and it is a competitive advantage for us. It is only an advantage for us if we use it. If we wait and let the rest of the world go by us we have lost that advantage also. Although we have concerns, we believe that the checks and balances the right thing could be done to bring this technology on board an if those conditions are not met then it won't be brought forth.

GARRY KNUTSON: NDAA; Basically reiterating a lot of the points that already have been made. Don't throw a wall around us in a box. Don't shut us off from technological advances. WE want products to sell. Keep an open mind of the wheat market as well.

CHAIRMAN NICHOLAS: Anyone else wishing to appear in opposition to this bill.

AL LEE: NDWC We have had a lot of dialogue with Monsanto. We learned a lot about technology. There is potential to for farmers. Monsanto is not the only company working on this. We are working on nitch markets. We are sending out the wrong signals. The amendments floating around in front of you could use some changes. We have to be concerned about our European Customers. The majority of the wheat grower in ND is exported. We have a fine line to walk. We need international regulatory approval. On line two of the amendment, we are concerned. We think you should scratch line B. entirely. We are concerned about line three also.

ROGER JOHNSON: COMMISSIONER OF AGRICULTURE: Printed testimony attached. We are concerned that we in ND maybe viewed in a way that we don't want. The issue is marketing. We are dependent on foreign markets. This game that we are in is high stakes. There is substantial consumer reluctance. We want to be careful and I do support the amendments.

CHAIRMAN NICHOLAS: Is there any reason why we could not dump this into the harmonization committee? Handle it through there.

ROGER JOHNSON: I don't know why you could not.

CHAIRMAN NICHOLAS: Any additional question from committee members Committee members we have lots of good people here on both sides.

REPRESENTATIVE BRANDENBURG: I am concerned what has happened to our market share with starling issues. No one wanted it to happen. It did happen. I am concerned that what happened to our corn market might happen to our wheat too. It is hard to tell by testimony whether they are for or against. How do we handle our customers. How do we educate our customers.

ALAN LEE: THERE WAS NO ANSWER TO THE ABOVE QUESTION

REPRESENTATIVE JOHNSON: The conola and soybeans, how much of that is being exported?

ALAN LEE: More then 50%. Soybeans is mostly an export crop. It is like wheat.

CHAIRMAN NICHOLAS Of the export markets, 50% is exported and there is no problem with the GMO SOYBEANS, they are being mixed with regular soybeans and into most markets.

ALAN LEE: NO there are thresholds developed. There are uniform thresholds. Europe has a one percent threshold, Japan has a 5% threshold. England has set there at 1%.

CHAIRMAN NICHOLAS: Are there any countries presently that will take 100% GMO in the export markets right now.

ALAN LEE: Sure, GMO products are allowed to be exported, the issue is if you want to label your product as non GMO then are threshold levels. Japan is accepting GMO soybeans as they are also buying non GMO. Europe is still importing GMO soybeans. and they import non-GMO. Those are the type of approvals that we are looking at.

REPRESENTATIVE LLOYD: Basically stated we don't have an influence on whether conditions that may affect out crossing. Temperatures. etc. Regard to neighboring field. The damage is done and then what do you do.

CHAIRMAN NICHOLAS: O.K. COMMITTEE MEMBERS ANY MORE QUESTION ON HB 1338? O.K. WE WILL CLOSE THE HEARING ON HB 1338

2001 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1338

House Agriculture Committee

☐ Conference Committee

Hearing Date February 15, 2001

Tape Number	Side A	Side B	Meter #
2	x		3096 to 3780
Committee Clerk Signature	Edward D Ellefson		

Minutes:

Rep. Mueller: I think we have talked too long about 1338. Hog house comes to mind here. We are working on version No. 5 of amendments which are before you currently. I will walk through them very quickly. Perhaps I should move them first. I move the amendments you have before you.

Rep. Renner: I second.

Chairman Nicholas: All in favor signify by saying Aye, opposed? Amendments carry.

Rep. Mueller: What the amendments are doing in section 1 is a group of folks that will make the determination about the termination of this restriction. It is a bill that restricts the planting of genetically modified wheat in ND. It stands until July 31, 2003. The bill becomes effective. In section 2 is a definition of the genetically modified wheat we are talking about. No. 2 in section 2, is how we make this determination if this bill is no longer in effect. Currently it stands that basically we are saying in essence that when the Canadians have decided through their processes

that genetically modified wheat is a thing that is okay for release in Canada it is okay for release here. No. 3 speaks to the research wo k. That's basically the bill. The overriding issue for those of us that are proponents of this bill is marketing. I think two messages need to be looked at here. The message to those who are putting together Roundup ready wheat in this case, and I have a concern about that message. We do need technology. I think the other message is to our markets. We are standing up with this bold legislation suggesting all those folks across the world to buy our wheat. We wi'l go slow with genetically modified wheat. With that I guess we can discuss it.

Chairman Nicholas: The chair will entertain a motion for a Do Pass as Amended.

Rep. Onstad: I move.

Chairman Nicholas: Rep. Onstad moves a Do Pass as Amended. Is there a second?

Rep. Koppang: I second.

Chairman Nicholas: Is there any further discussion.

Rep. Froelich: I have a couple of questions. One thing we don't have is a system.

Rep. Mueller: The commissioner of Ag indicated this thing would go somewhat like the Utilization Pesticide and Herbicide in correctly on the crops we currently do rate. It has a fail safe system. I suspect not. The intent is if there are reports of genetically modified being utilized there is a system in the structure to deal with that.

Chairman Nicholas: Are there any further questions? If not, we have a motion and a second for a Do Pass as Amended. The clerk will take the roll.

MOTION FOR A DO PASS AS AMENDED

YES 14 NO 0

1 ABSENT AND NOT VOTING

CARRIED BY REP. MUELLER

Prepared by the Legislative Council staff for
Representative Mueller
February 7, 2001

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1338

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to restrict the sale and use of genetically modified wheat seed; and to provide an expiration date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Genetically modified wheat seed committee. The genetically modified wheat seed committee consists of the agriculture commissioner, the president of the North Dakota farm bureau, the president of the North Dakota farmers union, the chairman of the wheat commission, the president of the North Dakota crop improvement association, the director of the North Dakota state university extension service, the director of the North Dakota agricultural experiment station, the president of the North Dakota grain growers association, and the president of the North Dakota grain dealers association, or their designees.

SECTION 2. Genetically modified wheat seed - Restriction.

1. As used in this section, "genetically modified wheat seed" means wheat seed derived from somatic cell fusion or direct insertion of a gene construct, typically from a sexually incompatible species, using recombinant DNA techniques and genetic transportation technology.

2. A person may not sell, distribute, or plant any genetically modified wheat seed until the genetically modified wheat committee makes a determination that:

   a. More than half of all United States wheat exports, as determined by volume, are shipped to countries that allow the importation of genetically modified wheat and allow the use of genetically modified wheat products for human consumption; and

   b. More than half of all non-United States-produced wheat traded internationally, as determined by volume, is produced in countries that have approved the production of genetically modified wheat.

3. This section does not apply to any research-related efforts conducted under the auspices of state or federal governmental entities.

SECTION 3. EXPIRATION DATE. This Act is effective through July 31, 2003, and after that date is ineffective."

Renumber accordingly

10559.0105
Title.

Prepared by the Legislative Council staff for
Representative Mueller
February 14, 2001

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1338

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to restrict the sale and use of genetically modified wheat seed; and to provide an expiration date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Genetically modified wheat seed committee. The genetically modified wheat seed committee consists of the agriculture commissioner, the president of the North Dakota farm bureau, the president of the North Dakota farmers union, the chairman of the wheat commission, the president of the North Dakota crop improvement association, the director of the North Dakota state university extension service, the director of the North Dakota agricultural experiment station, the president of the North Dakota grain growers association, and the president of the North Dakota grain dealers association, or their designees.

SECTION 2. Genetically modified wheat seed - Restriction.

1. As used in this section, "genetically modified wheat seed" means wheat seed derived from the direct insertion of a gene construct, typically from a sexually incompatible species, using recombinant DNA techniques and genetic transportation technology.

2. A person may not sell, distribute, or plant any genetically modified wheat seed until the genetically modified wheat seed committee makes a determination that Canada has registered that genetically modified wheat seed and approved it for production in Canada and for sale in the Canadian grain marketing system.

3. This section does not apply to any research-related efforts conducted under the auspices of public or private entities.

SECTION 3. EXPIRATION DATE. This Act is effective through July 31, 2003, and after that date is ineffective."

Renumber accordingly

2-15-01

Date:
Roll Call Vote #:

2001 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1338

House AGRICULTURE Committee

☐ Subcommittee on

or

☐ Conference Committee

ONSTMd — KOPPANG AS AMENDED

Legislative Council Amendment Number

Action Taken DO PASS

Motion Made By Mueller Seconded By RENNER

Representatives	Yes	No	Representatives	Yes	No
Eugene Nicholas, Chairman	✓		Rod Froelich	✓	
Dennis E. Johnson - Vice Chairman	✓		Doug Lemieux	✓	
Rick Berg			Philip Mueller	✓	
Michael Brandenburg	✓		Kenton Onstad	✓	
Joyce Kingsbury	✓		Sally M. Slandvig	✓	
Myron Koppang	✓		Dennis J. Renner	✓	
Edward H. Lloyd	✓		Dwight Wrangham	✓	
Bill Pietsch	✓				

Total (Yes) 14 No

Absent 1

Floor Assignment MUELLER

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1338: Agriculture Committee (Rep. Nicholas, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (14 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING). HB 1338 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to restrict the sale and use of genetically modified wheat seed; and to provide an expiration date.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. Genetically modified wheat seed committee. The genetically modified wheat seed committee consists of the agriculture commissioner, the president of the North Dakota farm bureau, the president of the North Dakota farmers union, the chairman of the wheat commission, the president of the North Dakota crop improvement association, the director of the North Dakota state university extension service, the director of the North Dakota agricultural experiment station, the president of the North Dakota grain growers association, and the president of the North Dakota grain dealers association, or their designees.

SECTION 2. Genetically modified wheat seed - Restriction.

1. As used in this section, "genetically modified wheat seed" means wheat seed derived from the direct insertion of a gene construct, typically from a sexually incompatible species, using recombinant DNA techniques and genetic transportation technology.

2. A person may not sell, distribute, or plant any genetically modified wheat seed until the genetically modified wheat seed committee makes a determination that Canada has registered that genetically modified wheat seed and approved it for production in Canada and for sale in the Canadian grain marketing system.

3. This section does not apply to any research-related efforts conducted under the auspices of public or private entities.

SECTION 3. EXPIRATION DATE. This Act is effective through July 31, 2003, and after that date is ineffective."

Renumber accordingly

2001 SENATE AGRICULTURE

HB 1338

2001 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1338

Senate Agriculture Committee

☐ Conference Committee

Hearing Date March 9, 2001

Tape Number		Side A	Side B	Meter #
March 9	1		X	40.7 - End
	1	X		0.0 - End
	2		X	0.0 - 2.0
March 29	1		X	15.0 - 22.8
	2	X		0.0 - 42.0
Committee Clerk Signature				

Minutes:

March 9, 2001

REP. MUELLER; Sponsor, introduced the bill to the committee. A mistake in the introduction of genetically modified wheat into North Dakota could have devastating effects on our wheat market. Eight out of eleven of our top export customers have indicated resistance to taking GMO wheat, those eight represent fifteen million metric tons in the 99 - 00 market year. My greatest concern of GMO wheat is the negative impact it's introduction will have on the markets. Without these kind of legislation across the country and in North Dakota we may not have seen that effort happen and for that reason we need to moved forward with the legislation and continue to make all of us accountable to the major concerns that the introduction of GMO wheat will bring to North Dakota.

SENATOR KLEIN; Who is liable for cross pollination from state to state? Is there a penalty?

REP. MUELLER; We don't seem to know who is responsible. It will be handled in the same way that the pesticide issue is currently handled.

SENATOR URLACHER; Will this bill allow the continuation of research and development to the point that when it is moved that the dangers at that point will be elevated, it that true?

REP. MUELLER; Yes, as the bill reads private and public research efforts in the area of genetically modified wheat can go on and goes on under the auspices of the proper agencies that deal with the issues of not contaminating anything around it. The bill provides for ongoing research in the area of genetically modified wheat.

SENATOR WANZEK; Do you believe that the new technology of biogenetics is bad?

REP. MUELLER; No, technology and biotechnology has made us better farmers than we were and in the future it will make us better than we are.

SENATOR KROEPIN; Cosponsor, testified in support of this bill. See attached information.

SENATOR KLEIN; By singling out North Dakota isn't that going to put our producers behind?

SENATOR KROEPLIN; I think we can be singled out and have a superior product like we do raise and we can maintain that.

ROGER JOHNSON; Agriculture Commissioner, testified in support of this bill. See attached testimony.

SENATOR KLEIN; Is there research going on now?

ROGER JOHNSON; Yes.

LARRY LEE; North Dakota Wheat Commission, testified in support of this bill. See attached testimony.

THERESA PODOLL; Northern Plains Sustainable Agriculture Society, testified in support of this bill. See attached testimony.

BRUCE FREITAG; ND Grain Growers, testified in opposition to this bill. Our number one concern is the language as it is currently written.

SENATOR URLACHER; Are you interpreting the bill that it would resist or stop research and development?

BRUCE FREITAG; I think it is clear on that issue.

BYRON RICHARD; testified in opposition to the bill. See attached testimony.

GREG DAWS; testified in opposition to this bill. See attached testimony.

BYRON RICHARD; testified in opposition to the bill. See attached testimony.

MICHEAL DOANE; Industry Affairs Manager, Monsanto Co., testified in opposition of this bill. See attached testimony.

SENATOR NICHOLS; We are concerned that we are the leading state in spring wheat by a great margin and is very important to our economy that we are concerned about our customers, number one. Are you saying that because of this, if we were to pass this legislation which doesn't seem to be anything major in stopping research that this area is not worth enough for you to continue research on these areas with this legislation in place?

MICHEAL DOANE; What I am saying is that, we have dedication to research and developing new technologies.

MICHAEL DIAMOND; Monsanto, testified in opposition of this bill. It is clear that this a market issue. We have make a number of commitments that we will abide by. Research in North Dakota does send a very difficult message, it is hard to preserve investing in research in a state on the given technology. If the state is sending the message that that technology may never be accepted in that state at a commercial level. I urge you to go slow and in going slow the time is not now to place something in statute that freezes the development of program the channeling,

the discussion that need to take place over the next three years. By doing something now you are effectively going to freeze North Dakota in 2001. In 2004 - 2005 when these products are more of a reality and given market are developed, given tolerances are established which is what is going to happen, given that the channeling system are put in place, given there is a closed loop system in place so that people who grow this product have someplace to sell it. There may easily be a demand for this product. Does North Dakota stuck in 2001 without have taken a roll to develop the channel and the systems and infrastructure in place to make sure this works. We will not commercialize a product that has no place to go. We are working overseas to make sure tolerances are set and to develop customer basis.

Share and explained articles with the committee.

SENATOR KROEPLIN; The bill doesn't stop you from doing research. All the bill asks is that we get into genetically modified wheat the same time as Canada does, I don't see a problem with this. Why is this such a hang-up? Who is responsible for the loss of income.

MICHAEL DIAMOND; This product will not be commercialized unless all the check-offs are in place and that would include approvals on parallel tracks simultaneously with North American, Canada, Untied States, and Japan.

SENATOR KROEPLIN: The bill says July 31, 2003, do you have plans to release this before then?

MICHAEL DIAMOND; Our time frame is 2003 - 2005. I believe personally it will be somewhere in that stage.

SENATOR KROEPLIN; So where is the problem with the bill?

MICHAEL DIAMOND; What would be the purpose of the bill then?

SENATOR KROEPLIN; The bills purpose is that it doesn't come in here before that time period.

CAL ROLFSON; ACPA, testified in opposition of this bill. See attached testimony.

STEVE STREGE; North Dakota Grain Dealers, testified in support of this bill. See attached testimony.

March 29, 2001

SENATOR WANZEK presented amendments to the committee.

Discussion was held.

SENATOR NICHOLS presented amendments to the committee.

Discussion was held.

Committee reconvened.

SENATOR KLEIN moved the amendments (10559.0203).

SENATOR ERBELE seconded the motion.

Discussion was held.

Roll call vote: 4 Yeas, 2 No, 0 Absent and Not voting.

SENATOR KLEIN moved for a DO PASS.

SENATOR ERBELE seconded the motion.

Roll call vote: 4 Yeas, 2 No, 0 Absent and Not voting.

SENATOR WANZEK will carry the bill.

10559.0201
Title.

Prepared by the Legislative Council staff for
Senator Nichols
March 28, 2001

PROPOSED AMENDMENTS TO ENGROSSED HOUSE BILL NO. 1338

Page 1, line 10, after the period insert "The chairman of the wheat commission shall serve as chairman of the genetically modified wheat seed committee. The chairman or any two committee members upon providing written notice to the chairman may call a meeting of the committee."

Page 1, line 17, replace "makes a determination" with "determines by a two-thirds vote"

Page 1, replace lines 18 and 19 with "the production of genetically modified wheat is warranted by consumer acceptance and demand and by competitive market considerations."

Renumber accordingly

10559.0202
Title.

Prepared by the Legislative Council staff for
Senator Wanzek
March 29, 2001

PROPOSED AMENDMENTS TO ENGROSSED HOUSE BILL NO. 1338

Page 1, line 1, remove "wheat"

Page 1, line 4, remove "**wheat**"

Page 1, line 5, remove "wheat"

Page 1, line 6, remove "the chairman of the"

Page 1, line 7, remove "wheat commission,"

Page 1, line 11, remove "**wheat**"

Page 1, line 12, remove the first "wheat" and remove the second "wheat"

Page 1, line 16, remove "wheat"

Page 1, line 17, remove "wheat"

Page 1, replace line 18 with "the production of genetically modified seed is warranted by consumer acceptance and demand and by competitive market considerations."

Page 1, remove line 19

Renumber accordingly

10559.0203
Title.

Prepared by the Legislative Council staff for
Senator Wanzek
March 29, 2001

PROPOSED AMENDMENTS TO ENGROSSED HOUSE BILL NO. 1338

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative council study of issues related to genetic modification.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE COUNCIL STUDY OF ISSUES RELATED TO GENETIC MODIFICATION. The legislative council shall consider studying issues related to genetic modification, including impacts on health, the environment, the food supply, product labeling, and actions by other jurisdictions regarding experimental medicine and research, and the promulgation of accurate information regarding genetic modification efforts that exist or are expected to exist in the near future. The legislative council shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the fifty-eighth legislative assembly."

Renumber accordingly

Date: 3-29-01
Roll Call Vote #: 1

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1338

Senate Agriculture Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number 10559.0203

Action Taken Do Pass amendment

Motion Made By Sen. Klein Seconded By Sen. Erbele

Senators	Yes	No	Senators	Yes	No
Senator Wanzek - Chairman	✓		Senator Kroeplin		✓
Senator Erbele - Vice Chairman	✓		Senator Nichols		✓
Senator Klein	✓				
Senator Urlacher	✓				

Total (Yes) 4 No 2

Absent 0

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Date: 3-29-01
Roll Call Vote #: 2

2001 SENATE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. HB1338

Senate Agriculture Committee

☐ Subcommittee on _____
or
☐ Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass

Motion Made By Sen. Klein Seconded By Sen. Erbele

Senators	Yes	No	Senators	Yes	No
Senator Wanzek - Chairman	✓		Senator Kroeplin		✓
Senator Erbele - Vice Chairman	✓		Senator Nichols		✓
Senator Klein	✓				
Senator Urlacher	✓				

Total (Yes) 4 No 2

Absent 0

Floor Assignment Senator Wanzek

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1338, as engrossed: Agriculture Committee (Sen. Wanzek, Chairman) *recommends* **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (4 YEAS, 2 NAYS, 0 ABSENT AND NOT VOTING). Engrossed HB 1338 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative council study of issues related to genetic modification.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE COUNCIL STUDY OF ISSUES RELATED TO GENETIC MODIFICATION. The legislative council shall consider studying issues related to genetic modification, including impacts on health, the environment, the food supply, product labeling, and actions by other jurisdictions regarding experimental medicine and research, and the promulgation of accurate information regarding genetic modification efforts that exist or are expected to exist in the near future. The legislative council shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the fifty-eighth legislative assembly."

Renumber accordingly

2001 TESTIMONY

HB 1338

HB 1338

COMMISSIONER OF AGRICULTURE
ROGER JOHNSON

PHONE (701) 328-2231
(800) 242-7535
FAX (701) 328-4567

DEPARTMENT OF AGRICULTURE
State of North Dakota
600 E. Boulevard Ave. Dept. 602
Bismarck, ND 58505-0020

NORTH DAKOTA DEPARTMENT OF AGRICULTURE
LEGISLATIVE TESTIMONY

Testimony of Roger Johnson
Agriculture Commissioner
House Bill 1338
February 8, 2001
11:00 a.m.
House Agriculture Committee
Peace Garden Room

Chairman Nicholas and members of the committee, I am Agriculture Commissioner Roger Johnson. I am here to testify in support of the amendments to HB 1338.

I am a supporter of biotechnology. I believe it holds great promise for our future if handled properly and accepted by consumers. This bill is not about whether one supports or opposes biotechnology. It is about marketing North Dakota's number one commodity, wheat.

Genetically modified wheat offers the possibility of incorporating traits such as improved quality factors, improved agronomic attributes, disease resistance and others. While no

genetically modified wheat has been approved for release, it is likely that developers will be requesting regulatory approval in the near future. It would be very useful to have a firmer grasp on their timelines. Monsanto has indicated that under ideal conditions, Round-up Ready wheat would be available for the 2003-planting season. Other GMO events are expected to be available after 2003.

Concern about GMO introductions include possible health, environmental and consumer acceptance risks. The United States regulatory system is primarily designed to address the health and environmental risks. Within the last year, federal agencies have committed to increased scrutiny of the regulatory approval process and increased transparency. I believe this is essential not only to assure safety but also as a prerequisite to consumer acceptance of this technology.

These amendments are designed to do five things: restrict the sale, distribution, and growing of GMO wheat in North Dakota until we are reasonably assured of a market for such wheat (section 2-2); define GMO wheat (section 2-1); clarify that the restrictions do not apply to research (section 2-3); provide for a means of determining when the restriction should be lifted (section 1&2); and finally, to provide that if the proposed restriction is not continued, it would need to be revisited by the legislature next session (section 3).

Prerequisite conditions: Conditions for accepting GMO wheat are outlined in Section 2 of the Amendment. Consumer acceptance in our export markets of food and feed products produced from biotechnology has caused market access problems for

both GMO crops and for conventional production whose purity may be questioned. If North Dakota is first in the world to commercialize GMO wheat we face a very real and substantial risk of rejection in the market. In North Dakota, 55 percent of spring wheat and 33 to 40 percent of durum is dependent on our export markets. Wheat represents a 4.5 billion-dollar economic impact to North Dakota. The potential loss of these markets would be huge. Given the history of problems in the marketing of corn and soybeans, our producers are understandably concerned about this issue.

The agriculture industry faces significant challenges in developing identity preservation systems that capture the value of both GMO and non-GMO wheat. It also may face the challenge of developing segregation systems to protect conventional wheat from contamination. Whether these systems will be up to the task of meeting regulatory standards and consumer acceptance is unknown.

Given the marketing risks involved, the commercialization of any GMO wheat should not be allowed until regulatory approval is granted in major foreign wheat markets. Regulatory approval alone does not guarantee consumer acceptance. Section 2 stipulates that GMO wheat should not to be grown here until our principal competitors have granted approval for growing GMO wheat in their countries. Linking our entry into the GMO wheat market with our main competitors will provide needed security and is designed to serve as a measurement of likely consumer acceptance. After all, other exporting countries recognize the marketing risks as well as we do. The risk to North Dakota for being the first to bring GMO wheat to the market is a risk that I don't believe we should take.

Research is permitted: Section 2-3 allows GMO wheat research and field trials to continue under the appropriate state and federal permits or guidelines. There are enormous potential benefits to this technology, and we do not want to delay development unnecessarily.

There is considerable research currently underway for GMO wheat. We don't want to stop that research, but we do want to protect our market. Attached to my testimony is a copy of the list of applications submitted to US Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) from research entities. This information is found on the USDA-APHIS web site. USDA-APHIS reviews the applications and prepares an "Environmental Impact Statement" for each one. If it is determined that there is no significant impact, a permit is issued. Some applications fall under the non-regulated criteria of USDA-APHIS and are only acknowledged by the agency and no permit is required. The table indicates that 172 applications were submitted with 6 denied, 5 withdrawn, and 13 pending. One hundred forty-eight permits were either acknowledged or issued.

Restrictions discontinued: Section 1 of the amendment establishes a committee which has the authority to determine if the conditions have been met to allow a particular GMO wheat to be commercially grown. In addition, I concur with the 2003 sunset provision outlined in Section 3 of the amendment. At that time this issue can be revisited.

Chairman Nicholas and committee members, I urge a do pass on the amendments to HB 1338. I would be happy to answer any questions you may have.

Results of Search for All Field Tests in the Field Test Releases Database for the U.S.

Back to Main Menu

Background

172 records were found for Organism = Wheat :

Next 50

*(Empty fields indicate no data provided; CBI = Confidential Business Information; * in Gene field = Selectable Marker)*

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
1	00-046-02N	Wheat	Acknowledged 03/16/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ID
2	00-005-01N	Wheat	Acknowledged 02/04/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO
3	00-040-11N	Wheat	Acknowledged 03/10/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
4	00-040-12N	Wheat	Acknowledged 03/10/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
5	00-041-03N	Wheat	Acknowledged 03/11/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
6	00-041-04N	Wheat	Acknowledged 03/11/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA
7	97-238-04N	Wheat	Acknowledged 09/25/97	Novartis Seeds	1.) CBI 2.) CBI* - Donor: CBI	FR - Septoria resistant	AR
8	00-042-04N	Wheat	Acknowledged 03/12/00	Montana State U	1.) Nuclear inclusion protein b - Donor: WSMV 2.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	MT

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
[redacted]	00-040-06N	Wheat	Acknowledged 03/10/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA

[redacted]	Wheat	Acknowledged 03/16/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
11 00-046-11N	Wheat	Acknowledged 03/16/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MN
12 00-047-02N	Wheat	Acknowledged 03/17/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	KS
13 00-053-11N	Wheat	Acknowledged 03/23/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
14 00-053-12N	Wheat	Acknowledged 03/23/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MN, OR
15 00-054-02N	Wheat	Acknowledged 03/24/00	Monsanto	1.) EPSPS - Donor: Agrobacterium 2.) CBI - Donor: CBI	HT - Glyphosate tolerant	ND
16 00-041-06N	Wheat	Acknowledged 03/11/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	SD

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
17	00-039-06N	Wheat	Acknowledged 03/09/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ID, WA
18	00-059-02N	Wheat	Acknowledged 03/29/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
19	00-034-09N	Wheat	Acknowledged 03/04/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	SD
20	97-182-01N	Wheat	Acknowledged 07/31/97	U of Idaho	1.) Ribonuclease - Donor: Schizosaccharomyces pombe 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant VR - WSMV resistant	ID
21	97-182-02N	Wheat	Acknowledged 07/31/97	U of Idaho	1.) Coat protein - Donor: WSMV 2.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	ID
[redacted]	97-182-01N	Wheat	Acknowledged 07/31/97	U of Idaho	1.) Coat protein - Donor: BYDV 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant	ID

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
	00-038-12N	Wheat	Acknowledged 03/08/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT, ND
24	00-040-02N	Wheat	Acknowledged 03/10/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	OR, WA
25	00-039-05N	Wheat	Acknowledged 03/09/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium 3.) EPSPS - Donor: Arab. thaliana	HT - Glyphosate tolerant	MT
26	99-336-02N	Wheat	Acknowledged 01/01/00	Novartis Seeds	1.) CBI - Donor: CBI 2.) CBI* 3.) Luciferase*	ER - Powdery mildew resistant	NC
27	00-039-07N	Wheat	Acknowledged 03/09/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	SD
28	00-039-09N	Wheat	Acknowledged 03/09/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA
29	00-039-10N	Wheat	Acknowledged 03/09/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA
30	00-039-11N	Wheat	Acknowledged 03/09/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	SD
31	00-040-05N	Wheat	Acknowledged 03/10/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	OR
32	00-054-06N	Wheat	Acknowledged 03/24/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
33	00-038-30N	Wheat	Acknowledged 03/08/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
34	00-105-03N	Wheat	Acknowledged 05/14/00	ARS	1.) Glutenin - Donor: Wheat 2.) Phosphinothricin acetyl transferase*	HT - Phosphinothricin tolerant PQ - Storage protein altered	ID

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
	00-054-04N	Wheat	Acknowledged 03/24/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
36	00-222-01N	Wheat	Acknowledged 09/08/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	IL
37	00-217-02N	Wheat	Acknowledged 09/03/00	Cargill	Phosphinothricin acetyl transferase*	PQ - Storage protein altered	CO
38	00-199-02N	Wheat	Acknowledged 08/16/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	HI
39	00-199-01N	Wheat	Acknowledged 08/16/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	HI
40	00-195-06N	Wheat	Acknowledged 08/12/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	HI
	00-231-08N	Wheat	Acknowledged 09/17/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	KS
42	00-195-04N	Wheat	Acknowledged 08/12/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	AZ, HI
43	00-231-09N	Wheat	Acknowledged 09/17/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	KS
44	00-088-06N	Wheat	Acknowledged 04/27/00	Montana State U	1.) Late embryogenesis abundant protein - Donor: Barley 2.) Phosphinothricin acetyl transferase*	AP - Drought tolerant	MT
45	00-074-13N	Wheat	Acknowledged 04/13/00	Novartis Seeds	1.) CBI - Donor: CBI 2.) CBI*	FR - Fusarium resistant	MN
46	00-069-01N	Wheat	Acknowledged 04/08/00	Montana State U	1.) ADP glucose pyrophosphorylase - Donor: Corn 2.) Phosphinothricin acetyl transferase*	AP - Yield increased	MT
	0-067-08N	Wheat	Acknowledged 04/06/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT

00-062-03N	**Wheat**	Acknowledged 04/01/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MN, ND, WA

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
49	00-059-07N	**Wheat**	Acknowledged 03/29/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ID
50	00-195-05N	**Wheat**	Acknowledged 08/12/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	HI

172 records; 1 second to retrieve.

Next 50

Begin New Search

Questions? Problems? E-mail isb@vt.edu

Special Requests

Back to Main Menu

Results of Search for All Field Tests in the Field Test Releases Database for the U.S.

Back to Main Menu Background

172 records were found for Organism = Wheat :

Previous 50 Next 50

*(Empty fields indicate no data provided; CBI = Confidential Business Information; * in Gene field = Selectable Marker)*

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
51	00-243-05N	Wheat	Acknowledged 09/29/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA
52	97-338-05N	Wheat	Acknowledged 09/25/97	Novartis Seeds	1.) CBI 2.) CBI* - Donor: CBI	ER - Septoria resistant	AR
53	00-054-07N	Wheat	Acknowledged 03/24/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ID
54	00-054-09N	Wheat	Acknowledged 03/24/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
55	00-059-01N	Wheat	Acknowledged 03/29/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
56	00-319-02N	Wheat	Acknowledged 12/14/00	Syngenta	1.) CBI - Donor: CBI 2.) CBI* 3.) Luciferase*	ER - Powdery mildew resistant	NC
#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
57	00-299-01N	Wheat	Acknowledged 11/24/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	NE
58	00-321-07N	Wheat	Acknowledged 09/17/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	[illegible]
59	00-262-05N	Wheat	Acknowledged 10/18/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	AZ, CA, ID

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
	00-054-05N	Wheat	Acknowledged 03/24/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO
61	00-238-03N	Wheat	Acknowledged 09/24/00	U of Idaho	1.) Coat protein - Donor: WSMV 2.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	ID
62	00-238-02N	Wheat	Acknowledged 09/24/00	U of Idaho	1.) Double stranded ribonuclease - Donor: Schizosaccharomyces pombe 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant VR - WSMV resistant	ID
63	00-238-01N	Wheat	Acknowledged 09/24/00	U of Idaho	1.) Coat protein - Donor: BYDV 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant	ID
64	00-236-01N	Wheat	Acknowledged 09/22/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	AZ
65	00-234-02N	Wheat	Acknowledged 09/20/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO, ID, KS, OK, WA
66	00-221-10N	Wheat	Acknowledged 09/17/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	OK
67	00-297-02N	Wheat	Acknowledged 11/22/00	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	HI
68	99-056-10N	Wheat	Acknowledged 03/27/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	MN, MT, ND, OR, SD, WA
69	99-105-03N	Wheat	Acknowledged 05/15/99	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
70	99-095-10N	Wheat	Acknowledged 05/05/99	Monsanto	1.) EPSPS - Donor: Agrobacterium 2.) EPSPS - Donor: Arab. thaliana	HT - Glyphosate tolerant	CA
71	99-095-01N	Wheat	Acknowledged 05/05/99	Montana State U	1.) - Donor: Barley 2.) Phosphinothricin acetyl transferase*	AP - Drought tolerant	MT
	99-092-05N	Wheat	Acknowledged 05/02/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP -	MT

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
73	99-092-04N	Wheat	Acknowledged 05/02/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP -	MT
74	99-039-15N	Wheat	Acknowledged 03/10/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	CO, ID, MT, ND, SD, WA
75	99-064-15N	Wheat	Acknowledged 04/04/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	ND, SD, WA
76	99-210-02N	Wheat	Acknowledged 08/28/99	U of Idaho	1.) Coat protein - Donor: WSMV 2.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	ID
77	99-050-01N	Wheat	Acknowledged 03/21/99	Montana State U	1.) - Donor: Barley 2.) Phosphinothricin acetyl transferase*	AP - Drought tolerant	MT
78	99-048-16N	Wheat	Acknowledged 03/19/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	ID, MT, ND, OR
79	99-048-11N	Wheat	Acknowledged 03/19/99	Montana State U	1.) Nuclear inclusion protein a - Donor: WSMV 2.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	MT
80	00-024-08N	Wheat	Acknowledged 03/04/00	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO
#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
81	99-047-11N	Wheat	Acknowledged 03/18/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	VR - BYDV resistant	IL, IN
82	99-041-01N	Wheat	Acknowledged 03/12/99	Montana State U	1.) Coat protein - Donor: WSMV 2.) Nuclear inclusion protein b - Donor: WSMV 3.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	MT
83	99-064-18N	Wheat	Acknowledged 04/04/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	ND, SD, WA
84	99-241-06N	Wheat	Acknowledged 10/08/99	Monsanto	NptII - Donor: E. coli	MG - Kanamycin resistant	AZ

	99-236-01N	Wheat	Acknowledged 01/01/00	Novartis Seeds	1.) CBI - Donor: CBI 2.) Luciferase*	MG - Capable of growth on defined synthetic media	NC
86	99-266-03N	Wheat	Acknowledged 10/23/99	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CA, HI
87	99-266-02N	Wheat	Acknowledged 10/23/99	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CA, HI
88	99-259-04N	Wheat	Acknowledged 10/16/99	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	AZ

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
89	99-259-03N	Wheat	Acknowledged 10/16/99	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	AZ
90	99-256-04N	Wheat	Acknowledged 10/13/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	AZ
	99-126-12N	Wheat	Acknowledged 06/05/99	Monsanto	NptII*	VR - BYDV resistant	IL, IN
92	99-251-08N	Wheat	Acknowledged 10/08/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	AZ
93	99-130-03N	Wheat	Acknowledged 06/09/99	Monsanto	1.) CBI - Donor: CBI 2.) CBI*	VR - BYDV resistant	IL, IN
94	99-251-05N	Wheat	Acknowledged 10/08/99	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	AZ
95	99-251-04N	Wheat	Acknowledged 10/08/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	AZ
96	99-251-01N	Wheat	Acknowledged 10/08/99	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO, MT, WA

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)

	99-210-04N	**Wheat**	Acknowledged 08/28/99	U of Idaho	1.) Coat protein - Donor: BYDV 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant	ID
98	99-210-03N	**Wheat**	Acknowledged 08/28/99	U of Idaho	1.) Double stranded ribonuclease - Donor: Schizosaccharomyces pombe 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant VR - WSMV resistant	ID
99	99-039-16N	**Wheat**	Acknowledged 03/10/99	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	CO, ID, MT, ND, SD, WA
100	99-256-03N	**Wheat**	Acknowledged 10/13/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	AZ

172 records; 1 second to retrieve.

Previous 50 | Next 50

Begin New Search

stions? Problems? E-mail isb@vt.edu

Special Requests

Back to Main Menu

Results of Search for All Field Tests in the Field Test Releases Database for the U.S.

Back to Main Menu Background

172 records were found for Organism = Wheat :

Previous 50 | Next 22

*(Empty fields indicate no data provided; CBI = Confidential Business Information; * in Gene field = Selectable Marker)*

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
101	98-030-05N	Wheat	Acknowledged 03/01/98	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO, MN, MT, ND, WA
102	98-075-25N	Wheat	Acknowledged 04/15/98	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	FR - Fusarium resistant	MN
103	99-047-09N	Wheat	Acknowledged 03/18/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	VR - BYDV resistant	IL, IN
104	98-075-12N	Wheat	Acknowledged 04/15/98	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	FR - Fusarium resistant	IL
#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
105	98-061-01N	Wheat	Acknowledged 04/01/98	Novartis Seeds	1.) CBI - Donor: CBI 2.) CBI*	FR - Septoria resistant	AR
106	98-035-04N	Wheat	Acknowledged 03/06/98	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Yield increased	CO
107	99-039-14N	Wheat	Acknowledged 03/10/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	CO
108	98-033-06N	Wheat	Acknowledged 03/04/98	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Carbohydrate metabolism altered	CO
[redacted]	98-075-26N	Wheat	Acknowledged 04/15/98	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	ER - Fusarium resistant	ID

97-289-08N	**Wheat**	Acknowledged 11/15/97	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Photosynthesis enchanced	AZ
111 97-289-07N	**Wheat**	Acknowledged 11/15/97	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	AZ
112 97-289-06N	**Wheat**	Acknowledged 11/15/97	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Carbohydrate metabolism altered	AZ

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
113	97-289-05N	**Wheat**	Acknowledged 11/15/97	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	AZ
114	97-275-03N	**Wheat**	Acknowledged 11/01/97	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium 3.) CBI*	HT - Glyphosate tolerant	AZ
115	97-273-08N	**Wheat**	Acknowledged 10/30/97	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	FR - Fusarium resistant	IL, IN
116	98-035-02N	**Wheat**	Acknowledged 03/06/98	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	CO, MT, ND, WA
117	98-261-03N	**Wheat**	Acknowledged 10/18/98	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	CA, HI
118	99-039-11N	**Wheat**	Acknowledged 03/10/99	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	AP - Nitrogen metabolism altered	CO
119	99-011-02N	**Wheat**	Acknowledged 02/10/99	Novartis Seeds	1.) CBI - Donor: CBI 2.) CBI*	FR - Septoria resistant	AR
120	98-287-08N	**Wheat**	Acknowledged 11/13/98	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	AZ

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
121	98-261-04N	**Wheat**	Acknowledged 10/18/98	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	CA, HI

[redacted] 98-090-15N	Wheat	Acknowledged 04/30/98	Montana State U	1.) Aleurone 1 - Donor: Barley 2.) Phosphinothricin acetyl transferase*	AP - Drought tolerant	MT
123 98-229-11N	Wheat	Acknowledged 09/16/98	Monsanto	1.) CBI - Donor: CBI 2.) NptII*	FR - Fusarium resistant	IL, IN
124 98-224-03N	Wheat	Acknowledged 09/11/98	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	KS, NE
125 98-215-03N	Wheat	Acknowledged 09/02/98	U of Idaho	1.) Double stranded ribonuclease - Donor: Schizosaccharomyces pombe 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant VR - WSMV resistant	ID
126 98-215-02N	Wheat	Acknowledged 09/02/98	U of Idaho	1.) Coat protein - Donor: BYDV 2.) Phosphinothricin acetyl transferase*	VR - BYDV resistant	ID
127 98-215-01N	Wheat	Acknowledged 09/02/98	U of Idaho	1.) Coat protein - Donor: WSMV 2.) Phosphinothricin acetyl transferase*	VR - WSMV resistant	ID
[redacted] 98-153-03N	Wheat	Acknowledged 07/02/98	ARS	1.) Glutenin - Donor: Wheat 2.) Phosphinothricin acetyl transferase*	PQ - Storage protein altered	NE

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
129	98-287-07N	Wheat	Acknowledged 11/13/98	Monsanto	CBI - Donor: CBI	HT - Glyphosate tolerant	AZ
130	99-126-10N	Wheat	Denied	Monsanto		VR - BYDV resistant	IL, IN
131	97-232-03N	Wheat	Denied	Novartis Seeds		ER -	AR
132	98-148-04N	Wheat	Denied	ARS		-	NE
133	97-375-02N	Wheat	Denied	Monsanto		AP - Yield increased	AZ
134	97-232-02N	Wheat	Denied	Novartis Seeds	1.) CBI - Donor: CBI 2.) CBI*	ER -	AR
135	97-375-01N	Wheat	Denied	Monsanto		AP - Yield increased	AZ
136	00-059-01R	Wheat	Issued 05/04/00	Applied Phytologics	1.) Hygromycin phosphotransferase* - Donor: E. coli 2.) CBI - Donor: CBI	QQ - Pharmaceutical proteins produced PQ - Nutritional quality altered	ID

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
[redacted]	96-019-01R	Wheat	Issued 04/23/96	ARS	1.) Phosphinothricin acetyl transferase* 2.) Wheat germ agglutinin - Donor: Wheat	PQ - Seed composition altered	MN

94-321-01R	Wheat	Issued 10/27/94	Monsanto	1.) NptII* 2.) CBI - Donor: CBI	MG - CBI MG - Color altered MG - Glyphosate tolerant	AZ
139 96-365-01R	Wheat	Issued 03/10/97	Monsanto	Coat protein	FR - Fungal resistant	IL, MN
140 96-346-01R	Wheat	Issued 03/18/97	Monsanto	1.) NptII* 2.) CBI 3.) CBI - Donor: Alfalfa 4.) CBI - Donor: CBI	FR - Fusarium resistant	IL, MN
141 96-337-01R	Wheat	Issued 01/13/97	Monsanto	NptII*	HT -	CO, WA
142 96-207-01R	Wheat	Issued 09/11/96	U of Idaho	1.) Phosphinothricin acetyl transferase* 2.) CBI - Donor: CBI 3.) Coat protein - Donor: BYDV 4.) Coat protein - Donor: WSMV	VR - BYDV resistant VR - WSMV resistant	ID
143 96-180-01R	Wheat	Issued 07/29/96	Monsanto	1.) B-glucuronidase* - Donor: E. coli 2.) NptII*	FR -	AZ
144 96-166-01R	Wheat	Issued 08/29/96	Monsanto	1.) B-glucuronidase* - Donor: E. coli 2.) EPSPS - Donor: Achromobacter	HT - Glyphosate tolerant	AZ

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location(s)
	96-019-03R	Wheat	Issued 04/23/96	Monsanto	1.) B-glucuronidase* - Donor: E. coli 2.) Antifungal protein - Donor: CBI 3.) EPSPS - Donor: Agrobacterium	FR - HT - Glyphosate tolerant	MN, WA
146	96-019-02R	Wheat	Issued 02/15/96	ARS	1.) Phosphinothricin acetyl transferase* 2.) - Donor: Corn	PQ - Seed methionine storage increased	MN
147	96-017-03R	Wheat	Issued 03/11/96	Monsanto	1.) CBI* 2.) CBI - Donor: CBI	FR - Disease resistant general	IL
148	95-045-02R	Wheat	Issued 06/28/95	Monsanto	1.) NptII* 2.) Coat protein - Donor: WSMV	VR - WSMV resistant	KS
149	95-010-02R	Wheat	Issued 04/07/95	Monsanto	1.) CBI* - Donor: CBI 2.) NptII*	MG - Kanamycin resistant MG - CBI MG - Glyphosate tolerant	IL, MT
150	95-198-01R	Wheat	Issued 09/18/95	ARS	1.) Phosphinothricin acetyl transferase* - Donor: Corn 2.) Seed storage protein - Donor: Wheat	PQ - Storage protein altered	AZ

172 records; 1 second to retrieve.

Previous 50 | Next 22

Begin New Search

Results of Search for All Field Tests in the Field Test Releases Database for the U.S.

Back to Main Menu

Background

172 records were found for Organism = Wheat :

Previous 50

*(Empty fields indicate no data provided; CBI = Confidential Business Information; * in Gene field = Selectable Marker)*

#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
151	95-010-01R	Wheat	Issued 05/04/95	Monsanto	1.) NptII* 2.) Antifungal protein - Donor: CBI	ER -	IL
152	00-228-01R	, Wheat	Issued 10/10/00	Applied Phytologics	1.) Hygromycin phosphotransferase* 2.) CBI - Donor: CBI	OO - Novel protein produced	HI
#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
153	94-054-05R	Wheat	Issued 06/06/94	AgrEvo	Phosphinothricin acetyl transferase - Donor: Strep. viridochromogenes	HT - Phosphinothricin tolerant	IL, ND
154	94-024-01R	Wheat	Issued 05/26/94	Monsanto	1.) NptII* 2.) CBI - Donor: CBI	HT - Glyphosate tolerant	MT
[redacted]	01-016-19N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ID
156	01-016-20N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA
157	01-016-21N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	FL, ID, WA
158	01-016-22N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	OR
159	01-016-18N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ID
160	01-016-24N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
#	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
161	01-016-23N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
162	01-016-26N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	SD
163	01-016-30N	Wheat	Pending	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	ND
164	01-017-01N	Wheat	Pending	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	WA
165	01-017-02N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	OR
166	01-017-12N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	SD
167	01-016-24N	Wheat	Pending	Monsanto	EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	MT
168	99-088-10N	Wheat	Withdrawn	Montana State U	*	AP - Drought tolerant	MT
[redacted]	APHIS #	Organism	Status	Institution	Gene(s)	Phenotype(s)	Location (s)
169	97-182-10N	Wheat	Withdrawn	U of Idaho		VR - WSMV resistant VR - BYDV resistant	ID

[redacted]00-040-13N	**Wheat**	Withdrawn	Monsanto	1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	HT - Glyphosate tolerant	KS
. . 1 26-030-04R	**Wheat**	Withdrawn	Monsanto		FR - Disease resistant general	IL
172 26-030-05R	**Wheat**	Withdrawn	Monsanto	NptII*	PQ - Carbohydrate metabolism altered PQ - Nitrogen metabolism altered	MN, WA

172 records; 1 second to retrieve.

Previous 50

Begin New Search

Questions? Problems? E-mail isb@vt.edu

Special Requests

Back to Main Menu

U.S. WHEAT ASSOCIATES
Wheat Letter
February 2, 2001

USW BOARD OF DIRECTORS STRENGTHENS OVERSIGHT ROLE ON GM WHEAT

Recognizing the growing concerns of important export customers over the development, and potential commercialization, of wheat developed by Monsanto to resist the herbicide Roundup, the USW Board of Directors made several changes in their policy on biotechnology. Those changes were adopted by the board at their annual meeting earlier this week.

Board members were thoroughly briefed by representatives from the grain trade industry and the U.S. Department of Agriculture on the extensive trade problems caused by the StarLink corn situation, the EU's lack of approvals for GM products that have been commercialized in the U.S., and trade problems that will result from the introduction of wheat derived from biotechnology.

Wheat derived by biotechnology (commonly known as "genetically modified" or "GM" wheat) has not been commercialized in the U.S. The wheat industry officials attending the meeting were informed by Monsanto that the current "window of commercialization" for Roundup Ready wheat is now expected to be 2003-2005, pending approval by U.S. and Japanese regulatory officials.

A joint committee on biotechnology, composed of wheat growers representing USW and the National Association of Wheat Growers, proposed the establishment of an advisory committee to review Monsanto's development of a closed loop system that would prevent the co-mingling of their genetically modified wheat with conventional wheat. The USW Board endorsed that recommendation, noting that the advisory committee should include grain traders, transportation experts and others in the grain delivery system who are familiar with the problems of the StarLink situation.

The board has not taken any action in support of the introduction of GM wheat, nor have they even addressed supporting its production in the United States. "There is a lot of work to be done before the time that GM wheat is commercialized," said Alan Tracy, USW president. "If GM wheat is introduced, protocols have to be worked out beforehand."

On general issues related to biotechnology, the board endorsed voluntary food labels indicating the presence or absence of biotechnology - derived traits, supporting the consumer's right to know and the food industry's right to inform. The board also supported the establishment of a regulatory "tolerance" for accidental co-mingling of grains and seeds.

1 A A

MONSANTO
Food · Health · Hope™

Monsanto Canada Inc
221 Argentia Road
4th Floor
Mississauga, Ontario L5N 2X7
Phone (905) 816-9666
Fax (905) 816-9765

By Registered Mail

November 12, 1998

Mr. Edward Zielinski
P.O. Box 1226
Danora (Makado), Saskatchewan

Dear Mr. Zielinski:

As you know on July 22, 1998, Monsanto with the assistance of Robinson Investigation Ltd. conducted an investigation (Investigation) to determine whether you had improperly planted Roundup Ready® Canola in 1998 without being licensed from Monsanto Canada Inc. A copy of our standard 1998 License Agreement (TUA) is attached for your review

We have completed our Investigation and have very good evidence to believe that Roundup Ready canola was planted on approximately 250 acres of land identified as SE 28-30-2, NE 28-30-2 and SE 19-30-2 in violation of Monsanto's proprietary rights

The planting of Roundup Ready Canola without a license is a serious violation of Monsanto's proprietary rights

Prior to making any final decision as to what steps we will be taking, and in an attempt to resolve this issue in a timely and economical manner, we are prepared to refrain from commencing any legal proceedings against you subject to the following

1. You forthwith pay to Monsanto the following sum: 250A x $115/A = $28,750.00

2. You acknowledge Monsanto has the right to take samples from all of your owned or leased land and storage bins for three years from the date of this letter

3. You agree not to disclose the specific terms and conditions of this Settlement Agreement to any third party.

.... 2

2 A A

4 You agree that Monsanto shall at its sole discretion have the right to disclose the facts and settlement terms associated with the Investigation and this Settlement Agreement.

Acceptance of this offer will be acknowledged by forwarding to Monsanto a certified cheque for $28,750.00 and a duplicate signed copy of this letter by December 14, 1998.

Yours truly,

MONSANTO CANADA INC.

Keith A. MacMillan
Director, Legal Affairs

READ AND AGREED TO THIS ____ DAY OF _____, 1998

SIGNED: _____

NAME: _____

Zielinski

CASSELTON NELSON LEE

about us

Public and Governmental Affairs

RODNEY NELSON

overview | fact sheet | history
executive team | field to table
public & governmental affairs
board of directors

11. BIOTECHNOLOGY
2000 Annual Meeting Adopted Resolution

Biotechnological research holds great promise for the future. In preparation for the future commercialization of biotechnologically-derived products, Cenex Harvest States takes the following positions:

- Cenex Harvest States commits itself to the principle that our customers' needs and preferences are the most important consideration. We support the ability of our customers to make purchases on the basis of specific traits.
- We will work with all segments of the industry to develop and assure that a viable identity preservation system and testing program is instituted prior to commercialization of products of biotechnology. We strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization.
- We urge the adoption of a nationally and internationally accepted definition of biotechnologically-derived products. We also urge international harmonization of scientific standards and trade rules.

back to: **Public and Governmental Affairs**

GMO

Genetically modified wheat poses risks of unknown dimensions to the state's economy and agricultural industry. Recent market pressures have put farmers planting GMO crops at risk of loosing substantial farm income due to the loss of markets in countries restricting GMO imports and the lost opportunity of being able to sell into those markets.

Farmers planting GMO crops may also be at risk for the damage they may cause to neighboring farmers planting non-GMO crops or practicing organic farming. Because of the exchange of genetic material between GMO crops, conventional crops, and wild plants is known to occur, genetically modified material and any adverse characteristics it confers or promotes can be irrevocably dispersed into the wider environment. The list of potential hazards of concern includes but is not limited to: the development of insect and weed resistance to pesticides; crop loss from seeds that do not yield as expected; or that produce crops with unexpected characteristics. Segregation infrastructure that would be necessary to achieve customer purchase requirements is not in place, and achieving such levels of segregation technology will require significant time and investment by all levels of the state's wheat industry. Farmers may face undue liability regarding segregation and maintaining world market standards for their crops. Furthermore, technology agreements associated with GMO crops which increase seed costs and limit farmer's ability to propagate seed for their own use. The Department of Agriculture shall conduct independent studies to determine the cost to the state's farmers and to the state should genetically modified wheat be certified, widely planted, and commercialized. Those studies shall include:

Economic and Market Impact Study. The Department of Agriculture shall conduct a study to detail the economic and marketing impacts that genetically modified wheat poses to the state's wheat industry.

Liability Study. The Department of Agriculture shall [after conferring with the Attorney General] conduct a study to determine the liability issues connected to the growing and marketing of genetically engineered wheat on the state's wheat industry.

Technology Agreements Study. The Department of Agriculture shall conduct a study to determine the economic, legal and agronomic effects of Technology Agreements on the State's wheat industry.

Segregation Study. The department of Agriculture shall conduct a study to determine the viability of wheat production and handling segregation technology and determine the economic and agronomic effects to the State's wheat industry.

Definitions. As used in this article "Genetically Modified Wheat (GMO wheat)" shall mean wheat or wheat products produced from using techniques that alter the molecular or cell biology of wheat by means that are not possible under natural conditions or processes. Genetic modification shall include recombinant DNA, cell fusion, micro and macro-encapsulation, gene deletion and doubling, introducing a foreign gene, and gene repositioning. It shall not include crop breeding, conjugation, fermentation and hybridization.

Genetically modified wheat poses risks of unknown dimensions to the state's economy and agricultural industry. Recent market pressures have put farmers planting GMO crops at risk of loosing substantial farm income due to the loss of markets in countries restricting GMO imports and the lost opportunity of being able to sell into those markets.

Farmers planting GMO crops may also be at risk for the damage they may cause to neighboring farmers planting non-GMO crops or practicing organic farming. A moratorium on the planting and growing of genetically modified wheat will enhance the value and protect the reputation of the state's wheat and wheat products, conferring a significant marketing advantage while preserving the state's economic health. For these reasons, the legislature establishes a moratorium on the planting and growing or use of GMO wheat or wheat products.

1) Definitions. As used in this article "Genetically Modified Wheat (GMO) wheat" shall mean wheat or wheat products produced from using techniques that alter the molecular or cell biology of wheat by means that are not possible under natural conditions or processes. Genetic modification shall include recombinant DNA, cell fusion, micro and macro-encapsulation, gene deletion and doubling, introducing a foreign gene, and gene repositioning.

It shall not include crop breeding, cojugation, fermentation and hybridization.

2) Use of Genetically Modified wheat. No GMO wheat or wheat product may be sold, planted, grown or used in the state for a period of five-years after the effective date of this article.

Dakota Resource Council
418 E. Rosser Ave., Suite 301b
Bismarck, ND 58501
Ph. (701) 224-8587 fax (701) 224-0198
Email: fry@btigate.com

Dakota Resource Council

Jan. 11, 2001

Genetically Engineered crops have become commonplace technology in North America since the mid 1990's. Genetically engineered corn, soybeans, and canola are rapidly becoming the standard of production. Agricultural Universities and seed companies along with biotechnology companies have been developing genetically engineered cereal grains for introduction in the next few years. Roundup Ready wheat varieties, particularly hard red spring wheat varieties, genetically engineered versions of commonly planted wheat varieties, are being developed by Monsanto corporation, in alliance with several agricultural universities and seed companies. Monsanto has been testing Roundup Ready wheat in North Dakota and has applied for and received USDA-APHIS permits to begin "bulk-up" seed production in 2001. Monsanto plans to market "Maverick" and "Latitude" Roundup Ready varieties as early as 2003.

Many major export markets for North Dakota Hard Red Spring Wheat are currently restricting the importation of genetically engineered commodities. Japan, the European union, and several Middle East and Asian countries restrict the importation of genetically engineered crops and products. In the Case of the European Union, the "Novel Foods Directive" and the "Deliberate Release Directive" dictate the manner in which genetically engineered crops and products may be imported and used within EU member states.

Japan imposes regulation and restrictive protocols on importation of genetically engineered commodities. These markets alone account for the historic majority of US Hard Red Spring Wheat exports and growing Middle East market countries are also in the process of determining their positions.

With the impending release of genetically engineered wheat and it's potential to become pervasive in the North American export wheat supply, and the regulatory and market barriers in major market countries in place showing no significant sign of being relaxed, U.S. Wheat Associates, National Association of Wheat growers, the Wheat Export Trade Education Committee, and the Canadian Wheat Board developed Biotechnology Position Statements to address this impending conflict.

These two biotechnology position statements parallel each other in their basic principles. The first principle is that customers should be able to purchase wheat based on their preferences based on specific traits, by this we must assume the

Dakota Resource Council
418 E. Rosser Ave., Suite 301b
Bismarck, ND 58501
Ph. (701) 224-8587 fax (701) 224-0198
Email: fry@btigate.com

right to purchase non-genetically engineered wheat. The second principle is that viable identity preservation and testing technology is instituted prior to commercialization of genetically engineered wheat. The third principle is that international regulatory approval for technology associated with genetically engineered wheat is assured along with customer acceptance, prior to commercialization.

Should genetically engineered wheat become commonly planted and pervasive in the wheat supply as has happened with US canola, soybeans and corn crops, the second two principles are unlikely to be upheld. Our ability as wheat producers and exporters, to provide our customers with their preferences of wheat qualities and traits may prove increasingly difficult.

Dakota Resource council respectfully requests the North Dakota Legislature to examine and address this issue, in consultation with North Dakotans and the wider wheat industry.

HB 1338

U.S. Wheat Associates (USW)
National Association of Wheat Growers (NAWG)
Wheat Export Trade Education Committee (WETEC)

BIOTECHNOLOGY POSITION STATEMENT

Biotechnological research holds great promise for the future, and the U.S. wheat industry recognizes these advancements. In preparation for the future commercialization of biotechnologically-derived wheat, we take the following positions:

1. The U.S. wheat industry commits itself absolutely to the principle that our customers' needs and preferences are the most important consideration. We support the ability of our wheat customers to make purchases on the basis of specific traits.

2. We will work with all segments of the industry to develop and assure that a viable identity preservation system and testing program is instituted prior to commercialization of products of biotechnology. We strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization.

3. We urge the adoption of a nationally and internationally accepted definition of biotechnologically-derived products.* We also urge international harmonization of scientific standards and trade rules.

4. We support voluntary labeling of food products, provided it is consistent with U.S. law and international trade agreements and is truthful and not misleading. We oppose government-mandated labeling of wheat products in both the U.S. and international markets based upon the presence or absence of biotechnologically-derived traits that do not differ significantly from their conventional counterpart.

5. We support the establishment of a reasonable threshold level for adventitious or accidental inclusion of biotechnologically-derived traits in bulk wheat or wheat food products in both U.S. and international markets.

6. We invite valued and interested customers to join with us in a working partnership to explore the emerging biotechnology industry.

***U.S. Wheat Industry Definition: Biotechnologically-Derived (Genetically Modified Organisms)**

"Genetically modified organisms (commonly referred to as "transgenic") are organisms derived from somatic cell fusion or direct insertion of a gene construct, typically but not necessarily from a sexually-incompatible species, using recombinant DNA techniques and any genetic transformation technology (e.g., bacterial vectors, particle bombardment, electroporation)."

[1., 2., 3., 6.,] Adopted by: USW Board of Directors on 6/27/00; NAWG Board of Directors on 10/17/00; WETEC Board of Directors on 6/25/00.

[4., 5.,] Adopted by: USW Board of Directors on 1/30/01; NAWG Board of Directors on 2/03/01; WETEC Board of Directors on 1/29/01.

USW/NAWG Biotechnology Committee Goals

Short Term:

1. Development of policy on labeling and tolerance levels.

2. Development of an Identity Preserved (IP) Closed Loop System Commercialization Advisory Committee to develop a viable IP system and testing program prior to the commercialization of Roundup Ready spring wheat.

3. Provide a detailed response to USDA's request for comments regarding the U.S. government's role in marketing biotech crops. (Comments due by February 28, 2001)

4. Provide a detailed response to FDA's proposed rule to provide direction to industry regarding voluntary labeling indicating whether foods have or have not been developed using bioengineering. (Comments due by March 19, 2001)

5. Provide a detailed response to FDA's proposed rule to require food developers to give premarket notice concerning bioengineered foods. (Comments due by April 3, 2001)

6. Coordinate an educational program on biotechnology at the USW World Staff Conference later this year. (July 18, 2001)

7. USW/NAWG Biotechnology Committee will meet with the American Soybean Association (ASA) and National Corn Growers Association (NCGA) regarding IP systems and other issues related to biotechnology.

Long Term:

1. Development of an IP system and testing program prior to the commercialization of Roundup Ready spring wheat.

2. Development and implementation of a regulatory and educational program to ensure buyer acceptance prior to commercialization.

U.S. Wheat Associates (USW)
National Association of Wheat Growers (NAWG)
Wheat Export Trade Education Committee (WETEC)

BIOTECHNOLOGY POSITION STATEMENT*

Biotechnological research holds great promise for the future, and the U.S. wheat industry recognizes these advancements. In preparation for the future commercialization of biotechnologically-derived wheat, we take the following positions:

1. The U.S. wheat industry commits itself absolutely to the principle that our customers' needs and preferences are the most important consideration. We support the ability of our wheat customers to make purchases on the basis of specific traits.

2. We will work with all segments of the industry to develop and assure that a viable identity preservation system and testing program is instituted prior to commercialization of products of biotechnology. We strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization.

3. We urge the adoption of a nationally and internationally accepted definition of biotechnologically-derived products. We also urge international harmonization of scientific standards and trade rules.

4. We invite valued and interested customers to join with us in a working partnership to explore the emerging biotechnology industry.

*Adopted by: USW Board of Directors on 6/27/00; NAWG Executive Committee on 6/23/00; WETEC Board of Directors on 6/25/00.

U.S. Wheat Associates (USW)
National Association of Wheat Growers (NAWG)
Wheat Export Trade Education Committee (WETEC)

BIOTECHNOLOGY GOAL AND PLAN OF ACTION*

The Wheat Industry Goal is:

To meet the needs and wishes of domestic and international wheat customers thereby preserving and expanding markets for traditional products and creating markets for biotechnologically-derived wheat and wheat products.

Plan of Action

To inform Board members, state administrators/executives and growers about biotechnological advancements in, and trade potential and implications of commercialization of biotechnologically derived wheat and wheat products.

To act as a conduit of information between public, private and governmental researcher centers and companies, and wheat grower groups and their members.

To provide an interactive forum for growers, companies, researchers, and end users to come together to discuss those production and marketing issues that biotechnological advances will affect.

To provide information to state and national administrators/executives and their staff so that they can respond to press and grower questions with regard to biotechnologically-derived wheat.

To work with other agricultural groups, government agencies and legislatures on the issues relevant to the production, movement, trade and use of biotechnologically-derived food, feed and fiber products.

To develop a position on biotechnology among the wheat growing community and to coordinate with other agricultural groups.

To provide wheat quality objectives to technology providers in order to ensure that yield and desirable end use quality standards are maintained during the development and commercialization of biotechnologically-derived wheat.

To begin to develop and maintain a handbook of biotechnological terminology, contacts and press materials that state administrators/executives and overseas offices can use as a resource.

The USW/NAWG Biotechnology Committee will further develop the Plan of Action to insure that the ideals of the Position Statement and the Goal are achieved.

*Adopted by: USW Board of Directors on 6/27/00; NAWG Executive Committee on 6/23/00; and WETEC Board of Directors on 6/25/00.

U.S. Wheat Associates (USW)
National Association of Wheat Growers (NAWG)
Wheat Export Trade Education Committee (WETEC)

U.S. Wheat Industry Definition: Biotechnologically-Derived (Genetically Modified Organisms)*

"Genetically modified organisms (commonly referred to as "transgenic") are organisms derived from somatic cell fusion or direct insertion of a gene construct, typically but not necessarily from a sexually-incompatible species, using recombinant DNA techniques and any genetic transformation technology (e.g., bacterial vectors, particle bombardment, electroporation)."

*Adopted by: USW Board of Directors on 6/27/00; NAWG Executive Committee on 6/23/00; and WETEC Board of Directors on 6/25/00.

* * * * * * * * * * * * * * * * * * *

Ellen Huber
N.D. Wheat Commission
Public Information Specialist
Phone 701-328-5111
E-mail: ehuber@ndwheat.com Web site: www.ndwheat.com

North Dakota Grain Growers Association
U.S. Wheat Associates (USW)
National Association of Wheat Growers (NAWG)
Wheat Export Trade Education Committee (WETEC)

BIOTECHNOLOGY POSITION STATEMENT*

Biotechnological research holds great promise for the future, and the U.S. wheat industry recognizes these advancements. In preparation for the future commercialization of biotechnologically-derived wheat, we take the following positions:

1. The U.S. wheat industry commits itself absolutely to the principle that our customers' needs and preferences are the most important consideration. We support the ability of our wheat customers to make purchases on the basis of specific traits.

2. We will work with all segments of the industry to develop and assure that a viable identity preservation system and testing program is instituted prior to commercialization of products of biotechnology. We strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization.

3. We urge the adoption of a nationally and internationally accepted definition of biotechnologically-derived products. We also urge international harmonization of scientific standards and trade rules.

4. We invite valued and interested customers to join with us in a working partnership to explore the emerging biotechnology industry.

U.S. Wheat Industry Definition: Biotechnologically-Derived (Genetically Modified Organisms)*

Testimony in Opposition of HB 1338
Michael J. Diamond
On Behalf of Monsanto Co.

Thank you Mr. Chairman.

My name is Michael Diamond, and on behalf of Monsanto, I appreciate the opportunity to address the committee on the issues raised by HB 1338.

We are opposed to this legislation. While there are obvious concerns being voiced by others in our communities - both within and beyond the North Dakota borders - this legislation is, at best, a false step in a very wrong, and unnecessary direction. I believe it also sends a very negative message about agriculture in North Dakota. I urge you to reject this measure - soundly.

There are obvious areas of concern - however, that merit discussion. So, to that end, I have asked some of my colleagues to join me here today to share with you some additional information - from which you'll draw some additional perspective. And we are of course available to you to discuss in detail the issues that we'll cover here today.

Areas of concern - environmental safety, environmental effects, marketing and trade - are well played out in the media - and in the local coffee shops. However, I'd like to begin to address some of the issues today - and my colleagues will fill in with greater detail.

1. To begin, HB 1338 would ban the sale of GM wheat in North Dakota until 2003. This is a product - Monsanto's Roundup Ready Wheat - that is still years away from commercialization, and will only be brought to market when - at a minimum - US and Japanese approvals have been secured.
2. I repeat a pledge that Monsanto has made recently - commercialization is contingent upon international approval.
3. Last week - the Nat'l Association of Wheat Growers met in New Orleans and some of the top agenda items involved plans to commercialize GM wheat. Monsanto is working with the NAWG and US Wheat Associates to formalize channeling, segregation and labeling protocols. A common goal is to create an appropriate system to meet the needs of producers and processors - and that includes development of a closed-loop system. Discussions are also under way to establish GM thresholds - for non-GM crops. And all indications are that the thresholds being discussed bode extremely well for GM wheat.
4. Negotiations are underway between the US and the EU - and there is progress. This is a good time to remind you that GM Wheat is still years away. And that many of the concerns will be resolved - or at least in greater focus - by that time. By 2003, this body will be in a much better position to examine the issues surrounding biotechnology - and its future.
5. There are tremendous benefits derived from biotechnology - and this is simply the first entry in (what will be) a long ledger of revolutionary innovations in food crop production.

The commercialization of GM Wheat holds great promise -

Environmental: reduced soil erosion, improved water and soil quality, better yields, and increased farm efficiencies - and reduced production costs.

Economically - one could look at the experience of RR Canola growers - who tell us that they are saving between $6-10 an acre in production costs. While it's hard to quantify specifics here - because we are still so far from bringing GM wheat to market - there are lessons and success stories to draw from.

I think it's fair to suggest that bringing this product to market by 2003 is a long shot - meaning this legislation would be irrelevant. However, I caution you to consider the ramifications of a situation in which International Approvals are secured, markets opened and developed by the end of 2003. Past history has shown us that GM products are attractive to growers, and that there is demand for them.

Adoption of a moratorium, in this case, might potentially result in a serious setback for North Dakota growers. And I think it sends the wrong message on behalf of agriculture here - don't put up barriers to progress and innovation in ND.

I urge you to consider this carefully - and reject this measure.

INSTEAD: LETS ESTABLISH A STAKHOLDER DIALOG!!! - WE'RE EAGER TO DO THAT!

With me - today, to discuss in a little more detail, the issues of environmental effects and agronomics -

Bill Pilacinski and Paul Isakson. — Justin Wolfe —

With your permission, I'll turn the podium over to them.....

AND ASK that they address.

- ① - Discussion of Regulatory issues - Timelines, Approvals - how it's viewed —
  - ② Environmental studies -
  - ③ Agronomic Issues —
  - ④ Some of the long-term plans — that we're trying to put in place.

Testimony on HB1338

By Richard Schlosser, on Behalf of ND Farmers Union

Mr. Chairman and members of the house agriculture committee, my name is Richard Schlosser and I am here on behalf of North Dakota Farmers Union. We support HB1338, basically because there are too many unresolved issues regarding genetically modified wheat. As a farmer, I appreciate the research and development of new technologies. I have planted Roundup Ready soybeans on my farm. With regard to chemical cost, ease of chemical application, and effective weed control, I felt very comfortable with this product. Also my seed salesman assured me that there was a market for my beans. I checked the Internet to see which elevators would take genetically modified beans. There were plenty, including my local cooperative. As I said, I felt comfortable using this product. However, in visiting with a neighbor about his problems with Starlink corn, I, began to question this new technology. As of now, my planting intentions this year do not include any GMO crops.

We need to be cautious and take a go-slow approach with respect to the introduction of genetically modified wheat. Issues such as segregation of another class of wheat, liability, market acceptance, increased seed costs,

and more importantly, food safety (as in the case of Starlink) need to be addressed.

Many question whether or not North Dakota should be the only state to restrict the introduction of a GMO wheat. A Farmers Union lobbyist from Montana told me that several proposals have been introduced in the Montana legislature. Last night, as I was researching this topic on the internet, I came across an article about a GMO study conducted by the Canadian Royal Society (similar to our National Academy of Sciences). Their conclusions urged a more rigorous testing of GMO crops and foods, and they recommended a more cautious, go slow approach to the introduction of GMO foods. I also contacted lobbyists from Minnesota and South Dakota, and found that no legislation dealing with this issue has been introduced in either legislature. However, both lobbyists said that there were concerns and that the issue was discussed.

North Dakota Farmers Union feels that North Dakota needs to take the lead on this issue. The North Dakota farmers that grow wheat, their families, as well as their customers are the real stakeholders. We urge you to take a go-slow approach and support HB1338. Thank you.

February 8,2001

Chairman Nicholas and Members of the Committee,

My name is Kevin Knodel and I am the manager of Prairie Coop Elevators at Cleveland, North Dakota and Windsor, North Dakota. The capacity of both facilities is approximately 750,000 bushels. These elevators are farmer owned, overseen by a Coop Board of Directors.

Right now we handle oil sunflowers, canola, dry beans, soybeans, flax, malting barley, feed barley, durum, and hard red spring wheat. We are often at full capacity although we ship out unit trains of commodities regularly. It would be extremely difficult if not impossible to segregate any GM wheat varieties from traditional wheat. In additional to building new storage facilities, the elevators would most likely have to build entire new legs to insure adequate separation. This would be cost prohibitive for our cooperative.

Until the segregation problems and costs are addressed or the markets would no longer require segregation, I believe genetically engineered wheat should be kept out of North Dakota. I recommend a DO PASS vote on HB 1338.

Thank you.

Kevin Knodel

OVER

Kevin Knodel, Manager
Prairie Cooperative Elevator
302 Front St.
Cleveland, ND 58424
701-763-6264

HB 1538

Chairman Nicholas and members of the Agriculture Committee,

My name is Gail Wiley and I farm with my husband, Tom, and our son, Paul and his wife, LaRissa. Our farm is about 20 miles south of Jamestown.

Our farm, like many in North Dakota, is a centennial farm. My husband's ancestors homesteaded parts of what we now farm and his uncle farmed it through the depression and into the age of modern agriculture. We are not anti-technology, but modern farmers willing to embrace anything new that looks like it will increase the productivity of our farm.. We own up-to-date machinery and constantly try new varieties and even new crops. This year we are trying precision farming for the first time.

Up until now, we have been able to decide to make a change or not. We have been able to look at our account books, listen to the salespersons and our ag advisors, read the farming magazines and the advertisements, and come up with our own decision. Yes, we'll buy that new tractor. Yes, we'll try that new variety. Yes, we'll try air seeding instead of drilling. Up until now.

Now our neighbor can make those decisions for us. We don't want to grow genetically modified soybeans but our neighbor is. Because his soybeans might cross-pollinate with ours, we cannot be sure that our soybeans will test GMO free. If we want to grow for a niche market, like the non-GMO soybean sprout market, which looks like it might be a way to make some money, we have to think about which fields are well away from our

neighbors' fields. We have eleven neighbors with fields adjacent to ours. Now, when we do our winter "paper farming", instead of just thinking about crop rotation , cash flow, LDPs, and insurance, we have to think about what our 11 neighbors might be planting or have planted in the past.

So far, this is only true for canola, soybeans, and corn. If we have these worries with wheat, still our number one crop, it will be a nightmare. A nightmare made even worse by falling prices, or no market at all, because our customers, both foreign and domestic, will not want our product.

These issues have to be resolved BEFORE we release GM wheat into our state. We cannot depend on the companies who stand to gain by the sale of these products to decide when it is best to begin selling them to farmers. Their bottom line is not our bottom line. Once these products are released, there will be no going back and every farmer in the state will be affected As a state, we must protect every farmers' right to keep his fields free of GMOs and his markets open and profitable.

About three weeks ago, Scott Fry, organizer and lobbyist for Dakota Resource Council, and Tom and I spent two days at an ag show at the Jamestown Civic Center. This was a small show compared to Bismarck's Agri-International or Fargo's Big Iron. It was estimated that less than 500 farmers walked through that show. At our booth we talked to farmers, retired farmers, teachers, students, and interested citizens one-by-one for two days. Almost every person we talked to signed our informal petition asking the legislature

to impose this 2 year moratorium on GM wheat. We gathered 72 signatures at that small show. Maybe three or four farmers walked away from us without signing. Even farmers who said they had been looking forward to RoundUp Ready wheat could see clearly that market acceptance, identity preservation, cross pollination , and liability issues have to be resolved first.

Please do the right thing for North Dakota's wheat farmers. Send HB 1338 out of this committee with a DO PASS recommendation.

Gail M. Wiley
5111 77th Ave. SE
Montpelier, ND 58472
701-489-3498
wwfarm@daktel.com

Biotechnology Positions and Policies

National Farmers Union GMOs have created a series of ethical, environmental, food safety, legal, market, and structural issues that impact everyone in the food chain. Consumer and producer concerns need to be addressed. NFU acknowledges concerns that biotechnology is being used as a trade barrier; we respect all nations' sovereignty and urge open dialogue in trade negotiations relating to biotechnology. We support:

1. a moratorium on the patenting and licensing of new transgenic animals and plants developed through genetic engineering until legal, ethical, and economic questions are explored;
2. legislation to exempt farmers from paying royalties on patented farm animals and technical fees on seeds which have been genetically modified;
3. ...
8. development of a paper verification system and a storage and marketing plan to aid farmers with non-GMO grains.

North Dakota Farmers Union We support the state imposing a moratorium on the introduction, certification and commercialization of genetically-engineered wheat, including all classes of wheat, until issues of cross-pollination, liability, commodity and seed stock segregation, and market acceptance are adequately addressed. (Program of Policy and Action, 11.D. p 13)

Canadian Wheat Board The CWB recognizes and respects the right and desire of consumers to choose the food products they want to purchase and consume. The CWB acknowledges the concerns that some of our customers express in relation to food ingredients that are the result of modern technology.....The CWB's objective is to ensure that the introduction of genetically modified wheat and barley varieties for production, handling, and marketing be accomplished in a manner that will satisfy customers' requirements and help western Canadian farmers financially.....Assuming some important markets continue to require that their grain shipments not contain transgenic products, wheat and barley varieties developed by modern biotechnology should not be registered for production in Western Canada.

U.S. Wheat Associates
North Dakota Grain Growers Association
National Association of Wheat Growers
Wheat Export Trade Education Committee: Biotechnological research holds great promise for the future, and the US wheat industry recognizes these advancements. In repartition for the future commercialization of biotechnogically-derived wheat, we take the following positions:

1. The US wheat industry commits itself absolutely to the principle that our costumers' needs and preferences are the most important consideration. We support the ability of our wheat customers to make purchases on the basis of specific traits.

2. We will work with all segments of the industry to develop and assure that a viable identity preservation system and testing program is instituted prior to commercialization of products of biotechnology. We strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization.
3. We urge the adoption of a nationally and internationally accepted definition of biotechnology-derived products. We also urge international harmonization of scientific standards and trade rules.
4. We invite valued and interested customers to join with us in a working partnership to explore the emerging biotechnology industry. (adopted 6/23/00)

HB 1338

Todd Leake
Testimony before House Agriculture Committee
HB1338
Feb. 8, 2001

Genetically Engineered crops have become commonplace technology in North America since the mid 1990's. Genetically engineered corn, soybeans, and canola are rapidly becoming the standard of production. Agricultural universities and seed companies along with biotechnology companies have been developing genetically engineered cereal grains for introduction in the next few years. Roundup Ready wheat varieties, particularly hard red spring wheat varieties, genetically engineered versions of commonly planted wheat varieties, are being developed by Monsanto corporation, in alliance with several agricultural universities and seed companies. Monsanto has been testing Roundup Ready wheat in North Dakota and has applied for and received USDA-APHIS permits to begin "bulk-up" seed production in 2001. Monsanto plans to market "Maverick" and "Latitude" Roundup Ready HRS wheat varieties as early as 2003.

Many major export markets for North Dakota Hard Red Spring Wheat are currently restricting the importation of genetically engineered commodities. Japan, the European Union, and several Middle East and Asian countries, including Algeria, Egypt, and India, restrict the importation of genetically engineered crops and products. In the Case of the European Union, the "Novel Foods Directive" and the "Deliberate Release Directive" dictate the manner in which genetically engineered crops and products may be imported and used within EU member states. Japan imposes regulation and restrictive protocols on importation of genetically engineered commodities. These markets alone account for the historic majority of U.S. Hard Red Spring Wheat exports and growing Middle East market countries are also in the process of determining their positions.

With the impending release of genetically engineered wheat and it's potential to become pervasive in the North American export wheat supply, and the regulatory and market barriers in major market countries in place showing no significant sign of being relaxed, U.S. wheat exports could realize a disadvantage when competing with other wheat exporting countries.

Biotechnology position statements put forth by National Association of Wheat growers, U.S. Wheat Associates, adopted by a number of grower organizations, highlight three principles. The first principle is that customers should be able to purchase wheat based on their preferences based on specific traits, by this we must assume the right to purchase non- genetically engineered wheat. The second principle is that viable identity preservation and testing technology is instituted prior to commercialization of genetically engineered wheat. The third principle is that international regulatory approval for technology associated with genetically engineered wheat, and that customer acceptance is assured prior to commercialization.

The Canadian Wheat Board has also adopted a similar position statement. I have spoken with board members and staff of the CWB. CWB representatives have met with the vice- minister of Agriculture Canada this week on this issue and the outcome of the discussions is that the AG Canada and the Canadian federal government is not intending to license Genetically modified wheat for production or use in Canada. The CWB is also discussing the matter with the Provincial governments. Agricore and Saskatchewan Wheat Pool have basically adopted the same position as the CWB. If Canada where to remain free of genetically modified wheat, it could instill a great trade advantage for Canadian wheat over U.S. wheat.

I respectfully urge the committee to recommend HB 1338 for passage, to protect the market share and quality reputation of North Dakota wheat.

1338-Kroplin

Thou shalt eat meat

The People for the Ethical Treatment of Animals (PETA) often uses unorthodox tactics and advertising to advance its claims — like encouraging people to drink beer instead of milk.

PETA's claim that Jesus wants us to be vegetarian was a bit much for theologian and author Kevin Orlin Johnson, Ph.D., who cites chapter and verse to debunk the PETA claim.

"The Gospels — the most detailed records we have — say explicitly that he ate fish and lamb regularly," says Johnson, author of "Why Do Catholics Do That?"

He cites several Bible passages, including John 21:4-15, which says Jesus asked his disciples for fish and then ate it, and Luke 24:42, which says, "They offered him a piece of broiled fish and a honeycomb," which "he ate in their presence."

Lamb appeared on the menu of the Jewish Passover feast that Christians know as the Last Supper, as recorded in Matthew 14:12-14, Luke 22:7-8 and elsewhere in the Gospels.

Here's how PETA puts it: "Jesus' message is one of love and compassion, yet there is nothing loving or compassionate about factory farms and slaughterhouses, where billions of animals live miserable lives and die violent, bloody deaths. Jesus mandates kindness, mercy, compassion and love for all God's creation. He would be appalled by the degree of suffering we inflict on animals to indulge our acquired taste for their flesh.

"Christians have a choice," PETA continues. "When we sit down to eat, we can add to the level of violence, misery and death in the world, or we can respect his creation with a vegetarian diet."

So why does PETA align Jesus with a vegetarian diet when the Bible confirms Jesus' use of animal food?

"I guess they didn't read it," says Johnson in a story from PR Newswire. To keep informed about what PETA is up to, go to *www.peta.org* on the Internet.

New co-op to screen projects

A new value-added cooperative is brewing in South Dakota, but this one isn't promoting a particular project. South Dakota Ag Producer Ventures will screen agricultural processing opportunities, provide start-up assistance where warranted and offer its members the first chance to invest in the good ones.

"There are a lot of half-baked ideas out there and a lot of really good ones. It's a matter of sifting through them," says Joel Dykstra, chief executive officer.

The co-op also hopes to broaden members' investment opportunities.

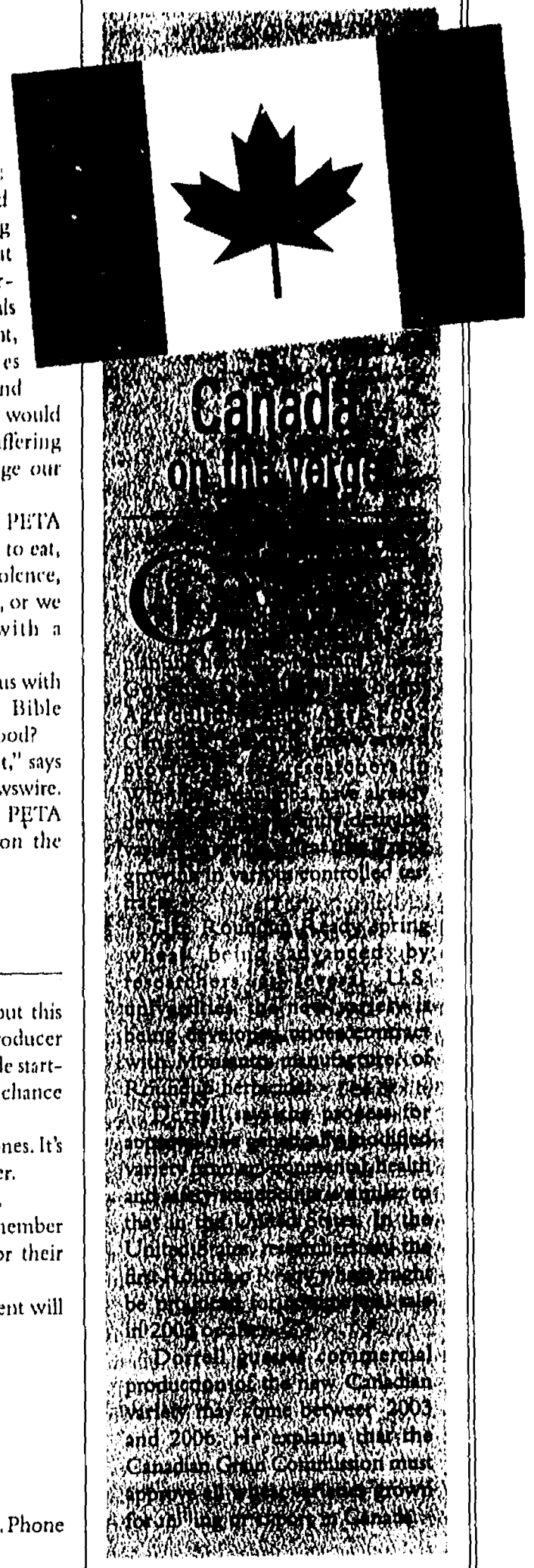
"We'll look across the state and at all commodities and products. A member won't be limited to projects that just happen in their neighborhood or their particular commodity basket," Dykstra says.

Membership in the co-op will be limited to 1,000. The initial investment will be $850 plus a $250 annual fee.

Informational meetings in February are set for:

- Feb. 1 – Rapid City, Black Hills Stock Show., 5 p.m.
- Feb. 6 – Huron, 2 p.m.; Brookings, 7 p.m.
- Feb. 7 – Madison, 10 a.m.
- Feb. 20 – Redfield, 1:30 pm; Highmore, 7 p.m.
- Feb. 21 – Bison, 10:30 a.m.; Wall, 7 p.m.

For more information, contact Joel Dykstra, P.O. Box 66, Canton, 57013. Phone (605) 764-6905.



COMMISSIONER OF AGRICULTURE
ROGER JOHNSON

PHONE (701) 328-2231
(800) 242-7535
FAX (701) 328-4567

DEPARTMENT OF AGRICULTURE
State of North Dakota
600 E. Boulevard Ave. Dept. 602
Bismarck, ND 58505-0020

NORTH DAKOTA DEPARTMENT OF AGRICULTURE
LEGISLATIVE TESTIMONY

Testimony of Roger Johnson
Agriculture Commissioner
House Bill 1338
March 9, 2001
10:15 a.m.
Senate Agriculture Committee
Roosevelt Park Room

Chairman Wanzek and members of the committee, I am Agriculture Commissioner Roger Johnson. I am here to testify in support of engrossed HB 1338.

I am a supporter of biotechnology. I believe it holds great promise for our future if handled properly and accepted by consumers. This bill is not about whether one supports or opposes biotechnology. It is about marketing North Dakota's number one commodity, wheat.

Genetically modified wheat offers the possibility of incorporating traits such as improved quality factors, improved agronomic attributes, disease resistance and others. While no

genetically modified wheat has been approved for release, it is likely that developers will be requesting regulatory approval in the near future. It would be very useful to have a firmer grasp on their timelines. Monsanto has indicated that under ideal conditions, Round-up Ready wheat would be available for the 2003-planting season. Other genetically modified events are expected to be available after 2003.

Concern about GMO introductions include possible health, environmental and consumer acceptance risks. The United States regulatory system is primarily designed to address the health and environmental risks. Within the last year, federal agencies have committed to increased scrutiny of the regulatory approval process and increased transparency. I believe this is essential not only to assure safety but also as a prerequisite to consumer acceptance of this technology.

North Dakota leads the nation in the production of hard red spring wheat, and maintaining an export market is critical to the state's economy. According to data from the North Dakota Wheat Commission, North Dakota farmers produce 247 million bushels of hard red spring wheat annually, which is approximately half of the nation's spring wheat crop. Over half of the nations hard red spring wheat is exported annually to markets in 70 countries. Prior to introduction of genetically modified wheat, we must ensure that our foreign markets are not jeopardized. According to U.S. Wheat Associates, there is poor acceptance of genetically modified wheat in our major export markets. I have included a copy of the U.S. Wheat Associates summary with this testimony.

Prerequisite conditions: Conditions for accepting genetically modified wheat are outlined in Section 2. Consumer acceptance in our export markets of food and feed products produced from biotechnology has caused market access problems for both genetically modified crops and conventional crops with questionable purity. If North Dakota is first in the world to commercialize genetically modified wheat, we face a substantial risk of rejection in the marketplace. Given the history of problems in the marketing of corn and soybeans, our producers are understandably concerned.

The agriculture industry faces significant challenges in developing identity preservation systems that capture the value of both genetically modified and conventional wheat. It also may face the challenge of developing segregation and/or identity preservation systems to protect conventional wheat from contamination.

Once genetically modified varieties are released, ensuring adequate identity preservation and tracking market acceptance will demand a substantial amount of time and effort. This is can be illustrated in Illinois, a state that depends on the marketability of corn as much as North Dakota depends on the marketability of spring wheat. Included with this testimony are documents from the Illinois Corn Growers Association. As you will see, the Illinois Corn Growers Association has tracked market and regulatory acceptance of a genetically modified corn, and provided that information to its grower members. If genetically modified wheat is released in North Dakota, we must be prepared to do a similar service for our wheat farmers.

Given the marketing risks involved, the commercialization of any genetically modified wheat should not be allowed until regulatory approval is granted in major foreign wheat markets. Regulatory approval alone does not guarantee consumer acceptance. Section 2 stipulates that genetically modified wheat should not to be grown here until our principal competitors have also granted approval for growing that variety. Linking our entry into the genetically modified wheat market with our main competitors (i.e. Canada) will provide needed security and is designed to serve as a measurement of likely consumer acceptance. After all, other exporting countries recognize the marketing risks as well as we do. The risk to North Dakota for being the first to bring genetically modified wheat to the market is a risk that I don't think we should take.

Research is permitted: Section 2-3 allows genetically modified wheat research and field trials to continue under the appropriate state and federal permits or guidelines. There are enormous potential benefits to this technology, and we do not want to delay development unnecessarily.

There is considerable research currently underway for genetically modified wheat. We don't want to stop that research, but we do want to protect our market. Attached to my testimony is a copy of the list of applications submitted to US Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) from research entities. This information is found on the USDA-APHIS web site. USDA-APHIS reviews the applications and prepares an "Environmental Impact Statement" for each one. If it is determined that there is no significant impact, a permit is issued. Some applications fall under the non-regulated criteria of USDA-APHIS and are only acknowledged by the

agency and no permit is required. The table indicates that 172 applications were submitted with 6 denied, 5 withdrawn, and 13 pending. One hundred forty-eight applications were either acknowledged or issued.

Restrictions discontinued: Section 1 establishes a committee which has the authority to determine if the conditions have been met to allow a particular genetically modified wheat variety to be grown commercially. In addition, I concur with the 2003 sunset provision outlined in Section 3 of the amendment. At that time this issue can be revisited.

Chairman Wanzek and committee members, I urge a do pass on engrossed HB 1338. I would be happy to answer any questions you may have.

Testimony on HB 1338
Before the Senate Agriculture Committee
March 9, 2001

Good morning. I am Larry Lee, a wheat producer from Velva and the northcentral district commissioner for the North Dakota Wheat Commission. I'm here today to testify on behalf of the Wheat Commission in support of the engrossed version of House Bill 1338.

The North Dakota Wheat Commission is a member state of U.S. Wheat Associates, the national export market development organization for American wheat farmers. Over the course of the last four years, U.S. Wheat Associates and the National Association of Wheat Growers have had a joint committee on biotechnology. North Dakotans have had a voice on that committee and in the development of a unified position statement on biotechnology through Wheat Commission Chairman Alan Lee.

We've provided you with a copy of that position statement which recognizes the great promise that biotechnology holds for the future and discusses how the wheat industry is going to prepare for future commercialization of biotech-derived wheat.

First and foremost, we've committed ourselves "absolutely to the principle that customer needs and preferences are the most important consideration" and that "we support the ability of customers to make purchases on the basis of specific traits."

With this in mind, our organizations are committed to working "with all segments of the industry to develop and assure that a viable identity preservation system and testing program is instituted prior to commercialization of products of biotechnology. We strongly urge technology providers to obtain international regulatory approval and to ensure customer acceptance prior to commercialization."

The U.S. Wheat-NAWG biotech committee has requested that Monsanto develop this identity preservation system and testing program, and considerable progress was made at our recent annual meetings when Monsanto agreed to establish an advisory committee for consultation, review and critique of the system. This advisory committee will include spring wheat growers (since this is the first class of wheat to be targeted with the *Roundup Ready* trait), plus representatives of the foundation seed industry, the milling and baking associations, country elevators, railways, the export trade and information systems management.

All these efforts go a long way toward sending customers a message that we respect their concerns and to communicating to technology providers the importance of having a market that is ready, willing and accepting of biotech wheat before it is introduced. But trust and verbal commitments may not be enough.

House Bill 1338 would give North Dakota farmers an extra layer of protection as we work to preserve the markets that we've worked so hard to earn. North Dakota produces half of the U.S. hard red spring wheat crop annually and approximately 55 percent of that U.S spring wheat crop is exported every year.

Japan has concerns about biotech wheat and is the number one export market for spring wheat. With average annual purchases of about 50 million bushels, Japan accounts for about one-fifth of our overseas spring wheat sales. We also hear the concerns of European customers, including the United Kingdom, who collectively rank just behind Japan as an export market for spring wheat with purchases of roughly 40 million bushels annually in recent years.

Other export customers have also indicated that they do not want wheat that has been derived from biotechnology. We cannot afford to lose these markets. Our concern for our markets and the belief that the customer is always right is the message we want this legislation to send. We do not want consumers to perceive from this legislation that there is reason to fear biotechnology and we do not want the research community to think that North Dakota producers aren't interested in the potential benefits of biotechnology.

We recognize that biotechnology offers considerable potential for producers, end-users and consumers. Monsanto isn't the only company developing applications for biotechnology in wheat and *Roundup Ready*, or herbicide tolerance, isn't the only trait being worked on. Biotechnology is being used to develop scab resistant wheat that may be ready by 2005. Other applications include developing resistance to the wheat midge. I'm sure we'll also see biotech being used to incorporate quality traits desired by the milling, baking or pasta industries. And biotech may someday result in wheat that offers some pharmaceutical or nutritional benefit. We want research on applications for biotechnology in wheat to go forward.

Some people have expressed concerns about House Bill 1338 because the only condition for lifting the restrictions before July 31, 2003, is tied to approval of biotech wheat in Canada. They are concerned that North Dakota wheat producers will somehow be put at a competitive disadvantage. That might be the case if the first biotech wheat on the horizon offered a trait that directly benefited the consumer, but as the situation currently stands, we're seeing considerable customer opposition.

The North Dakota Wheat Commission supports this condition of approval in Canada because our state's spring wheat and durum competes with Canadian wheat every day in nearly every market. The spring of 2003 appears to be the soonest that we would have a biotech variety of wheat commercially available to farmers. Monsanto has said that they will release simultaneously in the United States and Canada. Nonetheless, if we were to have *Roundup Ready* wheat before Canada, you can be assured that the Canadian Wheat Board would exploit this to the nth degree with customers that don't want biotech wheat.

There are a lot of "what ifs." To allow for the unexpected and alleviate some of the concerns that have been expressed about this particular piece of legislation, the North Dakota Wheat Commission suggests that the bill be amended to give the committee outlined in the bill some authority to lift the restrictions if "market conditions" warrant doing so.

What might those market conditions include?

- If viable testing and identity preservation programs are developed and instituted in the U.S. grain gathering and marketing system;
- If substantial acceptance is achieved in a majority of key markets and/or reasonable tolerances are established and accepted in key markets;
- If customer or consumer demand exists or develops for traits made available through biotechnology; or
- If competing exporters, primarily Canada, make substantial efforts at gaining acceptance for their own biotech-derived wheats in a majority of key markets.

I urge you to consider these suggestions for House Bill 1338 and I recommend a "do pass" vote from your committee. If you have any questions, I would be happy to try to answer those at this time.

Genetically Modified Wheat
Perspectives from USW Foreign Offices
March 13, 2000

U.S. Wheat Associates is considering the various implications of commercialization of genetically modified wheat. As an export market development organization, it is appropriate to consider what effects, if any, GM wheat commercialization will have on the wheat export market.

USW Foreign Office directors were asked to provide their perspectives.

Report from USW/Tokyo

[Japan is 3 million ton market for the U.S., accounting for about 10% of U.S. wheat exports.]

The Japanese milling industry will not simply accept the product and if they were forced, they will shift the source of supply from the US to our competitors as much as they could, which will directly impact our market share.

GM wheat, if imported, will become a highly sensational and emotional issue in this country and eventually may lead to a total boycott of US agricultural products. Wheat is the second important food grain widely consumed as main staples and therefore any negative image on wheat foods will be profound and incomparable with corn and soybeans, which are just sub-ingredients of various processed products. It will be a serious blow to the milling industry, again if they have to use GM wheat, in terms of added costs (segregation, inventory control, additional bins and cleaning production lines), time and energy in publicity and marketing, labeling costs, and customer/consumer education effort and there will be more. And what will they gain at the end?

U. S. credibility and good reputation established over the past 40 plus years as a reliable supplier of good quality and safe wheat will irrevocably be damaged and lost if we insisted.

USW position paper should clearly state that GM wheat will not be commercially produced in the US until a reliable segregation system from farm gate to export facility has been well established.

We are already a few steps behind Canada on this. Any weak statement without much substance will not be accepted. Japanese millers as well as flour end-users are expecting USW's strong leadership on this issue. Existence of Tokyo office and our past effort in promoting US wheat export will be seriously questioned and jeopardized if we don't act promptly in right direction.

Report from South Asian Region

I feel that the board of directors need to look at this issue from a marketing position and from the customers perspective.

This market, as with most around the world, is very competitive with flour millers competition among themselves for both domestic and now regional markets. They are seeking the lowest input costs for their established quality criteria and maximum return on sales. A very similar situation to the producers of the US when looking at the potential for export markets. However, the millers in this region have supply alternatives which are currently (and in the future) willing to provide segregated wheat at or exceeding contract specifications at discounted prices to gain market entry or maintain market share.

Without a complete rejection of "GMO" wheats from the market or partial rejection through a system of segregation, the US industry is offering (on a silver platter) one more marketing advantage to the competition.

Within this region, mills in the Philippines, Vietnam, Indonesia, Malaysia, Singapore, Thailand and even Bangladesh have inquired about their ability to gain certification that the wheat which they purchase from the US is GMO free. Though I am not sure that any of them have used the certification available from the FGIS, the concern by their downstream customer is real and the producers should heed this warning.

The current position of the board -- to not reject GMO without a system of segregation -- in my opinion, leaves our industry vulnerable for the following reasons:

Our customers, without the certification of "no GMO" wheats -- which will be withdrawn by the FGIS when a GMO is released -- will subject our product to additional and sometimes suspect methods of testing which may produce results which we experienced in Thailand. The possibility of more scrutiny of our product while our competition rolls merrily along with less scrutiny and potentially a better image is not a situation that would be productive.

Following the argument of the supporters of GMO wheat -- lower input costs, lower environmental degradation -- the miller and his downstream customer also expect a benefit equal to the producers who choose to grow the GMO wheat. From their perspective, there is little benefit for them or their customers. Do they source the wheat for less? Is there a benefit in end-use quality? Is there a milling yield advantage? If not, why should they assume the downside risk of consumer rejection of their product. It would be much easier to purchase from a supplier that either does not have GMO or has a policy which protects the buyers interests.

Finally, I firmly believe that there will come a time that biotechnology and GMO wheat will provide benefits for the producers, millers, processors and consumers. However, I also believe that currently, the acceptance of a GMO wheat without a mechanism that allows the customer to exclude it from his purchasing options will be devastating to our industry. The wheat boards will certainly be willing to demand their producers to produce NON-GMO wheats (at a higher production costs?) and market them at a premium to a product from a source which cannot guarantee the same purity. Without a segregation system, we will loose big time.

Based on the board's and I assume the US wheat industry's stance regarding this issue, they seem to still believe that our product is so superior to our competitor's that customers will line up to buy whatever is produced. I can't believe that given the current level of exports and general status of the industry they could still hang on this mistaken belief. I would encourage USW to take the lead in the development of a segregation system that deals not only with potential GMO wheat but other quality issues as well.

Report from USW/Hong Kong-Singapore-China

Late in 1999, Hong Kong government began debating labeling of GM products. One major food retailer started labeling their private branded product, if known to contain GM ingredient. We will check back on the present regulation in Hong Kong. I am certain if not already required labeling will be here very soon.

Please note in 2/15 PM market news, the item on a group in China pushing for labeling products having GM ingredient. China presently has an advantage in corn as their (handling) system, with bagging and less automation facilitates segregation. Some marketers are taking advantage of this with regard to some exports. Not certain the extent, yet.

This may happen in wheat, too. There is, at present, some worry that China may try to use this to counter some of the impact of WTO accession, should they see imports rising beyond what they believe they can afford.

China has some other agricultural products, such as cotton, which are private seed, that is GM.

In general terms it seems China is heading in a similar direction to that of the U.S. and Canada, with regard to scientific acceptance. Some for, some against.

If I were a U.S. producer, I would make certain there was a sure method of segregation before accepting commercial proliferation for wheat.

Report from USW/Korea

[Korea imported 1.3 million tons of U.S. wheat last year]

Currently GMO issue has been relatively slow in Korea. However, there are lot of arguments on GM soybeans between consumer organizations and soybean-based food manufactures such as tofu, bean sprouts, soy sauce, soya paste and soy milk. As we have distributed to milling and wheat food industries the statements from FGIS that "There are no transgenic wheat varieties for sale or in commercial production in the United States at this time," we have not received any concerned messages from industries. Although the Ministry of Agriculture and Fisheries has already announced that they will request GMO labeling on 3 items such as soybean, corn and bean sprout beginning March 2001, KFDA has not commented on GMO policy. It seems that they will implement its policy according to situation of consumer reactions and neighbor countries policy ongoing. So GMO is not currently an issue for wheat, but USW has to continue to monitor as very important issue because if GM wheat is coming from U.S., it will seriously

impact our market share in Korea.

Report from USW/Capetown

[U.S. has a 30% market share, around 350,000 tons]

The view of the CT office, especially since the CWB is such a fierce competitor in our region, is that we need to be in lock step with them on the GM wheat issue, otherwise we open ourselves up to their charges that US gm wheat exports are unsafe. I think we need to seriously consider the segregation issue before we begin to commercialize the sales of gm wheat. We have already been hammered in South Africa because of the Karnal Bunt and convolvulus seed issues, issues that were jumped on by the AWB and CWB, and as a result have lost significant market share.

Report from USW/Mexico City

In the Mexico, Central American, Caribbean and Venezuelan region, currently there are no restrictions on the importation of GM wheat. In our region, public awareness of the issues surrounding GM products is very limited. However, there are some interesting trends or under currents.

1) The Brazilian government has indicated that Brazil will be GMO free in the near future and has committed resources to educating producers and enforcing the regulations. There have been threats that the Government of Brazil (GOB) will burn any corn or soybean fields that test positive for GMO material. The Brazilian government clearly has its eyes on the lucrative European and Japanese markets.

Brazil is also a member of the "MERCOSUR" trade block which may invite Venezuela to join in the near future. Venezuela buys wheat from Canada and the USA and there is very little awareness of the GMO issue in this country. However, the Government of Venezuela (GOV) tends to look toward Europe when adopting food safety regulations. One example is the GOV has indicated that they will limit and one day ban the use of Potassium Bromate (PB). They have quoted Codex Alamentarius as the world standard on chemical residues and discarded the fact that PB is still allowed in the US. The one exception is that PB is banned in California. The Venezuelans don't really understand the logic of how one state can ban it and the remaining 49 be allowed to use PB.

If GM wheat were ever made an issue by an outside group like Greenpeace, the GOV would most likely follow the lead of the Europeans and require labeling and may ban the importation of certain varieties until they were tested and approved. However, the problem would be that the GOV doesn't have the resources to test for GMO material so the most products would never be approved. This would put the US in a very uncompetitive position if the CWB could guarantee that they would segregate non-GM wheat for this market. The CWB has already, through the Canadian Embassy, indicated to the Venezuelan Department of Health, that high protein (high quality) CWRS wheat does not require improvers like Potassium Bromate to make good bread. The use of PB is only required in lower protein (lower quality) HRW wheat from the U.S. As

you might suspect, this statement is not true and is only a marketing ploy by the CWB.

2) Mexico is an interesting case, because there is a lot of industry and government support for GMO products. However, Greenpeace has a very aggressive public awareness campaign in Mexico that is putting pressure on industry and government officials alike to provide assurances that GMO products are safe. The Government of Mexico (GOM) has formed a multi-agency committee "CIBIOGEN" to approve the production and importation of GMO products. As you know, GM corn has been the hot topic because Mexico considers itself the cradle of corn for the Americas. This committee is in its infancy and has taken no formal position on any GM crop. However, if public pressure builds, the committee will most likely require the testing of GM crops, including Bt Corn, before it can be imported into Mexico. The current Mexican administration is still very pro GM crops, because they understand that if Mexico is going to feed its expanding population it needs to use GM technology. Specifically, the GOM is interested in crops that are drought resistant, can fix nitrogen from the air or soil as well as increase nutrition from corn, and crops that can grow in acid soils. If they can increase production in arid areas of the country the GOM can stop the deforestation in the lower Chiapas regions. However, the opinion of the Mexican administration, could change, becoming anti-GMO, with the upcoming elections in July of this year.

3) Less is known or understood about where Central America stands on this issue. I think that Costa Rica and Guatemala will follow the U.S. lead and really not make any waves. In Nicaragua, depending if there are enough Sandanista still in power they will follow Europe. I just don't have very much information for this region.

4) In the Caribbean Region, GMO's are not an issue yet. Public awareness is quite low and the issue just has not been discussed. However, some of the islands, like Curacao, and Guadeloupe that have very close economic and political ties to Europe, Holland and France in this case, will naturally follow the lead of the mother country and require labeling and/or ban the importation of GMO products for human consumption. The one thing that could pull the Caribbean region toward Europe is the CARICOM trade block. If some of the members of the this trade block side with Europe, they could force the other members of CARICOM to regulation of GM products.

Other countries like Haiti and Cuba are just trying to feed themselves and if GMO wheat is cheap they will buy it. One side note is that Cuba has a very developed biomedicine and GMO industry. This country is very pro GMO products as they see this technology as a way to feed the population of 11 million, with limited land resources.

The U.S. would be in an uncompetitive position if we could not segregate GM products and the competition (CWB) publicly indicated that they could. The U.S. producer would need a FGIS certification of non-GMO or product is 98% GMO free, to compete with other state trading agencies (CWB) that are willing to provide this assurance.

Note from Board Team visit to Egypt:
The director of the Egyptian Food Industries Holding Co., responsible for 1.5 million tons of

wheat purchases a year, indicated to USW board members in February that they did not want to buy genetically modified wheat.

Ron DeJongh
AGP Grain Ltd
400 Sth 4th St
Suite 808
Minneapolis
Minnesota
55415
USA

18th January 2001

Dear Ron

Genetically Modified Wheat

You will be aware of the development of GM wheat traits over the past months. Whilst we believe this activity has been limited to the laboratory scale and strictly controlled trial plots, the work seems to be at an advanced stage, particularly in the region growing Spring Wheat in the United States.

Please find attached a copy of an article from *The Independent*, dated Monday 15.1.01. As you can see this has had a very strong consumer impact, given that it refers to bread, rather than just scientific progress.

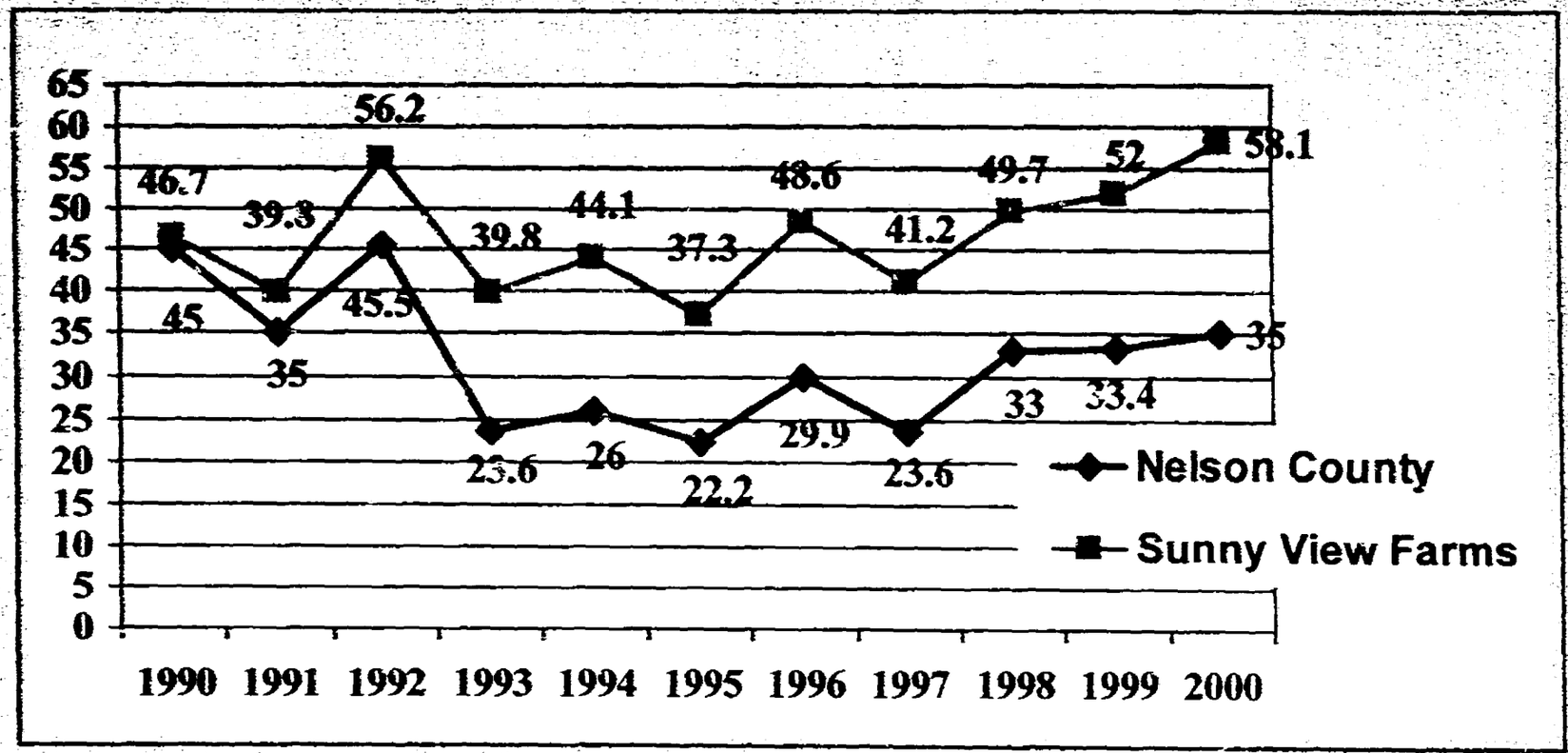
So that you are completely clear on Rank Hovis' policy towards GM wheat, we do not want any level of such grain in our supplies from you. To date we have been able to say to our customers that GM wheat has not yet been brought to the market. This now needs to be backed up with preventative actions.

Please advise us of what steps you have taken to ensure that GM wheat is prevented from entering or co-mingling with wheat in the entire Spring Wheat supply chain. You should treat this issue with the utmost gravity and priority, given that the alarm generated by even the perception that Spring Wheat may contain GM traits, could be enough to jeopardise the entire export programme to the EU. Given the media attention on this topic, please let us have your response by Friday 26th January 2001.

Yours sincerely

Julian Watson
Commercial Manager

Spring Wheat Yields



Management Compared

Conventional Management

Investment Per Acre = $44.53

2000 Nelson County Avg. bu/acre = 35

Cost per bushel	**$3.27**
Revenue/acre – 32 bu @ $3.00	$105.00
LDP – 35 bu @ $.65	$22.75
$127.75	

Intensive Management

Investment Per Acre = $67.82

2000 Sunny View Farm Avg. bu/acre = 58

Cost per bushel	**$1.16**
Revenue/acre – 58 bu @ $3.46	$200.68
LDP – 58 bu @ $.65	$37.70
$238.38	

Management Compared

Conventional Management		Intensive Management	
Total Revenue/acre	$127.75	Total Revenue/acre	$238.38
Investment/acre	-$44.53	Investment/acre	-$67.82
Net return/acre	**$83.22**	**Net return/acre**	**$170.56**

Intensive	$170.56
Conventional	-$83.22
Difference	**$87.34**

$87.34 per acre difference, on 1000 acres harvested=
$87,340 MORE revenue under Intensive Management

North Dakota Grain Growers Association

Testimony to the

North Dakota State Legislature

Senate Agriculture Committee

March 9, 2001

from

Michael Doane, Industry Affairs Manager

Monsanto Company

Mr. Chairman and members of the committee, I want to thank you for this opportunity to visit with you today. I appreciate this committee for its careful deliberation of the facts related to the bill in question-House Bill 1338. I also appreciate the opportunity to offer these comments on behalf of the Monsanto Company, of which I am employed.

Mr. Chairman, while I am here on behalf of Monsanto, I know that I speak for many others in the wheat industry when state that we cannot offer our support to House Bill 1338 as it is currently written.

I know this because our company, I personally have spent countless hours over the past two years listening to the U.S. wheat industry. With this time we have holding an ongoing dialogue with researchers, farmers, grain handlers, processors, exporters, and foreign customers. I can assure you that the nature and extent of this dialogue is unprecedented for our company and our industry. Through this process we have learned that the introduction of biotechnology in the wheat industry must be done carefully, with the ultimate consideration being that wheat exports from this country are not negatively impacted.

We have also learned through these dialogues, that the wheat industry expects us to assume a leadership role in developing grain handling systems and tolerances concurrently with the introduction of biotechnology in wheat. We are committed to assuming this leadership role. In fact, we have started initiatives on each of these key issues, as well as formalizing the ongoing dialogue by way of a Monsanto Wheat Industry Advisory Committee. This committee will be comprised of seasoned representatives of the wheat industry. We intend to use their advice and counsel to design the appropriate systems and protocols necessary for a successful introduction of biotech traits in wheat.

But it is too early to draw conclusions about this process. It is too early to speculate what the world will be like three to four years from now. It is too early to send a signal that the wheat industry does not want or need the latest tools of science to advance the crop. And finally, it is too early to cast a negative perception on biotechnology for the wheat industry. Unfortunately that is exactly what this legislation will do.

The unfortunate perception that is and will be tied to this legislation is that North Dakota does not want biotechnology. The perception will be that North Dakota does not value the investments in agricultural research that Monsanto and many other companies and public institutions are making. Monsanto is as a company is focused solely on agricultural technologies. Each day, 365 days a year, we spend well over a one million dollars to research and develop new technologies-technologies which largely benefit farmers. Part of my job is to convince our company that wheat should receive its fair share of that investment. Unfortunately, I simply cannot do that if legislation such as this adopted by this legislature.

In summary, I want you to know that we are committed to finding common solutions with you. We went to work side by side North Dakota farmers to expand wheat exports and develop new markets for wheat. We want North Dakota farmers to realize the benefits that biotechnology can provide the wheat industry. We want to do all of this in an atmosphere of cooperation and trust. We have time and we will take the time to do this right. Let's put our attention the work at hand.

Mr. Chairman, I ask you and your committee to oppose this legislation. Thank you for your careful consideration of this issue.

TESTIMONY
HOUSE BILL 1338
BY
CALVIN N. ROLFSON
LEGISLATIVE COUNSEL
AMERICAN CROP PROTECTION ASSOCIATION

My name is Cal Rolfson. I am an attorney in private practice here in Bismarck. I represent the American Crop Protection Association and speak in opposition to HB1338. I will focus my testimony on what I believe to be the legal and constitutional issues presented by this Bill.

This Bill will establish a "genetically modified wheat seed committee," comprised of the agriculture commissioner and representatives of grower groups, distribution groups and the state extension services. This Bill would prohibit anyone from selling or planting genetically modified wheat seed until this committee makes a determination that Canada has registered such wheat seed and approved it for production in Canada and for sale in the Canadian grain marketing system. The Bill contains a sunset provision of July 31, 2003.

<u>Relevant Federal Law</u>

Article I, Section 8, clause 3 (the Commerce Clause) of the U.S. Constitution invests Congress with the exclusive authority to regulate commerce among the states and with foreign nations. Additionally, this Congressional power prohibits an individual state from curtailing interstate or foreign commerce in that state's interest.

As part of this prohibition, a state may not enact a law having the practical effect or regulating commerce occurring wholly outside that state's borders, whether or not the commerce has effects within the state. *Healy v. The Beer Institute*, 491 U.S. 324 (1989).

When a state statute directly regulates or discriminates against interstate commerce, or when its effect is to favor in-state economic interests over out-of-state interests, the courts will strike down such statutes without further inquiry. If the statute has only indirect effects on interstate commerce and regulates evenhandedly, courts will examine whether the state's interest is legitimate and whether the burden on interstate commerce clearly exceeds the local benefits. *Id.*

It is well-established that the Commerce Clause prohibits individual states from discriminating against the products of other states or countries under the guise of exerting police posers. *See e.g., Austin v. Tennessee*, 179 U.S. 344 (1900).

As an example, a state seeking to prohibit the sale of seed without state seed labeling provisions has been found to be a violation of the Commerce Clause, and not a legitimate use of the state's police powers. *In re Sanders*, 52 F. 802 (E.D.N.C. 1892).

Legal Issues

It is my view that this Bill attempts to unconstitutionally burden interstate and foreign commerce. The Bill would have the practical effect of regulating commerce wholly outside the state of North Dakota (i.e., sale of this product in Canada). The effect of this Bill would be to favor North Dakota interests over out-of-state interests. The Bill has serious constitutional problems.

NORTH DAKOTA GRAIN DEALERS ASSOCIATION

STEVEN D. STREGE, Executive Vice President
CHERYAL WELLE, Executive Assistant
CONNIE LEIER, Administrative Assistant
Ph: 701-235-4184, Fax: 701-235-1026
118 Broadway, 606 Black Bldg., Fargo, ND 58102

LARRY PHILLIPS, Safety & Health Director
Ph: 701-251-9112, Fax: 701-251-1758
P.O. Box 5055, Jamestown, ND 58402-5055

STU LETCHER, Safety Specialist
Ph: 701-543-3110, Fax: 701-543-4183
P.O. Box 72, Hatton, ND 58240

TESTIMONY ON HB 1338 TO SENATE AG COMMITTEE - 3/9/2001
SENATOR TERRY WANZEK, CHAIRMAN

Good morning Mr Chairman and members of the Senate Ag Committee. My name is Steve Strege, Executive Vice President of the North Dakota Grain Dealers Association. Nearly all the country grain elevators in our state are members. After considerable discussion over the past few weeks, our Executive Committee met yesterday here in Bismarck and decided we should present the following views on HB 1338.

The North Dakota Grain Dealers Association supports biotechnology advances that improve agronomic traits, consumer benefits and quality of life. We have no reason to believe that the new seed products which are the focus of this bill are anything but safe and wholesome. At the same time, we are very concerned about the acceptance of any new products in our domestic and export markets.

Recent events in the corn industry indicate we need to move cautiously. The risks of commingling traditional and nontraditional production are great, and it appears there is hardly any turning back once that barrier has been broken.

We are uncomfortable tying our decisions in this matter to the Canadian grain marketing system. We suggest that the bill be amended to give the genetically modified wheat seed committee the authority to make these new products available in North Dakota based on market and consumer acceptance and demand, and competitive factors.

In addition, we will suggest the following mechanical things about the committee. We believe the Chairman of the Wheat Commission should chair the committee, that the committee meet at the call of the chairman or at the request of two or more committee members, and that a vote of six of the nine members be required to make these new products available in North Dakota.

We can work with the committee and/or sponsors on preparing amendments to accomplish the above if that is your desire. I will try to respond to any questions.

Chairman, committee members

I am here today to testify against bill 1338.

I think it is short sighted of our state to discourage the further development of GEO's. As I watch the rest of our state pushing for technology and the future we are putting up roadblocks for the biggest engine in our economic train.

Companies are not going to want to work with our land grant universities or other factions of our state if they perceive us to be a problem state. We are now thought of as a risky state to operate in. If this bill passes it will make us a place that companies won't even try to introduce new technology.

Put yourself in corporate executives shoes and think this through. GEO's are here to stay and if we present ourselves as a difficult state to operate in we will be left behind again. Monsanto is not going to make a bad business decision like Aventis did.

I think the $1,000,000,000 Starlink message was message enough if that is what we are trying to accomplish with this bill. On Feb.22 I paid for a ticket out of my own pocket, flew to Denver, and asked Monsanto their feelings and views, as well as their plans for GEO's. I did this so I could stand before you informed and knowledgeable about this.

I stand before you asking for technology to be allowed to move forward to the market place as the companies see fit so the producers of wheat and users of the technology can decide if it is of value as well as the right thing to use.

> The yield and grade information in your handout is information from our farm in Nelson County. I consider myself to be a fairly good wheat producer and marketer of my crop. All of the technology that I used last year for my wheat crop was developed by private industry. My wheat seed, 2375 was developed by Pioneer, my sprayer was develop and produced in Denmark by Hardi, my seeder was developed by Bougault of Canada, my tractors and combines where developed by Caterpillar and John Deere. All corporations, and good ones at that. My message is that we need corporations and I need all the tools that I get in my toolbox to compete in a global economy.

Lets look back in history for a second. When the automobile came out everyone was scared of it. When the girdle came out it was very uncomfortable but most wore one. When electricity first was developed everyone one scared of it. When laser surgery for eyes was new most said it wouldn't work. What if there had been a moratorium put on the development of these products?

Let's look back some more. Look at the yield increases that have been brought to corn and soybeans in comparison to wheat. It is wheat's turn in this process.

Personally, I will not get any value from RR wheat but there are some things on the horizon that are very exciting. Nitrogen values, drought tolerance as well as disease resistance.

Pioneer quit wheat breeding because they could not stop brown bagging.
Monsanto quit Hybrid Tech because they could see a way to get a return on their investment.

Lets not stop the next chance for wheat to go to the next level
Please vote against this bill

SON OF STAR WARS

THE INDEPENDENT

www.independent.co.uk

MONDAY 15 JANU

Monsanto to launch the first GM loaf

BY STEVE CONNOR
Science Editor

FARM TRIALS have begun for the world's first genetically modified wheat, which means the first GM loaf of bread could be on supermarket shelves within three years.

The GM wheat is under development by the American agricultural biotechnology company Monsanto, which intends to market it aggressively in the face of stiff opposition from environmentalists, and the organic food industry. However, any attempt to sell American-grown GM wheat in Europe could reignite the simmering trade war between the Europeans and Americans over biotechnology and food.

The advent of GM wheat is likely to become one of the most controversial issues in global agriculture. It is almost certain to generate intense protests from consumer groups opposed to what they see as unwarranted interference in farming and food production.

Bread is a staple item in Europe and, unlike maize or soya, the advent of the GM loaf will have a resonance with consumers who may not otherwise worry about GM cereals destined for animal feed or specialised products such as tortilla chips.

Monsanto says that the technology it has developed for wheat – a genetically complex plant – is more or less complete and that it is now awaiting the necessary regulatory approval from authorities in the US so that American farmers can begin to grow their first GM wheat crop as early as 2003.

Mark Buckingham, a spokesman for Monsanto's headquarters in St Louis, Missouri, said: "Trials are taking place in North and South Dakota, Montana and Minnesota. We're working with existing US wheat breeders, particularly the universities in those states.

"We need a certain number of trials to achieve registration from the US Department of Agriculture and the Environmental Protection Agency.

"We are looking at yield, disease susceptibility and weed control. We are also looking at environmental impact, which is an important part of getting registration."

The US Food and Drug Administration is also following the farm trials closely, sensitive to the potential ramifications of any problems in a crop used for making a staple food item. A senior official in the US Department of Agriculture said the ubiquity of wheat was "one of the reasons why the industry is being very careful of this technology".

The first GM wheat will be a spring-sown variety engineered to include a gene for conferring resistance to Monsanto's Roundup weedkiller. It hopes to sell the wheat alongside the herbicide so that farmers can control weeds more efficiently.

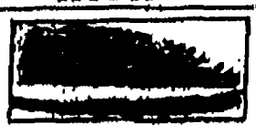
Mr Buckingham said Monsanto would initially market the wheat in America and last month applied for the first part of the necessary product registration. Attempts to sell the wheat in Europe could, however, be blocked by European demands for GM products to be clearly labelled, which the US government is opposing.

American wheat exporters might find it difficult to convince Europe that its cereal crop is "GM free" if a GM wheat variety is widely grown on American soil.

Mr Buckingham said Monsanto was setting up a plan where wheat growers in America could ensure the grain harvested from GM varieties was kept separate from conventional breeds. "Our proposal is to launch it initially with a controlled marketing programme, with some form of traceability in place to ensure that buyers who express a preference for a minimum GM content can get that," he said.

However, similar plans to keep GM maize separate from conventionally bred maize have failed. Environmentalists demonstrated last year that a GM variety called Starlink, which was supposed to be used only for animal feed, ended up in tortilla chips sold in American supermarkets.

INSIDE



El Salvador

Hundreds of people died and many ... swept through the town of Santa T...

Straw plan

SUSPECTED NAZI war criminals would be stripped of British citizenship under plans being drawn up by the Government to speed the extradition of those accused of committing atrocities during the Second World War.

Jack Straw, the Home Secretary, is reviewing his powers amid claims that 1,500 members of a notorious Ukrainian SS division are living in the UK.

BY PAU...
Deputy ...

Mr Straw ... to act af... failed to ... ience to ... 83, a nati... Edinbur... having be... death sq...

Many ... criminal...

Where the streets are littered wit

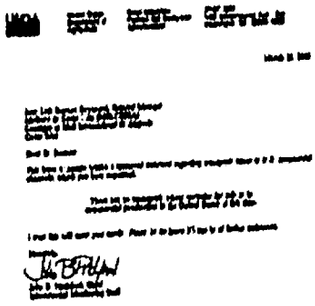
GMOs and World Wheat Trade

A Matter of Markets

Dawn Forsythe, Director, Public Affairs

U.S. WHEAT ASSOCIATES

We don't have any GM wheat...



But we've already had some bumps and bruises

October 1999

How could it be?

- Food products that are shipped to the EU need to be "gmo-free"
- So millers submit product samples to the National Center for Genetic Engineering and Biotechnology
- In this case, the NCGEB reported "positive" for genetically modified DNA

- The mill informed USW of the results
- USW contacted exporter and asked that they permit testing of US samples
- USW proposed collaborative effort between NCGEB and U of Idaho researchers
- Then the media heard about it...

The story severely strained a good relationship

The U.S. had the largest market share in 8 of the last 10 years

"Acceptance Levels"

- U.S. regulatory approvals
- Importing country regulatory approvals
- Buyer specifications
- Miller / baker acceptance for their products
- Foreign consumer preferences

Why is customer acceptance so vital to U.S. wheat?

- Nearly half of US wheat is exported
- Burdensome stocks driving down prices
- Loss of export markets will not help the wheat producer

What are customers telling us?

- Buyers in Egypt told us they do not want GM wheat.
- Egypt is America's largest customer, buying over 4 million tons last year.

Japan

- Millers from Japan, our second biggest customer, tell us that they will not accept GM wheat.
- Japan imported over 3 million tons of U.S. wheat last year.

Other Asian Countries

- Mill owners in Korea, 5th largest U.S. wheat customer, informed us they do not want GM wheat.
- Philippines, Vietnam, Indonesia, Malaysia, Singapore, Thailand, Bangladesh have inquired about "GM-free" certification.

Turning a blind eye to GM food arrivals

India

"It does not take a genius to realise that food aid is one of the covert methods of popularizing genetically modified products by making poor people who are in dire need of food consume them, often without their knowledge."

WHEAT FACTS #1
DATE FEBRUARY, 2001

NORTH DAKOTA WHEAT COMMISSION
EXPORTS OF HARD RED SPRING WHEAT BY COUNTRY DESTINATION
-thousand bushels-
JUNE 2000 - MAY 2001

MARKETING YEAR
JUNE - MAY

COUNTRY	JUNE - DEC.	JAN.	TOTAL TO DATE	1999-00 TOTAL	1998-99 TOTAL	1997-98 TOTAL	1996-97 TOTAL	1995-96 TOTAL
EUROPE & FSU								
ARMENIA	-	-	-	-	-	-	772	-
BELGIUM	5,686	-	5,686	5,650	11,348	5,556	4,017	5,144
FINLAND	296	-	296	-	-	-	-	1,178
FRANCE	-	-	-	-	-	-	-	322
GEORGIA	-	-	-	-	-	-	105	-
GREECE	-	-	-	-	-	-	1,398	2,048
ICELAND	101	-	101	200	223	215	171	157
ITALY	13,649	-	13,649	15,485	12,655	10,685	7,754	4,372
MALTA	471	-	471	1,707	985	708	1,416	887
NETHERLANDS	2,390	-	2,390	971	-	534	156	512
NORWAY	-	-	-	459	1,011	1,213	2,008	2,057
POLAND	-	-	-	-	-	-	1,213	-
PORTUGAL	1,293	-	1,293	1,233	1,322	-	-	-
RUSSIA	-	-	-	-	-	-	1,654	1,443
SLOVENIA	-	-	-	-	-	-	1,425	-
SPAIN	3,115	-	3,115	8,318	9,879	7,919	2,046	2,454
SWEDEN	-	-	-	-	294	-	-	-
SWITZERLAND	-	-	-	290	-	-	-	-
UNITED KINGDOM	2,114	-	2,114	3,717	5,007	3,852	2,373	1,498
UZBEKISTAN	-	-	-	-	-	-	1,389	-
AREA TOTAL	29,115	-	29,115	38,030	42,724	30,682	27,897	22,072
AFRICA AND MID EAST								
ALGERIA	-	-	-	-	-	-	-	2,632
BOTSWANA	-	-	-	-	-	585	-	133
BURKINA	-	-	-	-	-	-	-	172
CAMEROON	184	-	184	646	1,136	441	2,131	1,228
CANARY ISLAND	-	-	-	-	-	688	391	386
CYPRUS	389	-	389	447	440	922	1,138	1,343
EGYPT	1,187	314	1,501	281	527	819	3,644	-
GABON	129	-	129	-	154	-	-	-
GHANA	868	-	868	3,902	6,907	2,712	4,330	6,640
GUINEA	-	-	-	-	-	-	73	-
ISRAEL	-	-	-	-	-	-	227	846
IVORY COAST	-	-	-	412	-	502	904	-
JORDAN	-	-	-	-	-	-	3,304	1,837
KENYA	-	-	-	294	202	-	-	1,823
KUWAIT	-	-	-	980	-	-	-	220
LEBANON	1,365	-	1,365	272	-	892	2,274	4,812
LESOTHO	-	-	-	-	-	-	-	385
MALI	726	-	726	-	-	-	-	-
MOROCCO	-	-	-	-	-	-	1,010	-
MOZAMBIQUE	1,446	-	1,446	3,041	3,366	2,954	2,036	176
NAMIBIA	-	-	-	-	-	-	-	316

WHEAT FACTS #1 CONTINUED
DATE FEBRUARY, 2001

NORTH DAKOTA WHEAT COMMISSION
EXPORTS OF HARD RED SPRING WHEAT BY COUNTRY DESTINATION
-thousand bushels-
JUNE 2000 - MAY 2001

MARKETING YEAR
JUNE - MAY

COUNTRY	JUNE-DEC.	JAN.	TOTAL TO DATE	1999-00 TOTAL	1998-99 TOTAL	1997-98 TOTAL	1996-97 TOTAL	1995-96 TOTAL
NIGERIA	792	202	994	595	558	243	1,950	6,351
REP. S. AFRICA	2,608	203	2,811	1,470	1,385	3,326	12,255	9,203
RWANDA	-	-	-	-	294	-	-	-
SENEGAL	-	-	-	-	-	287	612	190
SIERRA LEONE	-	-	-	-	-	-	-	82
SUDAN	175	-	175	-	-	-	-	-
SWAZILAND	-	-	-	-	368	-	276	202
TOGO	-	-	-	-	834	1,299	631	1,879
TANZANIA	-	-	-	-	367	-	793	772
TUNISIA	-	-	-	-	-	-	1,011	-
TURKEY	-	-	-	1,475	649	5,243	7,052	9,741
UN. ARAB EMIRATES	-	-	-	355	107	-	-	2,021
ZIMBABWE	-	-	-	-	1,740	-	-	-
AREA TOTAL	9,869	719	10,588	14,170	19,034	20,913	46,042	53,480
ASIA								
BANGLADESH	-	-	-	-	-	-	2,762	-
HONG KONG	-	-	-	-	-	-	-	77
INDONESIA	2,340	-	2,340	1,427	5,510	-	1,093	14,325
JAPAN	23,277	5,398	28,675	48,198	49,503	50,310	45,491	48,314
KOREA REP.	9,453	822	10,275	12,408	12,287	13,834	15,688	13,364
MALAYSIA	1,059	156	1,215	729	1,239	121	606	5,193
MONGOLIA	-	-	-	-	787	-	-	-
NEW GUINEA	-	-	-	-	-	-	323	-
PHILIPPINES	11,643	894	12,537	37,106	38,488	32,128	42,647	49,372
PLS. REP. CHINA	1,683	283	1,966	1,989	2,991	5,185	5,575	1,753
SINGAPORE	471	-	471	569	707	581	718	-
SRI LANKA	-	-	-	-	-	-	-	7,543
TAIWAN	12,255	3,445	15,700	21,389	19,382	20,914	18,239	17,937
THAILAND	4,491	-	4,491	5,274	6,109	4,950	4,439	8,028
VIETNAM	184	-	184	467	61	176	-	-
AREA TOTAL	66,856	10,998	77,854	129,556	137,064	128,199	137,481	165,906
LATIN & SOUTH AMERICA								
BARBADOS IS.	595	-	995	503	752	760	495	1,081
BELIZE	161	34	195	280	267	289	376	338
BOLIVIA	-	-	-	-	-	-	-	2,519
BRAZIL	61	-	61	-	-	-	1,553	1,322
CHILE	-	-	-	-	-	-	-	3,035
COLOMBIA	-	-	-	735	795	1,489	7,650	6,462
COSTA RICA	1,788	349	2,137	3,024	2,673	4,347	3,330	4,411
DOM. REPUBLIC	3,390	713	4,103	6,956	8,367	8,149	6,663	6,563
ECUADOR	3,071	-	3,071	1,655	1,995	6,117	5,674	8,932
EL SALVADOR	2,658	302	2,960	3,047	3,743	3,014	2,700	3,396

WHEAT FACTS #1 CONTINUED
DATE FEBRUARY, 2001

NORTH DAKOTA WHEAT COMMISSION
EXPORTS OF HARD RED SPRING WHEAT BY COUNTRY DESTINATION
-thousand bushels-
JUNE 2000 - MAY 2001

MARKETING YEAR
JUNE - MAY

COUNTRY	JUNE - DEC.	JAN.	TOTAL TO DATE	1999-00 TOTAL	1998-99 TOTAL	1997-98 TOTAL	1996-97 TOTAL	1995-96 TOTAL
GRENADA	-	-	-	534	621	440	485	482
GUATEMALA	955	-	955	1,464	423	895	3,246	4,320
GUYANA	687	-	687	397	926	819	1,129	1,685
HAITI	612	305	917	425	588	-	-	-
HONDURAS	1,548	134	1,682	2,132	2,197	2,838	2,747	2,073
JAMAICA	1,723	441	2,164	3,181	3,137	3,058	3,424	3,438
MEXICO	1,004	-	1,004	325	83	807	8,714	5,048
NETH. ANTILLES	74	-	74	176	102	73	103	130
NICARAGUA	1,135	-	1,135	2,224	2,609	3,403	2,779	2,505
PANAMA	2,067	-	2,067	2,394	2,458	2,760	2,881	3,372
PERU	162	-	162	489	2,350	1,228	7,094	7,813
ST. VINCENT	267	-	267	473	913	1,166	1,388	628
SURINAME	406	96	502	913	310	409	518	721
TRINIDAD	1,344	195	1,539	2,512	1,943	2,120	2,128	2,765
URUGUAY	-	-	-	-	-	-	965	-
VENEZUELA	3,381	1,096	4,477	5,714	12,046	11,858	15,271	14,541
AREA TOTAL	27,489	3,665	31,154	40,053	49,298	56,029	81,293	87,480
WORLD TOTAL	133,329	15,382	148,711	221,809	248,120	235,823	292,713	328,938

CWB Biotechnology Position Statement

The CWB recognizes and respects the right and desire of consumers to choose the food products they want to purchase and consume. The CWB acknowledges the concerns that some of our customers express in relation to food ingredients that are the result of modern biotechnology. The CWB is committed to maintaining its role in providing high quality wheat and barley that our customers demand.

The CWB recognizes the potential that biotechnology may provide benefits to consumers and to wheat and barley farmers in Western Canada. We also support the rigorous assessment of health and safety issues in the development of transgenic plants in Canada.

The CWB's objective is to ensure that the introduction of genetically modified wheat and barley varieties for production, handling and marketing be accomplished in a manner that will satisfy customers' requirements and help western Canadian farmers financially. The following are some observations and points which are intended to satisfy this objective:

- There are currently no transgenic varieties of wheat or barley registered for commercial production anywhere in the world. It will be a few years until there are.
- In several important markets, there is considerable consumer rejection of transgenic plants as food ingredients. It is evident that when transgenic varieties are introduced some customers will require shipments of wheat and barley that are accompanied by guarantees of either zero, or at least a maximum percentage of transgenic varieties.
- Current grain handling technology is not capable of efficiently and effectively identifying and segregating large volumes of transgenic grain varieties. This technology will be needed to support an effective and accountable system of quality assurance order for the CWB to meet its commitment to supply customers the food ingredients they are asking for.
- On a top priority basis, technologies that are able to efficiently and effectively identify the varietal composition of grain shipments must be developed. Research work to develop these technologies is underway under the Automated Quality Testing (AQT) initiative. This initiative is administered by the Canadian Grain Commission and supported by Agriculture and Agri-food Canada, the CWB and other grain industry participants.
- Until such technologies are in place, and assuming some important markets continue to require that their grain shipments not contain transgenic products, wheat and barley varieties developed by modern biotechnology should not be registered for production

in Western Canada. Such varieties could be considered for registration as soon as effective segregation technologies are available.

- In addition to safeguards regarding Canadian-registered varieties, the Canadian Food Inspection Agency (CFIA) and Canada Customs must implement measures to prevent the importation of transgenic wheat and barley varieties into Canada for production, until such time as the above segregation technologies are available.

Questions? Comments? E-Mail
questions@cwb.ca
Prairie strong, worldwide

March 9,2001

Chairman Wanzek and members of the Senate Ag Committee,

My name is Tom Wiley and I farm west of Millarton, ND, about 25 miles south of Jamestown. I live in Senator Wanzek's district and am a member of the same marketing club as he is.

I have been concerned about the introduction of genetically modified wheat since I heard it was in the pipeline, but have become even more worried about it in the last few weeks because of my experience with identity preserved soybean production.

I do not raise GM or Roundup Ready soybeans. I never have and I believe I never will. In the year 2000 I had 1000 acres of non-GMO soybeans planted and I was hoping to sell into the non-GMO market. I had signed a contract with Dakota Farms in Carpenter, South Dakota for 12,000 bushels of non-GMO soybeans that would be going to Japan to be processed into soy sauce. This contract was for $.20 over Chicago Board of Trade price. I had locked in the Chicago price at $4.55 which meant I would receive $4.75/bushel for my soybeans delivered to Casselton, North Dakota.

Before Christmas I sent Dakota Farms samples of my soybeans. Several weeks later a woman from Dakota Farms called with exciting news. Of the several samples they had sent to their buyer in Japan, mine had come out on top. They had excellent protein and color. I was to bring my soybeans to Casselton where the Japanese buyer would have someone there to watch them be loaded into lined shipping crates which would be sealed in Casselton and not opened again until they were in Japan. That is how particular they are about receiving non-GMO products. I was ecstatic and proud to know something of such high quality came from my farm. I signed all the paper work and faxed it to them.

About three weeks ago, as I was waiting to know the date they wanted the beans delivered, I received another call from Dakota Farms. After further testing, two of my samples tested 1.37% genetically modified. They no longer wanted my beans. I was in disbelief as they explained to me that they must have cross-pollinated with a neighbor's soybeans, or maybe the seed wasn't pure to start with. I sat in my pick-up, cell phone in hand, for several minutes, stunned. I was sick to my stomach when I finally went into the house to tell my wife that we had just lost $6000 because of a neighbor's planting decision.

It is ironic that only two weeks before that phone call I was standing before the House Ag Committee pleading with them to pass HB 1338. I have heard the Monsanto representatives say in their slick presentations that "there will always be a niche market for those farmers who want to pursue it." I know now that maintaining a "niche market" crop is impossible if my neighbors choose to grow GM crops. There will always be pollen drift. If we allow GM Wheat into North Dakota we will no longer be able to guarantee non-GMO wheat to our customers. We will only have Genetically Modified wheat to sell and our customers do not want it. Period. Please help us protect our markets.

Thank you.

Tom J. Wiley

Tom J. Wiley
5111 77th Ave. SE
Montpelier, ND 58472 (701) 489-3498

March 9, 2001

Chairman Wanzek and Members of the Senate Ag Committee,

My name is Gail Wiley. You have just heard my husband, Tom's testimony in favor of HB 1338. We have both been interested in this issue for some time. We were at the initial meeting with Representative Gene Nicholas in November and then at the informal meeting Gene set up with some House and Senate Ag committee members in early January. Some of you were also at that meeting.

After that meeting, Tom and I and Scott Fry from the Dakota Resource Council spent two days at the Big Dog Country Ag Show in Jamestown. It was estimated that less than 500 people walked through that show. For two days we talked to people, one-by-one about genetically modified wheat. We had charts showing our major export markets with the countries which have said they would not accept GM wheat circled in red. It was easy for farmers and non-farmers to see there will be a problem if GM wheat is what we have to sell. We talked to about 75 people at our booth and almost all of them signed our informal petition in support of a restriction on the introduction of GM wheat. I will give the signatures to Senator Wanzek as many of these people are from his district. Several of these farmers said they had been looking forward to Roundup Ready wheat because of the ease of weed control, but after seeing the marketing situation they changed their minds and signed the petition.

It has been heartening to those of us who have worked on this issue that the debate about the introduction of GM wheat has grown in depth and volume. There have been articles in several North Dakota papers about this bill and even some in the national press. North Dakota is taking the lead in protecting the markets of our farmers.

There are several people here who will address the issues of marketplace acceptance and product segregation, or lack thereof. The liability issues are huge and aren't addressed at all in this bill but are addressed in other bills, some of which you will hear today. You heard Tom talk about the cross-pollination problem. I will not repeat those arguments.

I just want to make a plea for North Dakota.

In a few minutes you will hear from the Monsanto representatives. They are highly educated scientists and public relations people. They speak well and are as comfortable in this room as we are in the cab of a combine (which , somehow, feels a lot bigger than this room). They will tell you that they have as great a concern about our market share as we do. They will tell you that they are working with the export associations to insure acceptance before they release GM wheat for sale. They will tell you that, indeed, acceptance is growing as we speak, although we haven't seen any indication of that anywhere else. Some of them may even be from North Dakota and will assure us that they do not want to do further harm to our fragile economy.

You can believe them if you want to. You can take comfort in their concern. But please don't bet the future of North Dakota farms on their good will.

This bill sets up a committee of representatives from our own farm organizations. The leaders of these organizations are elected by their own farmer members. The Agriculture Commissioner is still elected by the people of North Dakota. The directors of our education and experiment services are paid with our tax dollars. All of these people answer to North Dakotans, not shareholders who have never set foot on North Dakota soil. The idea of all these people coming together to discuss something this important to the future of wheat production in our state is exciting. Please let it happen.

You are elected officials. We have elected you to make the hard decisions for this state. Please don't hand those decisions over to Monsanto or any other company. Genetically modified wheat will change the face of wheat production in North Dakota forever. Let's do it right. Let's do it carefully. And let's make the decisions right here, together, in North Dakota. Please pass HB 1338 out of this committee with as much enthusiasm and as much sense of history making and leadership as did the House. Thank you.

Gail Wiley
5111 77th Ave. SE
Montpelier, ND
(701) 489-3498

Regulation of Agricultural Biotechnology in the United States: How the Process Works

Most genetically-engineered or biotechnology crops have been produced and marketed in the United States of America (USA). Regulatory oversight of agricultural biotechnology began in the late 1980's after more than a decade of mainly laboratory-based research and development of the technology. Thus, US regulatory oversight has been in place for a longer period of time than is the case in many other parts of the world. Because of the US's leading position in this technology, there has been significant interest, both domestically and internationally, in how the regulatory process works. The following overview is provided to increase public understanding of the process by which agricultural biotechnology is regulated in the US.

Background

The National Research Council, which provides science, technology, and health policy advice under a Congressional charter, in 1987 published a report on biotechnology, which noted that the modern process did not appear to introduce new risks compared to older methods. The council report found that both conventional breeding methods and more advanced biotechnological methods could pose potential health and environmental risks, but that the processes of modern biotechnology were not inherently risky. Again, in a 1989 report, the council reached the same conclusions. In both cases it found that there was no reason to regulate organisms modified through rDNA differently from organisms modified through other methods. The 1989 report noted that "the nature of the process [of genetic modification] is not a useful criterion for determining whether the product requires less or more oversight." Despite the findings of this highly regarded scientific body, the US government began to develop a regulatory structure that held genetically-engineered plants and crops to stricter regulatory scrutiny than plants produced by other techniques.

A more recent report released in April 2000, the National Research Council again addressed the scientific and regulatory issues surrounding the regulation of genetically modified plants, with an emphasis on plants engineered to express enhanced pest-protection characteristics, and reached essentially the same conclusions about the safety of genetically modified plants and crops -- conclusions which were now based on more than six years of experience with commercial crop applications. The report agrees with the 1989 study in pointing out that "the committee agrees that the properties of a genetically modified organism should be the focus of risk assessments, not the process by which it was produced."

The council found that there is no evidence that genetically improved foods pose any more risk to public health or the environment than foods developed with other techniques. In fact, crops modified to control insects without chemical pesticides probably pose less risk, the council said.

The report noted, however, that "Public acceptance of these foods ultimately depends on the credibility of the testing and regulatory process." Thus, despite its findings on the safety of genetically enhanced foods, the council recommended a number of regulatory changes. Many of those have already been implemented, such as programs to prevent insects from developing resistance to crops and reliable allergenicity testing for important allergens. The council also urged responsible parties to post detailed information on websites so the public could more readily understand the process.

U.S. Federal Oversight of Agricultural Biotechnology

Developers of biotech crops and foods must be harsh critics of the products they develop for potential commercial production. Competitive pressures and their self-interest force them to meet the needs of and please the ultimate consumer. That self-interest involves, for example, producing products that people want to buy now and in the future, safeguarding and building their firm's reputation, returning a profit to share-holders, and avoiding liability for

producing unsafe products. They will quickly abandon an idea that represents substantial risks to consumers, liability to the company, negative associations with the company's brand name or obstacles to marketability. Moreover, many [redacted]ideas" are rejected by firms for safety or other reasons well before they enter the public domain. For example, a g[redacted]from Brazil nuts (which are known to contain allergenic proteins) was introduced into soybeans to improve their nutritional content. Studies funded by the developer, Pioneer Hi-Bred, were conducted to see if the selected gene produced an allergen. It did, and the developer discontinued research and stopped further development of the product.

Furthermore, this private competitive process of "regulation" is paralleled by a comprehensive governmental system for broad regulatory oversight of biotechnology. Three agencies of the federal government separately work in assessing the human and environmental safety of crops developed through biotechnology. The U.S. Department of Agriculture, the Food and Drug Administration, and the Environmental Protection Agency work within a coordinated framework to evaluate the food, animal feed and environmental safety of agricultural biotechnology products. Much of the information developed in this process is reviewed by more than one agency. Moreover, market-mediated regulatory oversight and review begins long before a scientist initiates research for improving a plant through biotechnology and continues far beyond the final governmental regulatory approval point. Throughout the process, which can take nearly a decade, there is constant oversight by regulatory agencies. There are multiple opportunities for regulators or developers to halt a project, and there are numerous opportunities for public comment. Furthermore, the Food and Drug Administration has authority to immediately remove from the market any food that is unsafe.

That governmental regulatory process includes at least nine opportunities (delineated below) in which a decision to move forward is required. In five of these instances, there is opportunity for public comment or participation. Multiple people in multiple oversight positions have opportunities to question the feasibility of developing a product.

Nine Chances to Say No

[redacted]fety Committee

1. The first opportunity comes almost immediately after a scientist discovers a potentially marketable product concept. Following guidelines established by the National Institutes of Health (NIH), developers of biotech products empanel an advisory group (Biosafety Committee) made up of employees and members of the general public. This panel reviews the environmental and health possibilities posed by developing the proposed idea. If the committee determines there is unacceptable risk, it will recommend that the concept not be developed.

U.S. Department of Agriculture (USDA)

2. If the concept passes initial considerations, a review must be conducted to determine if existing research facilities are adequate to conduct the research. The U.S. Department of Agriculture (USDA) must review and approve facility plans, including greenhouses where the plants will be developed and tested.

3. The developer must seek USDA approval in order to conduct field trials.

4. USDA must also give authority for the developer to ship seeds from a greenhouse to a field trial site.

5. Another formal interface comes after the developer has generated a full package of data, submits it to USDA and requests a "determination of non-regulated status," meaning the plant can be grown, tested or used for traditional crop breeding without further USDA action. During this formal review process, which normally takes 10 months, USDA publishes an invitation for public comment in the Federal Register and considers the comments it receives.

[redacted] Environmental Protection Agency (EPA)

If a plant is improved to express a protein with pest control properties, such as insect-protected or virus-protected crops, the Environmental Protection Agency has oversight during the development and commercialization phases – a process that lasts many months. In the case of herbicide-tolerant crops, EPA determines whether applying herbicide over such crops poses risks to food or feed safety that would require label extensions, for which detailed residue data are submitted.

6. If a developer plans to plant more than 10 acres of a plant expressing a pesticidal protein in research or field trials, the EPA must grant an experimental use permit (EUP). Public comment is invited through publication in the Federal Register.

7. EPA reviews data on the human, animal and environmental safety of the pest control protein or pesticidal protein to determine whether limits (tolerances) should be set on the amount of protein in food derived from the improved plant. In instances where there is substantial data on the safety of the protein and a history of safe use, the developer may request an exemption from the requirement of a tolerance, which may or may not be granted. Public comments are invited through publication in the Federal Register.

8. The final EPA step is a formal review of the data generated through years of study. During this final review, which typically takes approximately 18 months, EPA considers whether or not to register the product for commercial use. Again, public notification is given and comments are requested.

U.S. Food and Drug Administration (FDA)

9. The Food and Drug Administration (FDA) is charged with responsibility for the safety of foods, including those derived from biotech plants and other novel foods. FDA has established a Food Advisory Committee comprised of scientific experts and consumer representatives to provide clear direction on the FDA approval process. FDA meets with a developer of a biotechnology product early in the process and provides guidance as to what studies FDA considers appropriate to ensure food and feed safety. The recommended studies vary, depending on each product and the product's proposed use and function. The interactive FDA involvement in pre-market review of a biotech food spans several years. At the end of this process, the FDA provides a letter to the developer confirming that they have no more questions regarding the food and feed safety of the product. Even after a product is on the market, FDA has authority, under the Food, Drug and Cosmetic Act, to immediately remove from the market any food that the FDA deems unsafe. FDA's authority is immediate and final.

Nine Chances to Say No

1. Biosafety Committee review according to U.S. NIH Biosafety Guidelines*
2. USDA greenhouse approval
3. USDA field trial authorization
4. USDA authorization to transport seed from greenhouse to field trials
5. USDA determination of non-regulatory status (permission to commercialize)*
6. EPA experimental use permit approval*
7. EPA determination of food tolerance or exemption from tolerance*
8. EPA product registration *
9. FDA review process *

* Indicates steps in the process when public comment or participation is invited. As with other transparent approval processes in the USA, public comment is welcome at any point in the process.

During the process, food/feed and environmental safety issues are thoroughly examined.

Food / Feed Safety – The Regulatory Process

[redacted].S. Food and Drug Administration has oversight responsibility for the safety of all foods and animal feeds, including those derived through biotechnology. With biotechnology foods, FDA reviews studies of the detailed characteristics of the genetic material introduced into a plant. After the material is introduced into a crop plant, studies are reviewed to see if the introduction caused any unexpected effect(s) and to ensure the safety of the protein(s) produced from the introduced DNA. When the biotech and the conventional crops are demonstrated to be essentially the same, then the biotech food is said to be "substantially equivalent" to or "as safe as" the conventional products. Here's how the FDA process works:

- **Assessment and testing of the introduced material.** Is the inserted material already present in some other food source? Is it comparable to proteins already present in human foods, or is it a protein without a history of human consumption? Without a proven history of safety to humans, the inserted material would have to be thoroughly tested to ensure its safety. Even when the history of the inserted material is well known, studies are conducted to confirm its safety and to assess if there are any unexpected effects in the plant. The product produced by the inserted DNA (typically protein) is subjected to rigorous safety assessment. A very high dose of the expressed protein is fed to laboratory animals to ensure a lack of toxicity. The material is also tested to ensure that the newly expressed protein is not an allergenic. Even genes from sources not known to be allergenic are subjected to detailed allergenicity screens, including digestibility studies to ensure that the newly expressed protein is rapidly digested like other dietary proteins. Amino acid similarity to known allergenic proteins is also assessed to ensure that the protein is neither an allergen nor similar to an allergenic protein. The level of the protein produced and consumed is estimated to assess the amount of human consumption, which is a key parameter for allergy assessment.

[redacted] safety assessments conducted on the inserted material give assurance that the newly expressed material is safe, they do not indicate whether the inserted material might have an unexpected effect when combined with the genes in the plant.

- **Studies of the biological and agronomic parameters of the plant.** Are the biological and agronomic properties of the plant different from the parental equivalent? For example, does an insect-protected corn plant look like other corn plants when comparing a vast list of plant characteristics? Studies are done to examine all relevant attributes of the plant – height, color, leaf orientation, susceptibility to disease, shape, root strength, vigor, fruit or grain size, yield, etc. Field trials are conducted in multiple locations over several years to provide these data and to generate materials for the nutritional composition assessments described below. Unexpected changes in agronomic parameters usually result in the requirement of additional information.

- **Studies of the nutritional composition of the plant.** Studies are performed to determine whether nutrients, vitamins and minerals in the new plant occur at the same level as in the conventionally bred plant. Studies also examine if anti-nutrients (substances that interfere with nutrient absorption), natural toxicants or known allergens occur at comparable levels as those which occur in the conventional plant. FDA requires that foods with altered nutritional composition or introduced allergens be labeled as such. In testing for equivalence, components that are nutritionally significant are examined – protein, fat, fiber, starch, amino acids, fatty acids, ash, and sugar.

If the biotech crop or inserted DNA does not cause a change in any of the numerous parameters examined, regulators are able to confidently conclude that the food is substantially equivalent, and hence, "as safe as" food from other plant varieties. These assessments allow FDA to conclude whether a biotechnology product attains the FDA standard: "Reasonable certainty that no harm will result from intended uses under the anticipated conditions of consumption."

[redacted]ironmental Safety – The Regulatory Process

The U.S. Environmental Protection Agency and the U.S. Department of Agriculture are responsible for ensuring that a plant derived from biotechnology does not have an adverse effect on the environment, including non-target organisms. [redacted]s involved in the review if the plant has been produced with pesticidal properties -- insect-protected corn or virus-resistant potatoes, for example. USDA reviews all biotech plants to assess their potential to become a plant pest in the environment.

EPA examines several parameters:

Product characterization. Where in the plant are new traits expressed? This information is critical to assess what organisms may be exposed. For example, if the trait expresses only in the roots, there is probably little or no impact on wildlife that feeds on leaves, so the focus should be on soil organisms. Does the trait expressed by the inserted protein behave in the plant in the same way it behaves in nature? What is the mode of action or specificity of the pesticidal substance produced in the plant? For example, Bt proteins only bind to specific receptors in the gut of certain insects and have no effect on other living organisms. Bt stands for *Bacillus thuringiensis*, a soil microbe, which produces proteins that have been used for several years to produce non-chemical sprays and powders that target specific insects.

Toxicology. The protein produced by an introduced gene is fed to rodents at a very high dose, typically in excess of 100,000 times the levels that humans or animals would consume. The developer of the biotech foods or feeds is also required to perform and submit to the FDA digestibility studies. Digestibility studies are used to assess how long it takes for the protein to break down in gastric and intestinal fluids, which provides important information for allergy assessment and to assure the expressed protein is degraded like other dietary proteins. The protein is also compared with known-allergens.

Non-target organisms. Is the introduced protein toxic to birds, beneficial insects, fish or other organisms, and if so, [redacted]hose organisms be exposed to the protein? Extensive analyses are conducted to assess the likelihood that various [redacted]arget organisms would be exposed to the plant or the protein it produces in the environment. For those organisms that will be exposed, data are generated to ensure the safety of the expressed protein(s). A review article by Alan Felsot, Environmental Toxicologist at Washington State University, described some of the findings on the use of Bt: <http://www2.tricity.wsu.edu/aenews/Mar00AENews/Mar00AENews.htm#anchor5232326> "Indeed, one of the reasons that transgenic Bt crops have been commercialized so rapidly is that the long history of Bt use has demonstrated no toxicity to nontarget organisms. Bear in mind that human exposure to Bt proteins is ancient considering that studies show it is widely distributed in soil, foliage, and stored grain." Furthermore, the article notes, "Bt spores and proteins are found ubiquitously in soils, plant foliage, and stored grains, but growth in those environments has not been proven. Indeed, epizootics (i.e., disease outbreaks) of Bt among insects are rare if they occur at all. Bt spores may be fairly stable in soil after an initial extensive degradation and/or predation by other soil microorganisms. On plant foliage, the spores and crystal proteins are subject to degradation if exposed to direct sunlight. Thus, the amount of Bt available to susceptible insects may be too limited to cause a natural outbreak of disease."

For example, the Bt proteins have been tested, at doses typically 10 to 100 times the expected exposure from the pesticidal plant in the laboratory. Typically tests are carried out with a range of non-target arthropods such as honeybees, green lacewing, ladybird beetles, parasitic wasps, and other organisms such as earthworms. In addition, studies are performed to assess the safety of the enhanced plant to birds, fish and mammals.

Environmental fate. Throughout the consultative process with the agencies, studies are requested to assess the rate of degradation of the pesticidal protein in plant tissue in the soil. Data from several different Bt proteins have been compared with the rate of degradation of microbial Bt products and shown to be comparable, with rapid rates of degradation.

[redacted]ithin USDA, the Animal and Plant Health Inspection Service (APHIS) is responsible for determining whether or not a biotech plant should be considered a plant pest. It is illegal to introduce a plant pest into the United States. To reach

its determination, APHIS examines several parameters:

[redacted]ble environmental consequences. A primary issue in this review is determining whether the modified plant could cross-pollinate with other plants, and, if it did, to assess whether the introduced trait would provide a biological edge in the ecosystem. Agriculture/Plant breeding has been intensely utilized and studied for centuries, and a vast amount of published information is available concerning species that might be cross-bred with various agricultural crops – corn, soybean, cotton, canola, etc. APHIS has impaneled experts in agriculture and weed science to study if a crop with an introduced trait could impart that trait to another species in the environment. These experts rely on information collected through decades of traditional crossbreeding experiments and other biological surveys to ascertain what, if any, plants in the environment can sexually cross with a crop. If out-crossing could occur with some plant, APHIS considers the potential consequences. For example, if canola that is tolerant to one type of herbicide should impart that trait to a wild relative, the wild plant could still be killed with another herbicide if there were any desire to do so. Herbicide tolerance would not enable the wild plant to out-compete other plants in the ecosystem outside fields used for production. Additionally, growers must continue to plant an area of non-biotech crops (20 to 50 percent of their acreage) along with their biotech seeds in order to provide what is commonly referred to as a "refuge" to prevent the development of insect resistance to the pest control properties of biotech plants with pesticidal properties. <http://www.ncga.com/02profits/insectMgmtPlan/toc.htm>

Possible wildlife consequences. APHIS considers whether a biotech crop could have any adverse effect on wildlife, including birds, beneficial insects and mammals. Some of this information comes from field trials, which are conducted in multiple locations for several years. By observing crops growing in actual field conditions, scientists can compare insect populations in the modified crop field with populations in the conventional fields. Field trials will also identify [redacted]hanges in the plant physiology (height, color, leaf placement, time of flowering, etc.). These comparisons allow [redacted]S to determine if any such change could affect wildlife behavior. Knowing that wildlife, such as deer, often feed on crops, APHIS also examines the nutritional content of the crops. All essential nutrients in the modified crop are compared with the conventional counterpart to determine equivalency. APHIS is particularly interested in learning if any anti-nutritional factors are increased (natural toxicants or anti-nutrients).

Potential for the crop to become weedy. APHIS considers whether the modified crop itself could become a weed. Several factors are considered. Are the seeds easily dispersed in the environment? Can seeds survive over winter? Do any "volunteer" plants that grow from dropped seeds produce seeds that also will produce offspring? Can the seeds survive without careful management, watering and fertilizer? APHIS must assess whether the introduction of a single trait would alter the ability of current crops to survive outside of a managed agricultural system.

APHIS grants non-regulated status only if it determines that the plant will not become a pest, poses no significant risk to the environment and is as safe to use as conventional plant varieties. In addition to its pre-market review, APHIS can also stop the sale of the product at any time if it is determined that the plant is becoming a plant pest.

What others are saying:

The following section includes quotations from regulatory agency representatives, international agencies, and other experts on agricultural biotechnology concerning the regulatory process and the safety of products produced through modern biotechnology:

[redacted]ddition to those steps that breeders normally take, for products of gene technology, companies are doing far more [redacted]nsive testing than has ever been done on commercial varieties." – *James Maryanski, Ph.D., Biotechnology Coordinator, U.S. FDA, May 26, 1999, Worldnet Interview.*

"When substantial equivalence is established for an organism or food product, the food is regarded to be as safe as its conventional counterpart and no further safety consideration is needed." – *Report of a joint FAO/WHO consultation on biotechnology and food safety held Sept. 30-Oct. 4, 1996 in Rome.*

"In my opinion, current genetically modified foods on the market are safe ... thoroughly tested by the industry, and appropriately evaluated by the FDA and other government regulatory agencies around the world. I endorse the concept of substantial equivalence in its use to focus safety assessments on the novel features of biotech foods. I think the current methods that have been used to assess the allergenicity of the products currently on the market are adequate. The FDA is quite clear in stating that if DNA is transferred from a known allergenic source, then the novel transgenic food must be assessed for allergenicity. – *Dr. Steve Taylor, Professor and Head, Department of Food Science & Technology, University of Nebraska, testimony at FDA public meeting on biotechnology, Nov. 18, 1999.*

"We believe that these products have great potential, but we are not blindly accepting industry claims as to their safety. We are proceeding cautiously to ensure protection to all citizens and to our environment." – *Janet L. Andersen, Ph.D., Director, Biopesticides and Pollution Prevention Division, U.S. EPA, testimony before Senate Agriculture, Nutrition and Forestry Committee, Oct. 7, 1999.*

"All foods must be safe, and extensive scientific research has shown that foods derived through biotechnology are as safe as traditional foods." – *Dr. Jeffrey Barach, vice president, National Food Processors Assn., testimony before Senate Agriculture, Nutrition and Forestry Committee, Oct. 6, 1999.*

"Breeders are required by our colleagues at the U.S. Department of Agriculture to conduct field testing for several seasons to make sure only desirable changes have been made. They must check to make sure the plant looks right, grows right, and produces food that tastes right. They also must perform analytical tests to see whether the levels of nutrients have changed and whether the food is still safe to eat. As we have evaluated the results of the seeds or crops produced using biotechnology techniques, we have seen no evidence that the bioengineered foods now on the market pose any human health concerns or that they are in any way less safe than crops produced through traditional breeding." – *FDA Commissioner Jane E. Henney, M.D., FDA Consumer magazine, Jan.-Feb. 2000.*

"In an effort to expand public access and awareness of the progress in the development of work with transgenic plants, the Animal and Plant Health Inspection Service (APHIS) has made available on the Internet information on both field testing and commercialization of new varieties. This information, which is updated daily and provides direct public access to information formerly available only upon written request, is proving very useful both to companies and to individual researchers who wish to track the progress of agricultural biotechnology. The World Wide Web site can be accessed at http://www.aphis.usda.gov/biotech/." *USDA, BSS Biotechnology Update, May 1988*

"The success of the biotechnology regulatory system in the United States is due to the fact that regulatory agencies with established credibility and scientific expertise were designated to evaluate the products of biotechnology. There is now a 13-year history of evaluating the products of biotechnology for safety. In addition, advances in biotechnology have increased the ability of regulators to scrutinize product safety and the effect of product modification upon safety. The approach to review of biotechnology is constantly evolving due to new types of products and the availability of new scientific information." *Dr. Sally L. McCammon, Animal and Plant Health Inspection Service United States Department of Agriculture, before the Senate Committee on Agriculture hearing on Biotechnology and Agriculture, October 7, 1999.*

Links to Other Sites – Regulatory Agencies, Other Specialized Sites

Regulatory Oversight
http://www.aphis.usda.gov/biotechnology/laws.html

http://www.aphis.usda.gov/biotech/ (first announced in
What is the Process by which APHIS Deregulates Genetically Engineered Organisms to Allow for Commercialization? http://www.aphis.usda.gov/biotech/#petition

Biotechnology Information Center
http://www.nal.usda.gov/bic/

US EPA

Plant Pesticide Regulatory Decisions
http://www.aphis.usda.gov/biotech/EPA/index.html

Office of Prevention, Pesticides and Toxic Substances
http://www.epa.gov/internet/oppts/

Toxic Substances Control Act (TSCA) Biotechnology Program
http://www.epa.gov/opptintr/biotech/

US FDA

Biotechnology Foods
http://www.fda.gov/oc/biotech/default.htm

INTERNATIONAL

An Overview of Biotechnology at the OECD from the Organisation for Economic Co-operation and Development (OECD)

Biosafety In Europe European legislation and regulations, compiled by the Belgian Biosafety Serve

Biosafety Information Network & Advisory Service (BINAS) from the United Nations Industrial Development Organization (UNIDO)

Biotechnology from the European Union (EU)

CGIAR/NAS Biotech Conference Papers Consultive Group on Int'l Ag Research (CGIAR)and National Academy of Sciences (NAS), October 21-22, 1999

Codex Alimentarius Commission The "Food Code" from the Food and Agriculture Organization of The United Nations (FAO) and the World Health Organization (WHO)

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON GENERAL PRINCIPLES
http://www.fao.org/waicent/faoinfo/economic/esn/codex/ccgp15/gp00_01e.htm

Consultative Group on International Agricultural Research (CGIAR) cosponsored by the World Bank, the FAO, UNDP, and the UNEP.

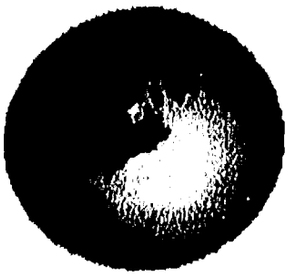
International Register on Biosafety from the United Nations Environment Programme (UNEP)

National Biotechnology Web Sites from the Organisation for Economic Co-operation and Development (OECD)

Sanitary and Phytosanitary Measures Agreement covering food safety and animal and plant health protection from the World Trade Organization (WTO)

The International Centre for Genetic Engineering and Biotechnology (ICGEB) with focus on needs of the developing world

The Virtual Center of Biotechnology for the Americas from the Biotechnology Institute, National Autonomous University of Mexico (UNAM)



INTERNATIONAL CONSUMERS *for* CIVIL SOCIETY

www.icfcs.org

CONSUMER ALERT

www.consumeralert.org

March 9, 2001

Chairman Wanzek and Members of the Senate Ag Committee,

My name is Kevin Knodel and I am the manager of Prairie Coop Elevators at Cleveland, North Dakota and Windsor, North Dakota. The capacity of both facilities is approximately 750,000 bushels. These elevators are farmer owned, overseen by a Coop Board of Directors.

Right now we handle oil sunflowers, canola, dry beans, soybeans, flax, malting barley, feed barley, durum, and hard red spring wheat. We are often at full capacity although we ship out unit trains of commodities regularly. It would be extremely difficult if not impossible to segregate any GM wheat varieties from traditional wheat. In additional to building new storage facilities, the elevators would most likely have to build entire new legs to insure adequate separation. This would be cost prohibitive for our cooperative.

Until the segregation problems and costs are addressed or the markets would no longer require segregation, I believe genetically engineered wheat should be kept out of North Dakota. I recommend a DO PASS vote on HB 1338.

Thank you.

Kevin Knodel

Kevin Knodel, Manager
Prairie Cooperative Elevator
302 Front St.
Cleveland, ND 58424
701-763-6264

Chairman Wanzek and Members of the Senate Ag Committee,

I am Theresa Podoll, an organic farmer near Fullerton, ND and the Executive Director of Northern Plains Sustainable Agriculture Society. NPSAS is a non-profit organization serving 367 organic growers like myself, the majority of them making their livelihoods in our state of ND. Many other organic growers in the state that belong to the Organic Crop Improvement Association, which has three Chapters in ND and Farm Verified Organic, located in Medina , ND, all of us working to serve the growing numbers of certified organic growers.

Organic food sales were $4 billion for 1997. The industry has posted double-digit sales growth of 20 percent or greater for the **ninth** consecutive year. Our state is the **third leading producer of organic crops** in the United States, and the **number one producer of organic cereal crops.**

Our farm has been certified organic since 1978 and NPSAS was formed in 1979. The organic industry in this state has grown to over 60,000 acres in 1997 according to USDA's most recent statistics. The Greater North Dakota Association's Flexible Food Manufacturing Cluster developed a Factbook for the New Economy Initiative listing its top 4 areas of greatest economic potential in the food industry in our state. Organics was at the top of the list.

I am here in support of HB 1338 because the farmers who have grown this industry and have made us a leader in the organic industry have grave concerns over genetically modified crops. Organic producers, like conventional producers, have suffered from loss of markets due to contamination issues. Many organic producers have removed corn from their rotations because of the risk of contamination by GMO pollen. Contamination of an organic crop by genetic drift means instant decertification-- that crop can not be sold on the organic market. The organic market has a **zero tolerance level.** If an organic crop is contaminated to any level at all, it means decertification and instance loss of marketability on the organic market.

An entire shipment of organic corn chips destined for the European market tested positive for contamination and was rejected costing tens of thousands of dollars. This severely hurt the reputation of the US organic corn industry and put all of our export markets dealing in organic corn and organics soybeans on alert. In the organic industry, reputation and the credibility of your certification is key. If that is compromised, you will lose markets. There is zero tolerance for contamination.

The cause of this market loss is genetic trespass. Monsanto may try to tell you that it is the farmer's responsibility to know what their neighbor's are planting and to maintain a buffer strip to minimize potential genetic contamination. However, Monsanto maintains that they and they alone own the genetics contained in that pollen and all the rights of ownership belong to them. Farmers sign a contract to that effect when they purchase GMO seed. With the rights of ownership comes privilege, as we are all aware. That point is not lost on Monsanto. Monsanto has gone so far as to sue farmers for possession of their genetics even when the farmers contend that contamination occurred without their knowledge. I ask you-- Along with the privilege and rights of ownership, does not responsibility also come with that privilege? Doesn't liability also come with ownership? Therefore, I

ask you who is responsible for preventing potential genetic pollution?

We were all assured that the biotech industry knew what they were doing in releasing genetically modified corn. We have been told repeatedly by the biotech proponents that their methods are based on good science-- on sound science. However, they found out that the distance that corn pollen can travel is much higher than what scientists were able to predict. What we have learned about the ability of corn pollen to travel has come at great expense to our farmers and our markets.

Monsanto may try to tell you that wheat is a self-pollinating crop and therefore the level of outcrossing is **known** to be at a rate of between .25% on up to 5%. However, when I asked Cole Gustafson, the Associate Dean of Research at North Dakota State University, about the research on what distance is needed to isolate a GMO wheat field or GMO research plot from non-GMO wheat he stated that that research has not been done. We do not know how close is too close. These stastics do not take into account variable environmental factors specific to place, including the presence of insects such as thrips, known to also cross pollinate wheat, or factors such as wind and humidity.

Even a low rate of contamination will not **protect** us from contamination, it will only slow it down. It will not be as fast as corn contamination. Soybeans, another **self-pollinating** crop, is not as contaminated as corn, **yet**. It is taking longer. Does that afford us any measure of comfort? Will that protect the level of trust our markets place in our product?

Monsanto is asking us to trust them and to stake all of our markets and a good share of this state's economic viability on what they call "good science". I ask you based on "good sense" to tell them that they **do** have the **rights of ownership**, and along with those rights comes responsibility and liability and that they need to deal with those issues before we give them our trust. And then I ask each one of you to vote **DO PASS** on HB 1338.

Results of Search for Notifications in the Field Test Releases Database for the U.S.

Back to Main Menu Background

174 records were found for Organism = Wheat ; of those, 30 records were found for Location = ND :

Next 5

*(Empty fields indicate no data provided; CBI = Confidential Business Information; * in Gene field = Selectable Marker)*

Organism: Wheat	*Received:* 02/15/01	*Permit #* 01-046-18N	# 1
Institution: Monsanto	*Status:* Pending	Release Period Begins: 03/11/01	
	Effective: 03/17/01	Release Period Ends: 03/11/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): MT, ND, SD, WA		*Acreage of Test:* 8.0	

Organism: Wheat	*Received:* 02/09/01	*Permit #* 01-040-02N	# 2
Institution: Monsanto	*Status:* Pending	Release Period Begins: 03/08/01	
	Effective: 03/11/01	Release Period Ends: 03/08/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ID, MN, ND, SD		*Acreage of Test:* 4.0	

Organism: Wheat	*Received:* 02/09/01	*Permit #* 01-040-03N	# 3
Institution: Monsanto	*Status:* Pending	Release Period Begins: 03/08/01	
	Effective: 03/11/01	Release Period Ends: 03/08/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ID, MN, ND, SD		*Acreage of Test:* 4.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-15N	# 4
Institution: Monsanto	*Status:* Pending	Release Period Begins: 02/17/01	
	Effective: 02/21/01	Release Period Ends: 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 40.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-10N	# 5
Institution: Monsanto	*Status:* Pending	Release Period Begins: 02/17/01	
	Effective: 02/21/01	Release Period Ends: 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-13N	# 6
Institution: Monsanto	*Status:* Pending	Release Period Begins: 02/17/01	
	Effective: 02/21/01	Release Period Ends: 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-16N	# 7
Institution: Monsanto	*Status:* Pending	*Release Period Begins:* 02/17/01	
	Effective: 02/21/01	*Release Period Ends:* 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-17N	# 8
Institution: Monsanto	*Status:* Pending	*Release Period Begins:* 02/17/01	
	Effective: 02/21/01	*Release Period Ends:* 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): ND		*Acreage of Test:* 15.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-18N	# 9
Institution: Monsanto	*Status:* Pending	*Release Period Begins:* 02/17/01	
	Effective: 02/21/01	*Release Period Ends:* 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): ND		*Acreage of Test:* 15.0	

Organism: Wheat	*Received:* 01/22/01	*Permit #* 01-022-11N	# 10
Institution: Monsanto	*Status:* Pending	*Release Period Begins:* 02/17/01	
	Effective: 02/21/01	*Release Period Ends:* 02/17/02	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): ND		*Acreage of Test:* 20.0	

Organism: Wheat	*Received:* 01/16/01	*Permit #* 01-016-30N	# 11
Institution: Monsanto	*Status:* Pending	*Release Period Begins:* 02/10/01	
	Effective: 02/15/01	*Release Period Ends:* 02/10/02	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 03/02/00	*Permit #* 00-062-03N	# 12
Institution: Monsanto	*Status:* Acknowledged	*Release Period Begins:* 03/31/00	
	Effective: 04/01/00	*Release Period Ends:* 03/31/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): MN, ND, WA		*Acreage of Test:* 20.0	

Organism: Wheat	*Received:* 02/28/00	*Permit #* 00-059-01N	# 13
Institution: Monsanto	*Status:* Acknowledged	*Release Period Begins:* 02/24/00	
	Effective: 03/29/00	*Release Period Ends:* 02/23/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	*Environmental Assessments Not Required For Notifications*	
Release Location(s): ND		*Acreage of Test:* 10.0	

Organism: Wheat	*Received:* 02/28/00	*Permit #* 00-059-02N	# 14
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/24/00	
	Effective: 03/29/00	Release Period Ends: 02/23/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 10.0	

Organism: Wheat	*Received:* 02/23/00	*Permit #* 00-054-03N	# 15
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/22/00	
	Effective: 03/24/00	Release Period Ends: 02/21/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 10.0	

Organism: Wheat	*Received:* 02/23/00	*Permit #* 00-054-04N	# 16
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/22/00	
	Effective: 03/24/00	Release Period Ends: 02/21/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 02/23/00	*Permit #* 00-054-06N	# 17
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/22/00	
	Effective: 03/24/00	Release Period Ends: 02/21/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 15.0	

Organism: Wheat	*Received:* 02/22/00	*Permit #* 00-053-11N	# 18
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/16/00	
	Effective: 03/23/00	Release Period Ends: 03/15/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 02/09/00	*Permit #* 00-040-12N	# 19
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/08/00	
	Effective: 03/10/00	Release Period Ends: 02/07/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	*Received:* 02/09/00	*Permit #* 00-040-11N	# 20
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/08/00	
	Effective: 03/10/00	Release Period Ends: 02/07/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		*Acreage of Test:* 5.0	

Organism: Wheat	Received: 02/07/00	Permit # 00-038-19N	# 21
Institution: Monsanto	Status: Acknowledged	Release Period Begins: 02/04/00	
	Effective: 03/08/00	Release Period Ends: 02/03/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	Phenotype(s): HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): MT, ND		Acreage of Test: 6.0	

Organism: Wheat	Received: 02/07/00	Permit # 00-038-20N	# 22
Institution: Monsanto	Status: Acknowledged	Release Period Begins: 02/04/00	
	Effective: 03/08/00	Release Period Ends: 02/03/01	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	Phenotype(s): HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND		Acreage of Test: 3.0	

Organism: Wheat	Received: 03/03/99	Permit # 99-064-18N	# 23
Institution: Monsanto	Status: Acknowledged	Release Period Begins: 04/01/99	
	Effective: 04/04/99	Release Period Ends: 03/31/00	
Gene(s): CBI - Donor: CBI	Phenotype(s): HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND, SD, WA		Acreage of Test: 15.0	

Organism: Wheat	Received: 03/05/99	Permit # 99-064-18N	# 24
Institution: Monsanto	Status: Acknowledged	Release Period Begins: 03/31/99	
	Effective: 04/04/99	Release Period Ends: 03/30/00	
Gene(s): CBI - Donor: CBI	Phenotype(s): HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ND, SD, WA		Acreage of Test: 15.0	

Organism: Wheat	Received: 02/25/99	Permit # 99-056-10N	# 25
Institution: Monsanto	Status: Acknowledged	Release Period Begins: 03/25/99	
	Effective: 03/27/99	Release Period Ends: 03/24/00	
Gene(s): CBI - Donor: CBI	Phenotype(s): HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): MN, MT, ND, OR, SD, WA		Acreage of Test: 50.0	

30 records; 1 second to retrieve.

Next 5

Begin New Search

Questions? Problems? E-mail rsb@vt.edu

Special Requests

Back to Main Menu

Results of Search for Notifications in the Field Test Releases Database for the U.S.

[redacted]ck to Main Menu Background

174 records were found for Organism = Wheat ; of those, 30 records were found for Location = ND .

Previous 25

*(Empty fields indicate no data provided; CBI = Confidential Business Information; * in Gene field = Selectable Marker)*

Organism: Wheat	*Received:* 02/17/99	*Permit #* 99-048-16N	# 26
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 03/16/99	
	Effective: 03/19/99	Release Period Ends: 03/15/00	
Gene(s): CBI - Donor: CBI	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): ID, MT, ND, OR		*Acreage of Test:* 14.0	

Organism: Wheat	*Received:* 02/08/99	*Permit #* 99-039-13N	# 27
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 03/07/99	
	Effective: 03/10/99	Release Period Ends: 03/06/00	
Gene(s): CBI - Donor: CBI	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): CO, ID, MT, ND, SD, WA		*Acreage of Test:* 32.0	

Organism: Wheat	*Received:* 02/08/99	*Permit #* 99-039-16N	# 28
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 03/07/99	
	Effective: 03/10/99	Release Period Ends: 03/06/00	
[redacted]ne(s): CBI - Donor: CBI	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): CO, ID, MT, ND, SD, WA		*Acreage of Test:* 24.0	

Organism: Wheat	*Received:* 02/04/98	*Permit #* 98-035-02N	# 29
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 03/05/98	
	Effective: 03/06/98	Release Period Ends: 03/05/99	
Gene(s): EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): CO, MT, ND, WA		*Acreage of Test:* 12.0	

Organism: Wheat	*Received:* 01/30/98	*Permit #* 98-030-05N	# 30
Institution: Monsanto	*Status:* Acknowledged	Release Period Begins: 02/28/98	
	Effective: 03/01/98	Release Period Ends: 02/28/99	
Gene(s): 1.) CBI - Donor: CBI 2.) EPSPS - Donor: Agrobacterium	*Phenotype(s):* HT - Glyphosate tolerant	Environmental Assessments Not Required For Notifications	
Release Location(s): CO, MN, MT, ND, WA		*Acreage of Test:* 15.0	

30 records; 1 second to retrieve

Previous 25

Begin New Search

[redacted]estions? Problems? E-mail usbl@vt.edu

Special Requests

Back to Main Menu

Ellen

From: dforsyth@uswheat.org
Sent: Friday, February 02, 2001 11:58 AM
To: Tuck, Cheryl; mboswell@kswheat.com; Ellen Huber; judi.williams@wheat.state.ok.us; lxwheat@arn.net; csumpter@uswest.net; cfrasher@wwcspokane.com; shelley.thompson@wheat.state.ok.us; mewagner@midco.net
Subject: Reuters: European buyers warn U.S. over gene wheat plans

----- Forwarded by Dawn Forsythe/DC/USWheat on 02/02/01 01:17 PM -----

Dawn Forsythe
02/02/01 12:53 PM

To: USW Staff, State Administrators, USW Board Members
cc:
Subject: Reuters: European buyers warn U.S. over gene wheat plans

European buyers warn U.S. over gene wheat plans

Greg Frost

02/02/01 PARIS, Feb 2 (Reuters) - European buyers of U.S. spring wheat said on Friday there was no market for genetically modified (GM) wheat in Europe and warned they would take their business elsewhere if U.S. farmers began planting such crops.

"We will never be in the market for it," said Kjetil Gran Bergsholm, a trader at Norwegian importer Stakorn.

He said Norway bought 30,000-40,000 tonnes of high-quality wheat each year, and he chose between supplies from the United States, Canada and Kazakhstan based on price.

"We have to listen to our customers, and they don't want GM wheat. If the U.S. goes ahead with this, we'd have to turn to Canada and Kazakhstan to get those supplies," he said.

St. Louis, Missouri-based Monsanto Co (MON.N) said last month it was moving ahead with the world's first GM wheat product despite concerns about scientific tinkering with food grains.

Monsanto said it is developing a Roundup Ready variety of dark northern spring wheat, which it hopes to commercialise between 2003 and 2005. The wheat, modified to resist the company's Roundup herbicide, is designed to boost yields.

While Norway only buys a few thousand tonnes of U.S. dark northern

spring wheat each year, Europe represents a key market for the grain.

According to USDA statistics, U.S. exports of dark northern spring wheat to the European Union and other western European countries totalled more than 1.1 million tonnes in 1999/2000 -- nearly a fifth of all U.S. dark northern spring wheat exports that year.

NOT READY

Fearing the loss of possible markets in Europe and elsewhere, the U.S. wheat industry has reached an agreement with Monsanto that calls for a panel to review a so-called identity preservation system the company is developing that would segregate GM wheat from non-GM wheat.

The industry has also given Monsanto a list of 17 key wheat importers and has asked it to work to gain customer acceptance for the wheat in those markets.

It was not immediately clear, however, whether Monsanto would be able to convince consumers in Europe -- a hotbed of opposition to bio-engineered crops -- of the benefit of wheat that is modified to resist a weed-killing chemical.

''Our customers -- supermarkets, bakeries and the like -- they're not ready for it,'' a purchaser at a large northern European miller said, noting European shoppers were increasingly aware of what went into the products they buy.

''It could mean that we would completely stop importing from that region if they could not guarantee that it is not genetically modified,'' he added.

Alexander Waugh, director-general of British and Irish millers' association NABIM, said his group was scheduled to meet Monsanto in the coming weeks to discuss its GM wheat proposal, among other issues.

''The reality is that for the time being, our customers in Europe don't really want anything genetically modified, and it's difficult to see that changing in the near future,'' Waugh said.

''UK millers have regularly pressed Monsanto that for genetically modified crops to have any marketing potential, they have to offer consumers a benefit,'' he said.

''Personally, I don't think Roundup Ready offers a lot to consumers.''

Ellen

From: dforsyth@uswheat.org
Sent: Thursday, January 25, 2001 7:41 AM
To: USW_Board_Members@uswheat.org; State_Administrators@uswheat.org; spangler@uswheat.org; msbruer@info-link.net; dhanavan@uswest.net; Duane Grant; elawless@fnbwellington.com; ryanfarm@ix.netcom.com; Tuck, Cheryl; mboswell@kswheat.com; Ellen Huber; judi.williams@wheat.state.ok.us; txwheat@arn.net; csumpter@uswest.net; cfrasher@wwcspokane.com; shelley.thompson@wheat.state.ok.us; mewagner@midco.net
Subject: UK customer asks US wheat industry for assurances on gm wheat


pir01150.pcx

Please see message below, sent by our Europe office to Monsanto. Vince received a strongly worded request from Rank Hovis, one of the most important wheat customers in the UK, to convey Rank Hovis letter to "US wheat suppliers." We will keep you advised on the situation.
Dawn
----- Forwarded by Dawn Forsythe/DC/USWheat on 01/25/01 08:49 AM -----

----- Forwarded by Vincent Peterson/RTM/USWheat on 01/25/01 12:51 PM -----

Vincent Peterson
01/25/01 12:50 PM

To: john.w.redd@monsanto.com
cc:
bcc:
Subject: GM Wheat - Response to EU Market Concerns

Mr. John W. Redd
Roundup Ready Wheat
Commercial Lead
Monsanto, St. Louis

Dear John,

You may recall that we had the opportunity to become acquainted at your Roundup Ready Wheat industry update session that you held in Fargo, ND last July.

As I am certain that you and the Monsanto Wheat Team are aware, the recent article, "Monsanto to Launch the First GM Loaf", written by Mr. Steve Connor, Science Editor, The Independent (London newspaper) on 15 January 2001 (copy follows at end) has raised the GM wheat commercialization discussion to a new level here in Europe.

Last November and December, U.S. Wheat Associates (USW) conducted a series of 10 "Crop Quality Seminars" in Western Europe. In these annual sessions, we present up to date quality, supply/demand, and price information on the new crop U.S. Hard Red Spring and Durum wheats (the two U.S. wheat classes marketed in the EU) to approximately 400 U.S. wheat import and processing customers. Included in our presentations this year, was an update on the progress of GM (Roundup Ready) spring wheat development in the US and Canada (largely based on the information that Monsanto provided during your Fargo informational session). The discussion also referenced the following Bridge News article and statement from Monsanto President Verfaille,

Pages missing

scale and strictly controlled trial plots, the work seems to be at an advanced stage, particularly in the region growing Spring Wheat in the United States.

Please find attached a copy of an article from The Independent, dated [redacted]onday 15.01.01. As you can see this has had a very strong consumer [redacted]act, given that it refers to bread , rather than just scientific [redacted]gross.

So that you are completely clear on Rank Hovis' policy towards GM wheat, we do not want any level of such grain in our supplies form you. To date we have been able to say to our customers that GM wheat has not yet been brought to the market. This now needs to be backed up with preventative actions.

Please advise us of what steps you have taken to ensure that GM wheat is prevented from entering or co-mingling with wheat in entire Spring Wheat supply chain. You should treat this issue with the utmost gravity and priority, given that the alarm generated by even the perception that Spring Wheat may contain GM traits, could be enough to jeopardize the entire export program to the EU. Given the media attention on this topic, please let us have your response by Friday 26th January 2001.

Yours sincerely,

...
Commercial Manager
Rank Hovis
High Wycombe, England

Unquote.
****

[redacted]n, my questions to you at this time are:

[redacted]Would Monsanto be in a position to further comment about the commercialization process for Roundup Ready Wheat in North America - and in particular - with specific regards to what appears to be Monsanto President Verfaille's November, 2000 policy statement that, in effect, no new GM products would be commercialized by Monsanto, until their approval in both Japan and the EU?

2. Does this essentially place Roundup Ready wheat "on hold", or is the commercialization process actually moving forward on schedule (with targeted seed sales for the 2003 crop year) "in anticipation" of these eventual approvals?

3. Can you provide our customer with any further details of your commercialization plans that will ensure and guarantee that this customer can continue to receive non-GM spring wheat from the U.S. if that is their choice?

As an additional comment, even the eventual regulatory approval for the imports and use of these new GM products, especially here in the EU, does not guarantee immediate consumer acceptance. It is important to read carefully what our customer is saying in their message: "...we do not want any level of such grain (GMO) in our supplies from you." They did not say that they would accept GM wheat within some 'tolerance' or 'margin of error' - they clearly do not want any GMO admixtures in U.S. wheat shipments. Should EU consumer rejection of these products continue - even [redacted]it is illogical and without scientific basis - we may well find that [redacted]e is no defacto market in the EU for these products.

For your information, in the current marketing year, approximately 15

such as tortilla chips.

Monsanto said that the technology it had developed for wheat - a genetically complex plant - is more or less complete and that it is now awaiting the necessary regulatory approval from authorities in the US so that American farmers can begin to grow their first GM wheat crop as early as 2003.

"Trials are taking place in North and South Dakota, Montana and Minnesota," said Mark Buckingham, a spokesman for Monsanto's headquarters in St Louis, Missouri. "We're working with existing US wheat breeders, particularly the universities in those states.

"We need a certain number of trials to achieve registration from the US Department of Agriculture and the Environmental Protection Agency," Mr Buckingham said. "We are looking at yield, disease susceptibility and weed control. We are also looking at environmental impact, which is an important part of getting registration."

In addition to the Department of Agriculture and the EPA, the US Food and Drug Administration is following the farm trials closely, sensitive to the potential ramifications of any problems that might arise in a crop used for making a staple food item.

"It is one of the reasons why the wheat industry is being very careful of this technology," said a senior official in the US Department of Agriculture.

The first GM wheat will be a spring-sown variety engineered to include a gene for conferring resistance to Monsanto's Roundup weedkiller. It hopes to sell the wheat alongside the herbicide so that farmers can control weeds more efficiently.

Mr Buckingham said Monsanto would initially market the wheat in America and last month applied for the first part of the necessary product registration. Attempts to sell the wheat in Europe could, however, be blocked by European demands for GM products to be clearly labelled, which the US Government is opposing.

American wheat exporters might find it difficult to convince Europe that its cereal crop is "GM free" if a GM wheat variety is widely grown on American soil.

Mr Buckingham said that Monsanto was setting up a plan where wheat growers in America could ensure that the grain harvested from GM varieties was kept separate from conventional breeds. "Our proposal is to launch it initially with a controlled marketing programme, with some form of traceability in place to ensure that buyers who express a preference for a minimum GM content can get that," he said.

However, similar plans to keep GM maize separate from conventionally bred maize have failed. Environmentalists demonstrated last year that a GM variety called StarLink, which was supposed to be used only for animal feed, ended up in tortilla chips sold in American supermarkets.

(Embedded image moved to file: pic01150.pcx)

1338

Dakota Resource Council
P.O. Box 1715
Bismarck, ND 58502
(701) 224-8587

To: Senate Agriculture Committee
Fr: Scott Fry, Dakota Resource Council
Date: 3/29/01

Senate Agriculture Committee Members;

The following memorandum explains how the interstate commerce clause in the U.S. Constitution operates and how it has been dealt with in the past in court cases. The basics of the memos states that the interstate commerce clause is a dormant clause in the Constitution that is only enforced when a state tries to protect an already existing industry in the state from out of state industry of a similar fashion.

It states that the GM Wheat Restriction would not violate the interstate commerce clause, because it restricts both in-state and out of state industries equally. It does not favor one over the other.

Dakota Resource Council gathered this information through the help of Sarah Vogel, of Wheeler Wolf Law Firm, and David Moeller, of Farmers Legal Action Group. The interstate commerce clause has been thrown like a gauntlet several times this legislative session. We thought we would do our best to educate ourselves and others as best we possibly can concerning this extortionist tactic being used by big corporations to scare North Dakota from acting in its best interest.

Sincerely,

Scott Fry

Scott Fry
Dakota Resource Council
By: Scott Fry

WHEELER WOLF
ATTORNEYS

Albert A. Wolf
Jack McDonald
Gregory C. Larson
Steven L. Latham
Sarah Vogel

Todd A. Schwarz
Courtney Koebele
Anthony J. Weiler
Damian J. Huettl
Andrew F. Nilles

Legal Assistants
Dianne M. Taix, CLAS
Char J. Jacober, CLA

220 North Fourth Street • P.O. Box 2056 • Bismarck, ND 58502-2056 • (701) 223-5300 • Fax (701) 223-5366

March 28, 2001

Scott Fry
Dakota Resource Council
P.O. Box 1715
Bismarck, ND 58502

RE: GMO Wheat; H.B. 1338

Dear Scott:

The attached two-page memorandum was faxed to my office at about 6:30 p.m. on Wednesday night with a cover note that indicates that the Farmers' Legal Action Group's e-mail was apparently malfunctioning.

Since I am on FLAG's Board, (and FLAG believes that I know everyone in North Dakota!) they sent it to me to forward it to Todd Leake. I believe that you are in contact with Todd and will see that it reaches the correct person(s) and committee(s). Thank you.

For your information, David is one of the staff lawyers at FLAG. I have worked with him on several matters and found him to be very bright and very able. I looked over the memorandum, and it appears to be up to the usual high standard of the FLAG lawyers.

Let me know if I may be of further assistance. If you have any questions of David, FLAG's phone number, fax, web site, etc. are listed on the cover memorandum to me.

Sincerely,

Sarah Vogel

Wheeler Wolf Law Firm
By: Sarah Vogel

FLAG

FARMERS' LEGAL ACTION GROUP, INCORPORATED

46 East Fourth Street Suite 1301
Saint Paul, Minnesota 55101

Phone: 651.223.5400
Fax: 651.223.5335

Internet:
lawyers@flaginc.org

Web site:
www.flaginc.org

To: Sarah Vogel

Company:

Fax Number:

Date: 3/28/10

From: David Moeller
Fax Number: 651-223-5335

# of Pages: 3
(Including cover)

Subject:

Message:

Sarah,
I'm not sure if FLAG's email is working. Could you be sure Todd Leake gets a copy of this. Thanks,
Dave

FLAG File #:

Original:

- [ ] Sent by regular mail
- [ ] Sent by overnight delivery
- [x] Sent by email
- [ ] Not sent

Dormant Commerce Clause and GMO Wheat Bill -1338

The U.S. Constitution requires that "The Congress shall have power...To regulate commerce...among the several states." U.S. Const. Art. I, § 8, cl. 3. The dormant portion of this clause "...prohibits economic protectionism—that is, regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors." *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 273-74 (1988). Dormant clause cases usually entail a two step approach. First, whether the acts are discriminatory or have extraterritorial reach, in which case they are generally per-se invalid. Second, if the acts are not discriminatory or extraterritorial, then the acts must not impose burdens upon interstate commerce which outweigh the putative local benefits. If the acts survive these two tests, they do not offend the "dormant" commerce clause.

The GMO Wheat Bill impose similar restrictions upon out-of-state and in-state seed suppliers. "[I]f the law in question overtly discriminates against interstate commerce, then we will strike the law unless the state or locality can demonstrate 'under rigorous scrutiny that it has no other means to advance a legitimate local interest.'" *U & I Sanitation v. City of Columbus*, 205 F.3d 1063, 1067 (8th Cir. 2000) (quoting *C & A Carbone, Inc. v. Town of Clarkson*, 511 U.S. 383 (1994)). The legitimate local interest is of course protecting North Dakota wheat farmers from environmental contamination and economic harms that could occur if GMO wheat is introduced by Monsanto and other seed suppliers. There is probably no patent evidence of an attempt to protect in-state seed suppliers to the detriment of out-of-state seed suppliers in this legislation. It appears that this legislation is not overtly discriminatory. The bill does not appear to be per-se discriminatory.

Next, the GMO Wheat Bill must not control conduct of parties who are beyond North Dakota's boundaries. "Under the Commerce Clause, a state regulation is per-se invalid when it has 'extraterritorial reach,' that is, when the statute has the practical effect of controlling conduct beyond the boundaries of the state." *Cotto Waxo Co. v. Williams*, 46 F.3d 790, 793 (8th Cir. 1995). The GMO Wheat Bill only applies to wheat grown and harvested in North Dakota.

Even if the bill is not found to have extraterritorial reach, it must be subjected to scrutiny under the "balancing test." "If each act 'regulates even handedly to effectuate a legitimate local public interest, and its effects on interest commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.'" *United Waste Systems of Iowa, Inc. v. Wilson*, 189 F.3d 762, 767-68 (8th Cir. 1999) (quoting *Pike v. Bruce Church*, 397 U.S. 137, 142 (1970)). A challenging party would have a difficult time proving that an actual burden exists upon it which outweighs any putative local benefits to North Dakota wheat producers, under the *Pike* "balancing test." While Monsanto and seed suppliers would be restricted from selling Roundup Ready and other types of GMO seed, they would not be barred from selling nonGMO wheat seed. Furthermore, seed suppliers would have to show actual burdens, not projected or imagined burdens. It is likely that the putative benefits put forward on behalf of the GMO Wheat Bill proponents would appear to

render incidental, and not excessive, any burdens upon interstate commerce imposed by the legislation. Putative benefits could include being able to freely market North Dakota wheat foreign markets that are growing more protective, ensuring organic and other identity preserve wheat fields meet required certifications, and that North Dakota wheat is free of any potential health and safety impacts until further study has been completed. Although not clearly adopted by the Eighth Circuit, putative benefits, rather than actual benefits, are the only required showing by a statute's proponents in other federal circuits. See *K-S Pharmacies v. American Home Products*, 962 f.2d 728, 731 (7th Cir. 1992); *Eastern Ky. Resources v. Fiscal Ct. of Magoffin*, 127 F.3d 532 (6th Cir. 1997).

Courts would also analyze if the goal of the state statute is motivated to protect bona fide safety or health concerns. Under the Supreme Court's holding in *Dean Milk Co. v. City of Madison*, 340 U.S. 349 (1951) even if a barrier to out-of-state goods is motivated by *bona fide* safety or health concerns it will be struck down on Commerce Clause grounds if reasonable non-discriminatory alternatives are available. However, these alternatives must truly be "available" in the sense that the alternative already exists meaning North Dakota would not be required to go out and discover an alternative. *Maine v. Taylor*, 477 U.S. 131 (1986). In *Maine v. Taylor*, the state of Maine imposed a total ban on the importation of live bait fish. The state supported its ban on health-safety grounds, principally that its own population of wild fish would be placed at risk by certain parasites prevalent in out-of-state bait fish but not common to Maine's own wild fish. A fish importer attacked the statute on two grounds: (1) Maine was the **only state** to bar importation of all live bait fish; and (2) the state used sampling and inspection techniques in order to guard against a similar threat in the case of importation of other fresh water fish, rather than placing an outright ban on the fish, so there was no reason why it could not do the same for bait fish. The Supreme Court **upheld** Maine's statute. The Supreme Court pointed out that procedures for testing and inspecting live bait fish did not currently exist, however easy they might have been to develop. Likewise, for North Dakota wheat growers, segregation methods for GMO wheat may be developed in the future, but under the current grain handling system, as shown by the StarLink™ corn example, it is next to impossible to segregate GMO commodities from nonGMO commodities and that the least discriminatory and perhaps only method to ensure the health and safety of North Dakota wheat is to enact a temporary moratorium until further study is completed.

In summary, the GMO Wheat Bill would likely survive a "dormant" commerce clause challenge.

Table of Contents

Facsimile Transmission

RANK HOVIS
THE MILLERS

To :	Todd Leak
At :	ALBERTA RESOURCE COUNCIL
Fax № :	~~+1 701 483 2854~~ +1 701 224 0198 +1 701 258 3161
From :	Julian Watson
Date :	07/03/01
№ Of Pages (Inc. This Page) :	1

If you do not receive all pages, or any parts of the transmission are illegible, please call High Wycombe (01494) 428000 and ask for the person named in "From" above.

Dear Todd

GM WHEAT DEVELOPMENT

We discussed briefly the above topic yesterday. Below is an exerpt of a letter that I have written to our Spring Wheat suppliers. I hope this leaves you clear on our views, and helps you raise the profile of the issue within North Dakopta. Please do not hesitate to contact if I can help you further.

"So that you are completely clear on Rank Hovis' policy towards GM wheat, we do not want any level of such grain in our supplies from you. To date we have been able to say to our customers that GM wheat has not yet been brought to the market. This now needs to be backed up with preventative actions.

Please advise us of what steps you have taken to ensure that GM wheat is prevented from entering or co-mingling with wheat in the entire Spring Wheat supply chain. You should treat this issue with the utmost gravity and priority, given that the alarm generated by even the perception that Spring Wheat may contain GM traits, could be enough to jeopardise the entire export programme to the EU".

Yours sincerely,

Julian Watson
Commercial Manager

RANK HOVIS LIMITED
The Lord Rank Centre, Lincoln Road, High Wycombe, Buckinghamshire HP12 3QS
Telephone (01494) 428000 • Main Facsimile (01494) 428128
Direct Telephone (01494) 428334 • Wheat Dept. Facsimile (01494) 428333

Jan 31 2001 09 59PM

This report has not the pretension to be scientific. Rather, we will try to give you our opinion as a marketer of Hard Red Spring Wheat for many years.

Over the last few years, Europe accounted for about 16-17 percent of the US Hard Red Spring Wheat exports.

US SPRING WHEAT EXPORTS (TONS)

	98/99	99/00	00/01 Forecast
Total	6,501,000	5,589,000	7,000,000
To EU	1,088,000	960,000	1,150,000
To Japan	1,349,000	1,327,000	1,400,000

European importers/traders of US wheat had to face stiff competition from high quality German, French, and/or Canadian wheat.

HRS wheat managed to retain its market share (despite a price disadvantage) only due to the traditional reputation for real good quality wheat, and due to mayor efforts of US farmers, exporters and importers to take care of high standards in order to provide even better quality as contractually foreseen.

For more than two years, all our contracts already stipulate, as most European millers requested, "non genetically modified wheat".

European millers use HRS wheat for blending purposes in their most luxurious flour. It is the miller who decides the composition of his mix. The final consumer is not always aware of the presence of US wheat in the luxurious bakery products he is consuming. The consumer is asking only for the best (safest) value for money. Food quality is a growing concern among the consumers over here and, as usual, the politicians are following suit.

Environmentalists and media report daily on these items. Currently in Europe, genetically modified organisms are classified under one name with BSE/MBM/Dioxine/PCB/Frankenstein food etc ...

In our opinion, it is unacceptable that a fine commodity is genetically modified just for the purpose of making it herbicide resistant; this does not offer a single advantage to the world.

Monsanto's marketing research of 1,000 consumers is a joke. We have the impression they put forward a question for a desired answer. We propose another question: "What do you fear most, growing fat or mad". We believe to know the answer and anybody with a deviant opinion is already suffering from that disease.

With competitive high quality wheat of non-GMO origin (French/German/Canadian) available at a normal price we are absolutely convinced the European miller will abandon GMO HRS wheat. GMO wheat for sure will be a market destructor.

AN ADD IN A PAPER ...

TRY OUR NEW HAMBURGER (special made out of hormone treated cows fed with GMO-beans)
ON OUR DELICIOUS SANDWICH (from luxurious GMO-wheat)

... IS SPOILED MONEY.
Regards,

Jef Smudts
ANDRE & CIE ANTWERP

Democratic People's Republic of Algeria
Ministry of Agriculture

Explanatory Note

The objective of this draft Ministerial Order is to prohibit the import, the distribution, the commercialisation and the utilization of genetically modified plant material.

The Ministerial Order will be enacted to apply the Article 13 of the law no. 87-17 from August 1, 1987, with regard to phytosanitary protection and conservation: 1 Ð to avoid all risks of genetic erosion of the plant genetic heritage (seeds and plants) linked to the effects of geneflow associated with the use of genetically modified plant material; 2 Ð to bring together the technical preliminary conditions for natural agricultural production (organic agriculture).

The restrictive character of this measure is founded on the provisions of several international Treaties and Protocols regulating the international trade with agricultural commodities: 1 Ð The Cartagena Protocol adopted in Montreal in January 2000 and authorising States to accept or refuse the utilization of Genetically Modified Organisms on the basis of applying the precautionary principle; 2 Ð The International UN Conference on GMOs (Montpellier, December 2000) which decisions and conclusions are consistent with the spirit of the Cartagena Protocol; 3 - The SPS Agreements,in particular with regard to phytosanitary measures and which decision criteria have to follow the obligation to provide sufficient and verifiable scientific evidence with the assessment of risks and harmlessness of the plant material.

It is necessary to state, besides, that this prohibition shall not cause any disturbance of the developmental activities of the sector, pledged to date.

Sources: DPI/CT
Date: December 2000
2000 December 20

[signature]

Democratic People's Republic of Algeria
Ministry of Agriculture

Order no. ... of December 24, 2000 in accordance with ... prohibiting the import, the distribution, the commercialisation and the utilization of genetically modified plant material

The Minister of Agriculture,
- Recognizing the law no. 87-17 of August 1, 1987, with regard to phytosanitary protection in particular is articles 13 and 21; - Recognizing the presidential decree no. 2000-257 of El Oula 26, 1421, corresponding to August 26, 2000, on the nomination of the members of Government; - Recognizing the executive decree no. 90-12 of Ethania 4, 1410, corresponding to January 1, 1990, modified and completed, laying down the competence of the Ministry of Agriculture; - Recognizing the executive decree no. 98-284 of Ethania 9, 1414, corresponding to November 23, 1993, laying down the seed and plant regulations. Order

Article 1: The import, the distribution, the commercialisation and the utilization of plant material resulting from the artificial transfer of a gene coming from another organism of a different species, e.g. a bacterial gene, is prohibited.

Article 2: With reference to law no. 87-17 of August 1, 1987, plant material means living plants or living parts of plants including eyes tendrils, crowns, tubers, rhizomes, cuttings, shoots, and seeds intended for multiplication or reproduction.

Article 3: The provisions of above Article 1 notwithstanding scientific institutions and research bodies, for reasons of analysis and research and after application, may be authorised by the Phytosanitary Authority represented by the Division of Plant Protection and Technical Controls of the Ministry of Agriculture to introduce, maintain, transport and use, under conditions defined in advance, genetically modified plant material.

Article 4: The application for import under the preceding article shall include: - the name, surname and institution name of the applicant - the nature of the plant material to be introduced - the goal, the location, the conditions and the duration of the work or the utilization.

Article 5: The director of the Division of Plant Protection and Technical Controls of the Ministry of Agriculture is responsible for the execution of this law which will be published in the Official Journal of the Democratic People's Republic of Algeria.

Alger, the ...

In accordance with ...

The Minister of Agriculture

[signature]

Thursday February 22, 12:36 pm Eastern Time
Japanese millers state opposition to GM wheat-group
WASHINGTON, Feb 22 (Reuters) - Japanese flour millers say that efforts by Monsanto Co. (NYSE:MON - news) to bring a genetically modified (GM) wheat to market could lead Japan to stop buying U.S. wheat, the U.S. Wheat Associates trade group said on Thursday.

Board members of the Japan Flour Millers Association (JFMA) adopted a position statement at their monthly meeting held on Wednesday that outlined their concerns about GM wheat, according to a report sent by the Wheat Associates' country director in Japan to the group's Washington headquarters.

"Japanese consumers are highly suspicious and skeptical about safety of GM farm products, which may be hazardous to human health and environment," the JFMA statement said.

"Under the circumstances, flour millers strongly doubt that any bakery, noodle and confectionary products made of GM wheat or even conventional wheat that may contain GM wheat will be accepted in the Japanese market," it said "The flour milling industry will not use any raw ingredients that will be unacceptable to consumers," it said.

The JFMA is comprised of 36 large flour millers who have more than 90 percent of the total wheat market share in Japan

U.S. Wheat spokesperson Dawn Forsythe told Reuters that the JFMA statement did not bode well for wheat growers in the U.S.

"They are saying no tolerance, they're saying we don't want it," she said.

According to U.S. Wheat Associates, about 1.4 million tonnes of U.S. wheat will be shipped to Japan in the current marketing year, which ends May 31. At its regular weekly buying tender on Thursday, Japan bought 85,000 tonnes of U.S. wheat and 40,000 tonnes of Canadian wheat

Monsanto, a leading agricultural biotech firm based in St. Louis, Mo., plans to introduce the world's first biotech wheat between 2003-2005 in the form of a "Roundup Ready" spring wheat. The GM wheat will be herbicide tolerant.

Monsanto has been working to allay concerns about the GM wheat, and is trying to work with the U.S. wheat industry to gain world acceptance

Many international markets, including key spring wheat importing countries in the European Union, have expressed opposition to the GM wheat, and U.S. growers fear the loss of export business.

Japan has recently been shaken by biotech grain problems, as the discovery of unapproved genetically modified StarLink corn traces in food and animal feed by a Japanese consumer group in late October prompted the country to cut sharply its purchases of U.S. corn.

In Japan, It's Back to Nature

Consumers Add Non-Modified Products to Shopping Carts

By Kathryn Tolbert
Washington Post Foreign Service
Monday, January 24, 2000; Page A08

Related Items

Print Edition
Inside "A" Section
Business
Front Page Articles

On Our Site
Top News/Breaking News
Neighborhoods
Community Resources

TOKYO—Japan, the world's largest food importer, is in the midst of a struggle over how to treat genetically modified foods.

The government has gone along with consumer demands for labels on such products starting next year. This has prompted a rush toward non-genetically modified tofu, beer and soy sauce in local markets, and a jump in import orders for non-genetically modified soybeans and corn from the United States, the source of most of Japan's food.

The action also has generated anger among U.S. business and trade officials. "The Ministry of Agriculture is quite cynically using the GMO [genetically modified organism] issue for internal political reasons," said Dennis Kitch, Japan director of the U.S. Grains Council.

In the five months since the labeling requirement was announced, a major supermarket chain has started identifying its genetically modified products. The Asahi and Kirin Beer companies said they will switch entirely to non-genetically modified ingredients. And Japanese soybean farmers, who do not use any genetically modified seeds, are enjoying a huge demand for their beans--even at three to four times the price of imported American ones.

A Ministry of Agriculture official denied the labeling was intended to protect Japanese farmers. "Unlike Europe, Japan has a very low food self-sufficiency rate," said Kazuhiko Kawamura, deputy director of the ministry's food-labeling division. "For soybeans, it's 3 percent. For corn, almost zero. For Japan it's almost embarrassing and we do need to raise this rate, but it is clear we cannot fulfill domestic demand by ourselves. We are not denying at all GMO products."

In fact, the Japanese government is pouring billions of dollars into developing its own genetically modified food. But there are no plans to market these creations because of the negative public sentiment

surrounding GMOs.

Some consumer groups campaigned against GMO products as unnecessary and not adequately tested for safety.

For now, domestic farmers are getting a boost from the dispute. A group of shopkeepers in the Waseda area of Tokyo, for example, is getting nationwide attention for their My Tofu project. For about $38, a customer contracts with a farmer to grow a plot of non-GMO soybeans. The 50 customers who have signed up will get tofu produced from those beans.

"Japan has a manufacturer-led system, so I'd like to do something to establish a consumer-led structure, something that we can do because we're a small shop," said Junichiro Yasui, a shop owner who is a leader of the project. "Wal-Mart couldn't do this."

"Japanese consumer groups are very strongly wedded to the notion of self-sufficiency, that Japan should be able to produce its own," said Steven Vogel, an assistant professor of political science at the University of California at Berkley. "They're worried about dependence, worried about health and safety issues and basically don't believe foreign agricultural products are as safe as Japanese."

The Ministry of Agriculture said labeling has nothing to do with safety. "It's simply to give consumers a choice," Kawamura said. For now, many consumers seem to be choosing naturally produced food.

Miyoko Miyajima, head of school lunches for Kawagoe City, said she is trying to make the food served to 30,000 students as GMO-free as possible. She said suppliers are asked to provide unaltered food. "We heard that frozen cut potatoes from the United States might be genetically modified, so we asked for domestic potatoes."

According to the Ministry of Agriculture plan, a list of 30 types of food will require labeling if they meet a certain genetically modified content, starting in April 2001.

But some companies aren't waiting. Throughout the Jusco Supermarket in the Nishikasai section of Tokyo, for example, small red labels are attached to food shelves. They state that the product is GMO-free, mostly GMO-free, or that its main ingredients are probably genetically modified.

Customer Kumiko Takeda, 26, who works part time at a bakery, said: "I won't buy genetically modified foods. They're scary." Terue Watabe, 65, had a different reaction: "I'm too busy to notice about those little things."

Some manufactureres are switching to non-genetically modified ingredients--even if it costs more. The import company Marubeni's latest order for soybeans--700,000 tons--is all non-GMO, and will cost 15 percent more. Two years ago, only half the order was for GMO-free beans.

Special correspondent Akiko Yamamoto contributed to this report.

Japanese Choke on American Biofood Sunday, March 14, 1999

SUNDAY REPORT Japanese Choke on American Biofood Genetically altered produce reaps opposition. But moves to label it threaten $11 billion in U.S. sales.

By SONNI EFRON, LA Times Staff Writer TOKYO--The video whirs, and an American food exporter's nightmare rolls across the screen. A potato bug is shown munching on the deep green leaf of a potato plant--genetically engineered in the United States, the narrator says, to produce a toxin that kills Colorado potato bug larvae. The bug falls off the leaf, flailing its legs in the air in what looks like insect agony.

"They say this is safe, but I don't want to eat it. Do you?" asked the filmmaker, Junichi Kowaka, in an interview.

Surveys show that most Japanese do not. In this land where food is considered most delicious when eaten raw or as close to its natural state as possible, genetically manipulated food is seen as synthetic, unwholesome and definitely unappetizing.

To blunt a nascent consumer rebellion, the Japanese government has proposed labeling bioengineered food to give consumers the freedom to reject it. That in turn has alarmed the United States, which fears that the move could threaten its $11-billion annual sales--including about $1.3 billion from California--to Japan, the No. 1 market for U.S. agricultural exports.

Japan is not the only nation gagging at the idea of genetically altered fare. A truly global food fight is underway. The outcome of the regulatory, marketing and public perception battle that has been joined in Japan could have far-reaching effects on what U.S. farmers plant next year, on the skyrocketing U.S.-Japan trade imbalance and on the struggle between biofood promoters and foes for the hearts and palates of consumers around the world.

At issue in the emotional political debate that has erupted worldwide is how much to regulate and whether and how to label genetically modified organisms, known in biospeak as GMOs. These organisms are created when new genes--sometimes from another species--are introduced into a plant or animal to produce "desirable" traits, such as resistance to cold, pests, disease, spoilage or even a particular brand of herbicide.

While U.S. farmers are quickly increasing the acreage planted with GMO seeds--to 40% or more of some crops--there is growing opposition in Europe, Japan and in some Third World countries on environmental, health, philosophical or religious grounds. The European Union has slapped restrictions on genetically modified plants and passed a law requiring GMO foods to be labeled.

Well-organized environmental groups are crusading against what they have branded "Frankenstein food," fanning doubts about the products from Iceland to New Zealand. Anti-GMO protests have been staged in the Philippines, India and Hungary, according to

activists, who are flooding the Internet with virulent attacks on biofoods. In London, where foes dumped bags of bioengineered soybeans onto Downing Street in protest last month, a poll by the Independent newspaper found that 68% of Britons were "worried" about eating GMO food. Only 27% said they were happy to eat it.

Not all countries are hostile to foods altered by gene-splicing: GMO seeds reportedly have received a warm welcome in Russia, China and Argentina. And plenty of consumers have nothing against GMO foods so long as they know what is on the menu. A 1994 poll in Australia, for example, found that 61% were happy to try GMO foods, but 89% wanted them labeled. Australia and New Zealand are now trying to set up a common labeling system. New Zealand Prime Minister Jenny Shipley said earlier this month that consumers have a right to know whether their food contains GMOs.

Nevertheless, a heated battle broke out last month at a U.N.-sponsored conference in Cartagena, Colombia, where delegates from more than 130 countries failed to agree on an international treaty to govern biosafety and trade in GMOs.

The U.S. government warned that the restrictions being debated in Cartagena would paralyze international trade. According to media reports and conference participants, the United States and five other agricultural exporters that opposed labeling GMOs were bitterly accused by the other nations of torpedoing a global environmental pact to safeguard the interests of their farmers and biotech firms.

The debate is by no means limited to food. Genetically modified material is being used in a wide range of products, from textiles to pharmaceuticals.

Food Draws the Most Emotional Response Yet it is food that seems to generate the most emotional response.

Consumer advocates say that people must have the right to know--and thus reject--food that has been subjected to genetic "tampering."

Biotech backers say that requiring such labels is tantamount to branding demonstrably safe food as inedible and would raise food prices for all consumers.

Proponents of bioengineering also say "genetically enhanced" species are essential to generate the crop yields needed to nourish the world's exploding population and to reduce use of herbicides and pesticides. They say the foods have been exhaustively tested and demonstrated to be safe enough to pass muster with the U.S. Food and Drug Administration and the Environmental Protection Agency, as well as international regulators.

Foes assert that long-term studies on the effects of eating GMO foods have been inadequate. They question the environmental risks of developing pest-resistant or chemical-resistant crops, and they fear that bionic organisms could crowd out native species.

A subtext in many countries is suspicion of scientific "miracles," new technologies and imperfect regulators, and the perception that the U.S. biotech industry has been heavy-handed in trying to shove new foods down frightened consumers' throats, said Beth Burrows, president of the nonprofit Edmonds Institute in Edmonds, Wash., who attended the Cartagena conference.

Europeans have been sensitized to food-safety issues by the outbreak of "mad cow" disease. In Japan, the credibility of the Ministry of Health and Welfare was severely damaged by the 1996 revelation that its bureaucrats had knowingly allowed the sale of HIV-tainted blood products--a scandal that broke the same year that the ministry approved the first of 22 GMO crops for human consumption here.

Availability of GMO foods in Japan has not led to acceptance. More than 80% of those questioned in a 1997 government survey said they have "reservations" about such foods, and 92.5% favored mandatory labeling.

Unease is beginning to translate into action. The city of Fujisawa, near Tokyo, has banned all GMO foodstuffs from its school lunches. A tofu maker has begun advertising its product as "recombinant-DNA-soybean free." And a number of powerful food-buying co-ops--which claim nearly 20 million members, or about 1 in every 6 Japanese--are trying to screen out or label GMO foods.

"It seems Americans only care about the quantity of their food, but Japanese are concerned about the quality," filmmaker Kowaka said. "Nobody wants to eat this stuff."

Kowaka is a food-safety activist with the Japan Descendants Fund, a nonprofit group that has succeeded in provoking widespread concern among Japanese consumers about chemical-emitting plastics in food packaging and the use of post-harvest chemicals on food. Last year, a number of ramen makers changed their packaging after Kowaka's group reported that chemicals suspected of disrupting the human endocrine system leached from the plastic bowls when boiling water was poured over the dried noodles.

Kowaka's current video, titled "The Dangers of Recombinant-DNA Food," has sold about 1,000 copies at $130 each and is being shown at lectures and gatherings by consumer, environmental and religious groups, he said.

The Japanese government is countering anti-GMO groups like Kowaka's with a campaign to convince a skeptical Japanese public that genetically altered foods are not only safe but desirable.

In fact, despite its draft proposal for a GMO labeling law, the Japanese government has been actively promoting biotechnology as a vital technology for the coming century and is investing billions to try to turn Japan into a world-class competitor. It is even attempting to genetically engineer strains of rice that will be tastier and hardier than conventional varieties.

The politics of genetically engineered food here have been complicated by the fact that all the GMO foods offered for sale so far have been imported. Japanese companies have not dared introduce gene-spliced foods of their own, and although farmers can legally plant GMO seeds, so far none has chosen to do so, said Kazuhiko Kawamura, who deals with the labeling issue at the Ministry of Agriculture, Forestry and Fisheries.

Foreign food producers complain that Japan's powerful agricultural interests are trying to scare off consumers from GMO foods as part of a campaign to boost domestic agriculture.

"Over the last 30 years, there has been a concerted effort here in Japan to paint imported foods as being dangerous, as being less desirable," said Dennis Kitch, Japan director of the U.S. Grains Council.

The effort has included everything from asserting to Japanese that their intestines are ill designed for digesting Western beef to convincing them that foreign produce is more chemical-laden than home-grown fare. Though false, U.S. officials and industry sources say, such claims have succeeded in instilling alimentary xenophobia.

Kowaka's video is no exception. As the narrator warns that "we Japanese are being used as guinea pigs" for inadequately tested GMO foods, the camera shows unwitting children eating French fries--by suggestion, those made from genetically altered plants that kill potato bugs--at that archetypal American eatery, McDonald's.

"They think all imported food is bad. That gets to be protectionist," said a U.S. government official who argues that GMO labeling should not be used to reinforce unfounded consumer fears.

U.S. Wants Japan to Accept Standards The United States has decided to require labels on genetically altered foods that are nutritionally different from traditional fare, that might contain allergens or that pose religious problems--such as a plant containing a pig gene--if and when any are introduced. Yet it doesn't require labeling of foods whose chemistry is essentially unchanged, solely on the basis of genetic origin. GMO foes in the United States have filed suit in an attempt to reverse that decision, but meanwhile, the U.S. government is lobbying Japan to accept its standards.

"We're asking them not to have a labeling requirement that stokes the fear that these foods are bad without any basis in fact," said a U.S. official, adding that there is no evidence these foods are unsafe.

Kowaka insisted, however, that a potato with an inborn insecticide is no ordinary spud, and should bear a warning label if it cannot be banned altogether.

The Japanese committee studying labeling for the Agriculture Ministry has not yet ruled on the issue or decided what any label would say. The influential American Chamber of

Commerce in Japan warns that GMO labeling "will create new nontariff trade barriers to imports." And while U.S. officials are trying to keep their criticisms scientific and low-key, they also have hinted to Japan that they may protest any mandatory labeling requirement to the World Trade Organization--as they have done over the European Union law.

Japanese consumer advocates are outraged by the American stance.

Setsuko Yasuda, who runs the "No! GMO" campaign for the Consumers Union of Japan, said Americans should not meddle with Japan's right to regulate food safety and quality.

If Americans truly believe in free trade and consumer choice, she said, they should label GMO food for what it is and let international customers make up their own minds.

"But to try to hide information [about product origin] and force-feed people what they don't want to eat . . . is wrong," Yasuda said. "It is American arrogance, and it will provoke anti-American sentiment here. You will lose hearts around the world."

For Japan and the United States, the stakes in the GMO battle are high. Japan absorbs nearly 20% of all U.S. food exports. With the American farm economy ravaged by the Asian economic crisis, the affluent Japanese market is one that farmers and food processors can ill afford to lose, grain lobbyist Kitch said. Japan's decision on labeling will be vital, and not just because of the size of its market; Tokyo's decisions tend to influence regulators in other Asian capitals.

For Japanese, who must import more than half of the calories they consume each day, the increasing prevalence of GMOs in their food supply reinforces a feeling of food vulnerability.

For example, 97% of Japan's soybeans are imported, mostly from the United States, and are turned into tofu, fermented miso, natto and other staples of the Japanese diet. However, 28% of last year's U.S. soybean crop came from GMO seeds, according to the American Soybean Assn. That percentage could double when farmers plant this spring's crop.

"We will have to find non-GMO sources," Yasuda said, adding that if American farmers want Japan's busines[illegible]hey will have to segregate crops.

Trouble is, U.S. farmers often plant GMO and traditional crops in the same field, use the same machinery to harvest and transport them, and pour their grains into container ships that bring a river of food across the Pacific to Japan.

However, DNA testing is so sensitive that it can detect one GMO part per trillion, Kitch said. That means a few stray kernels of GMO corn could "contaminate" bushels. To certify a product GMO-free would require costly testing and segregation at every stage in the processing and distribution chain, he said.

These obstacles have so far prevented Europe from fully implementing its labeling law, industry sources said.

As GMO crops or livestock come to dominate the U.S. market, genetically pristine products will become scarcer and more costly.

No one knows how much more expensive--though some estimate a "GMO-free" label could add 30% or more to the price, and wonder whether Japanese consumers will be willing to pay it.

Japan's draft proposal on labeling does not specify how pure a non-GMO product would have to be. But without a threshold standard, a can of California tomato paste containing a smidgen of cornstarch that might have been made partly from GMO corn could wind up with a warning label--even if the tomatoes are all natural, Kitch said.

Consumer advocate Yasuda and her allies say that imperfect labeling is better than none. And the fewer the "food miles" from farm to dinner table the better, they argue, even if home-grown fare is more costly.

"Now, with globalization, we don't know where our food comes from, how it is produced, and what kind of contaminants it might contain," Yasuda said.

"Does free trade automatically mean that the cheapest food is the best food? We don't think so."

Italians fear GM wheat contamination, Canada says

Updated 8:43 AM ET January 3, 2001

By David Brough ROME, Jan 3 (Reuters) - Canada has told its wheat exporters that Italian buyers are worried over possible contamination of supplies by genetically modified (GM) grain.

A Foreign Ministry website, entitled Canada-Italy Strategic Business Plan 2000-2001, said, "Fears towards possible contamination by Canadian GM-wheat are rapidly spreading and pose a potential threat."

The report on www.infoexport.gc.ca added, "Given the situation in Italy, with (leading farmers' group) Confagricoltura promising consumers to use only GM-free wheat, attention and effort should be directed to this subject."

Authorities need to agree procedures for the segregation of GM from non-GM cargoes as well as labelling.

Canada is an important supplier of high-quality soft and durum wheat to Italy. Canadian durum is used in Italy both for pasta making and for milling into bread, industry sources say.

Canada's major competitors for both soft and durum wheat are the United States, Australia and France, among others, but the fine quality of Canadian produce (reliable grading, cleanliness, low pesticide residues) assures a premium price.

Prompt delivery Canada Western Red Spring wheat was last quoted on the weekly Milan cereals exchange at 450,000-452,000 lire ($221.8-222.7) per tonne, costlier than EU breadmaking wheat at 305,000-323,000 lire ($150.3-159.2) per tonne.

High-quality Australian soft wheat was last quoted on the Milan exchange at 448,000-452,000 lire ($220.8-222.7) per tonne and U.S. Dark Northern Spring was 410,000-412,000 lire ($202-203) per tonne.

ITALIANS SPURN GENE FOODS Italian authorities and farmers are firmly opposed to the use of genetically modified organisms (GMOs) amid concerns over their possible impact on health and the environment.

International life science companies have genetically engineered crops to boost resistance to pests and herbicides and thereby raise yields.

Italian Farm Minister Alfonso Pecoraro Scanio, a member of the Greens, has spearheaded Italy's opposition to GM foods, and the country's main farmers' groups spurn GM produce.

"New issues recently raised by the European Union attempt to regulate the entrance and labelling of GMO products, which will certainly be the main hot topic of the year," the Canadian report said.

Canadian exports of wheat to Italy fell sharply in 1999 due to the bankruptcy of the largest Italian distributor of Canadian wheat, Italgrani.

Canadian durum wheat exports to Italy halved in 1999 to C$47.4 million from C$96.5 million in 1998 and Canadian soft wheat exports to Italy fell to C$40.6 million in 1999 from C$81.2 million a year earlier, official Canadian figures show.

No figures for 2000 were available.

In terms of volume, sales to Italy of Canadian durum fell to 184,940 tonnes in 1999 from 300,876 a year earlier.

"We anticipate a better year in 2000-2001," the report said, without giving projections.

In the agri-food sector, Canadian exporters had good prospects to boost sales to Italy of special wheat varieties, beef (hormone-free), pork, game, pulses, organic and GM-free produce, and pet foods, it said.

MONSANTO GM WHEAT HOT TOPIC AT INDUSTRY GATHERING

By Carey Gillam, Reuters
February 1, 2001

NEW ORLEANS, La., Feb 1 (Reuters) - Plans for introducing genetically modified wheat were being debated by top wheat industry experts on Thursday, as continuing concerns about GM corn contamination had many wheat players skittish of what biotech tinkering might do to wheat exports. From farmers to millers, fear and skepticism over GM wheat was widespread at the 2001 Wheat Industry Conference and Exposition, attended by hundreds of industry representatives. Though many said they thought technology would ultimately be beneficial for wheat producers as well as consumers, plans by Monsanto Co. to bring a GM wheat to market between 2003-2005 were seen by many as the wrong product at the wrong time.

"With five classes of wheat in the U.S., we already can give the customer what he wants," said U.S. Wheat Associates board member Fred Elling, a Montana wheat grower. "Why should we grow something they don't want?" Elling and others said that international reluctance to embrace GM foods will hurt U.S. exports of all wheat if a GM strain is introduced. "We're in favor of biotechnology, but we're already struggling to have our grain exported," said Kansas Association of Wheat Growers president Dean Stoskopf. "There is a lot of concern."

The U.S. has seen U.S. corn exports hit hard by recent contamination of food-grade corn with non-food approved StarLink biotech corn, particularly in sales to top customer Japan. Efforts to segregate the GM corn from non-GM corn failed, resulting in product recalls and angry importers.

With the corn problems still ongoing, earlier this week a Japanese customer expressed strong reservations to the U.S. wheat industry about GM wheat prospects there, adding to a long list of negative comments and concerns that have been recorded from many countries, according to U.S. Wheat Associates, which markets U.S. wheat internationally. But with St. Louis-based Monsanto moving ahead with the world's first GM wheat product, a Roundup Ready variety that will be resistant to herbicide, wheat industry leaders were using this week's gathering to formulate a strategy aimed at easing the introduction.

INDUSTRY ASKS MONSANTO TO WOO IMPORTERS

To that end, the wheat industry has reached an agreement with Monsanto that calls for the establishment of an industry committee that will review an identity preservation system now being developed by Monsanto for GM wheat. The committee will "criticize and provide input" to Monsanto on the IP system,

which should be developed by the end of 2001, said Darrell Hanavan, chairman of the joint biotechnology committee of NAWG and U.S. Wheat Associates. The industry has also given Monsanto a list of 17 key wheat importers and has asked the company to work to gain customer acceptance in those markets, said Hanavan.

"What we hope to avoid is that we have a customer base that won't accept it," he said. "We want it to be a successful introduction." Hanavan said the industry believes it is preferable to introduce a consumer-driven GM wheat product first, in order to build market demand, rather than the producer-demand driven Roundup Ready.

Several companies are in the process of a GM wheat that would directly benefit consumers, including Monsanto, but the Roundup Ready wheat is the nearest to commercialization, and is not likely to be delayed, industry experts said.

That makes many nervous, including those in the milling industry, said North American Millers Association president Betsy Faga. Millers are very worried about the ability to adequately segregate GM from non-GM wheat, and somewhat skeptical about how well an identity preservation system will work. Consumer tolerance and acceptance will be key, Faga said.

For its part, Monsanto officials see the concerns as valid, said spokeswoman Kelly Clauss. The company has committed to not commercializing the GM wheat until it is food- and feed-approved in the United States and in Japan, and it will work hard to gain consumer acceptance of wheat products through educational programs, she said.

Clauss said though some may disagree with Monsanto's strategy, the introduction of the first GM wheat and the industry activities surrounding plans for that introduction are significant for the future. "It is an important step for the wheat industry," Clauss said, "This is an invaluable opportunity. If all these people can come together and bring some consensus around a project like Roundup Ready wheat ... the potential for what that might hold for the future of wheat is great."

FARMERS FOREIGN MARKETS SEND NEGATIVE SIGNALS ABOUT ROUNDUP READY WHEAT

CropChoice.com, USA
February 2, 2001

(February 2, 2001 -- Cropchoice news) -- The concerns are sprouting before Monsanto even introduces its newest batch of biotech-Roundup Ready wheat. They range from outright rejection by foreign markets that don't want it, to contamination of conventional varieties. The Montana and North Dakota legislatures have responded with bills that, if passed, would place a moratorium on the sale and planting of genetically engineered wheat.

"As time goes on we will not necessarily be able to guarantee that conventional varieties can remain free of genetically modified material," said Todd Leake, who grows wheat on 1,300 acres in North Dakota. This could hurt farmers trying to grow conventional wheat for overseas markets that demand a product free of genetic modification.

"A lot of farmers would like to use Roundup Ready wheat because it would cut herbicide costs and be more convenient to spray on our crops and clean up fields," Leake said. "But with the increased technology fees for the seed, losing the right to propagate our own seed and having to purchase every bushel we plant, and especially losing our export markets, the tradeoffs are not in the favor of Roundup Ready wheat with a lot of growers."

However, Roundup Ready wheat won't appear on the market until sometime between 2003 and 2005, said Monsanto spokesman Mark Buckingham. The company hasn't applied yet to the U.S. Department of Agriculture for approval of the product.

Still, export markets are already sending negative signals.

Tsutomu Shigota, senior managing director of the Japan Flour Millers Association, earlier this month told Dow Jones: "Under the circumstances, I strongly doubt that any bakery and noodle products made from genetically modified wheat or even conventional wheat that may contain modified wheat will be accepted in the Japanese market. World wheat supply has been abundant in recent years, and I don't see why we have to deal with modified wheat...I believe the production of modified wheat at this time will be a very risky challenge for U.S. producers."

On Jan. 5, Algeria, which imports large amounts of durum wheat from the United States, announced that it would not import any genetically modified wheat. Egypt and Saudi Arabia are taking a similar tack with respect to wheat.

Italians don't want genetically modified wheat, either. The website, <http://www.infoexport.gc.ca>www.infoexport.gc.ca, recently reported that "given the situation in Italy, with (leading farmers' group) Confagricoltura promising consumers to use only GM-free wheat, attention and effort should be directed to this subject."

To assuage these fears, which Buckingham believes are due in large part to the StarLink corn contamination incident, Monsanto is working with the wheat industry to ensure that its new product doesn't disrupt the market.

"We will not launch Roundup Ready wheat until it has full regulatory approval for food and feed use in the United States and in Japan," he said.

Contamination?

Some farmers are concerned that genetically modified wheat will too easily cross-pollinate with conventional varieties.

"Once the seed stocks are grown out, this accelerates the process of GM crops ending up everywhere," said Leake, who also works with the Farmers Union and the Dakota Resource Council on wheat issues.

However, setting a 4.5 to 5-foot buffer (typical for wheat) between conventional and genetically altered varieties will greatly reduce, but not eliminate, cross pollination, said Norman Ellstrand, a professor of genetics at the University of California at Riverside. Purity, he noted, in this case equals 1 percent contamination.

Most contamination happens during seed processing, planting, harvesting and distribution of the crop, said Jane Rissler, a plant pathologist on staff at the Union of Concerned Scientists in Washington, D.C.

At the seed processing facility, employees might accidentally mix genetically modified and conventional seeds, or incorrectly label bags.

All harvesting equipment, trucks, and silos must be kept clean when trying to segregate genetically modified and conventional wheat. This, of course, is labor and time intensive.

"A farmer to the west of me didn't clean out his planting drill between planting of Roundup Ready soybeans and conventional soy," Leake said. "In the end, the entire crop was GM (genetically modified). This was enough to qualify him for a GM discount." In this case, discount is not a plus. It means that the elevator paid the farmer less for his soybeans because they were genetically engineered.

Ground contamination also plays a role, he said. Farmers who grow a genetically modified crop one season and a conventional variety the next would have a tough time guaranteeing that no remnants of the transgenic crop remain. This phenomenon is better known as volunteer seed. It lies dormant in the soil and then sprouts the next spring.

Canada's experience with canola further illustrates the nightmare of biotech crop contamination. Farmers first planted Roundup Ready canola in western Canada in 1995. Five years later, more than half of the crop was considered genetically modified because of cross pollination and segregation problems. Farmers lost money when they couldn't export their canola to many parts of the world.

In an interview last summer, an Aventis official said, "the entire Canadian canola crop has to be considered genetically modified for export purposes." Aventis held the license to market Roundup Ready canola in Canada.

In response to concerns that genetically modified wheat will contaminate conventional varieties, Buckingham said that Monsanto is committed to working with the National Association of Wheat Growers and U.S. Wheat Associates to develop a grain handling system that will reliably deliver what customers want. They haven't yet begun working on this system, though.

Based on his conversations with farmers, elevator managers and grain company executives, Leake doubts they'll be able to address the segregation technology and infrastructure requirements necessary to handle Roundup Ready wheat.

Just in case Monsanto's system isn't working, legislation is pending in the Montana and North Dakota legislatures. A bill in the Montana State House of Representatives would place a moratorium on the production of genetically modified wheat. HB 211 reads as follows:

"1. Moratorium on production of genetically modified wheat.
(1) Genetically modified organisms may pose risks of unknown dimensions to Montana's economy, native environment, and agricultural industry. The planting of genetically modified crops over the past several years has outpaced our understanding of the immediate and long-term economic and environmental effects of genetically modified organisms. Because of these concerns, the legislature finds it appropriate to impose a moratorium on the production of genetically modified wheat.

(2) A person may not plant genetically modified wheat in Montana.

NEW SECTION.
Section 2. Termination. [This act] terminates October 1, 2003."

[for details go to:
http://laws.leg.state.mt.us:8000/laws01/plsql/law0203w$.startup
http://laws.leg.state.mt.us:8000/laws01/plsql/law0203w$.startup use bill search option <HB 211> a public hearing will be on February 6, 2001]

Meanwhile, in North Dakota, legislators are considering a prohibition on the sale of genetically modified wheat seed until Aug. 1, 2003.

[for details go to: GENETICALLY MODIFIED WHEAT SEED MORATORIUM, HB 1338 http://ranch.state.nd.us/LR/01/bill_actions/BA1338.html
http://ranch.state.nd.us/LR/01/bill_actions/BA1338.html a public hearing will be on February 8, 2001]

Leake thinks these measures are the least that government can do to help resolve the liability, segregation, technology agreement and market acceptance issues that likely will happen with biotech wheat just as they did with corn, soy and canola.

"As far as the chances for passage," Leake said, "we have a lot of support in North Dakota and Montana for this, but moratoriums are notoriously difficult to get enacted, and legislators are sometimes hesitant."

Readers may have noted that both of these moratoriums terminate before Monsanto introduces Roundup Ready wheat sometime between 2003 and 2005.

Leake said that the existing legislation, if passed, would cover the 2003 planting season. The incoming legislatures would have to decide whether to reauthorize the moratoriums. Leake thinks they would do so unless a resolution is reached on such issues as foreign market acceptance of Roundup Ready wheat and segregation, among others.

EUROPEAN BUYERS WARN U.S. OVER GENE WHEAT PLANS

By Greg Frost, Reuters
February 2, 2001

PARIS - European buyers of U.S. spring wheat said on Friday there was no market for genetically modified (GM) wheat in Europe and warned they would take their business elsewhere if U.S. farmers began planting such crops. "We will never be in the market for it," said Kjetil Gran Bergsholm, a trader at Norwegian importer Stakorn. He said Norway bought 30,000-40,000 tonnes of high-quality wheat each year, and he chose between supplies from the United States, Canada and Kazakhstan based on price. "We have to listen to our customers, and they don't want GM wheat. If the U.S. goes ahead with this, we'd have to turn to Canada and Kazakhstan to get those supplies," he said.

St. Louis, Missouri-based Monsanto Co said last month it was moving ahead with the world's first GM wheat product despite concerns about scientific tinkering with food grains. Monsanto said it is developing a Roundup Ready variety of dark northern spring wheat, which it hopes to commercialise between 2003 and 2005. The wheat, modified to resist the company's Roundup herbicide, is designed to boost yields.

While Norway only buys a few thousand tonnes of U.S. dark northern spring wheat each year, Europe represents a key market for the grain. According to USDA statistics, U.S. exports of dark northern spring wheat to the European Union and other western European countries totalled more than 1.1 million tonnes in 1999/2000 -- nearly a fifth of all U.S. dark northern spring wheat exports that year.

NOT READY

Fearing the loss of possible markets in Europe and elsewhere, the U.S. wheat industry has reached an agreement with Monsanto that calls for a panel to review a so-called identity preservation system the company is developing that would segregate GM wheat from non-GM wheat. The industry has also given Monsanto a list of 17 key wheat importers and has asked it to work to gain customer acceptance for the wheat in those markets.

It was not immediately clear, however, whether Monsanto would be able to convince consumers in Europe-a hotbed of opposition to bio-engineered crops-of the benefit of wheat that is modified to resist a weed-killing chemical. "Our customers-supermarkets, bakeries and the like-they're not ready for it," a purchaser at a large northern European miller said, noting European shoppers were increasingly aware of what went into the products they buy

"It could mean that we would completely stop importing from that region if they could not guarantee that it is not genetically modified," he added. Alexander Waugh, director-general of British and Irish millers' association NABIM, said his group was scheduled to meet Monsanto in the coming weeks to discuss its GM wheat proposal, among other issues.

"The reality is that for the time being, our customers in Europe don't really want anything genetically modified, and it's difficult to see that changing in the near future," Waugh said. "UK millers have regularly pressed Monsanto that for genetically modified crops to have any marketing potential, they have to offer consumers a benefit," he said. "Personally, I don't think Roundup Ready offers a lot to consumers."

Government Orders Test of Tainted Corn

By Marc Kaufman
Washington Post Staff Writer
Friday, March 2, 2001; Page A10

Special Report
• Gene Therapy and Research
Full Coverage
• More Science News
Industry Watch
• Biotechnology
Industry Watch
• Food
E-Mail This Article
Printer-Friendly Version
Subscribe to The Post

Agriculture officials yesterday told seed dealers to determine quickly how much of the nation's corn seed stocks contain the genetically engineered variety that prompted massive recalls of food and corn crops last year.

The Agriculture Department asked the American Seed Trade Association to have the results by noon today, so that officials will know how much seed corn will have to be destroyed, and thus can determine the cost and who will pay it.

Officials said yesterday the amount of seed corn with detectable amounts of a protein from the genetically modified corn is expected to be small -- less than 5 percent. They also said precautions are in place to make sure that farmers don't plant the tainted corn, known as StarLink.

Federal officials met for two hours yesterday at the Department of Agriculture with about 50 representatives from the seed, corn and food industries to discuss the problem. Agriculture Department spokesman Kevin Herglotz said the meeting focused on testing procedures and how federal agencies could help the seed industry deal with the StarLink issue.

"Our goal is to do what we can to prevent it from being planted," he said.

StarLink, developed by Aventis CropScience and approved only for animal feed, has caused regulatory and economic trouble since biotechnology critics found it in taco shells last fall. Federal agencies had approved StarLink only for animal consumption because of concerns that it might cause dangerous allergic reactions in people, though they have said the risks to human health are probably limited.

The risks to corn exporters have been great, however. Major buyers in

The risks to corn exporters have been great, however. Major buyers in Japan and South Korea have cut their purchases of American corn since learning that some of the corn had inadvertently been mixed with that intended for human consumption. Consumers in Europe and Japan are concerned about possible long-term environmental and health consequences of crop biotechnology.

The discovery of the genetically modified corn in the human food supply prompted a massive recall of corn and food products made with corn in this country, costing Aventis at least $100 million. It was detected in seed by dealers this year as they checked their stocks before selling to farmers for the upcoming growing season.

Seed industry officials said yesterday that they had anticipated the presence of StarLink protein in seed corn because pollen from corn is carried by wind and can crossbreed with conventional varieties.

Angela Dansby, spokeswoman for the seed trade association, said yesterday that 250 member companies will be polled about how much seed tainted with StarLink protein has been found. She said that whatever the outcome, officials expect there will be enough seed for farmers when they start planting this month.

"Discussions about StarLink have been going on for months," she said. "Now a request has been made of the industry to quantify the situation, to see how much seed might have to be destroyed."

She also said the association was working with the Agriculture Department about setting up a system to compensate seed growers who have to destroy some corn.

"Aventis has not come forward to say it will pay for it," she said. "Particularly for small and medium-size companies, this is a real concern if they become victims of this situation."

The National Corn Growers Association has told farmers to buy only corn that has been certified as free of StarLink. Those certifications, however, are based on test sampling that officials acknowledge cannot identify all of the tainted corn, and biotechnology experts say it is impossible to find corn free of genetically engineered material.

Related Links

Full Coverage
More Science News

More National News

StarLink Debacle Highlights Problems with Genetic Engineering

Gabriela C. Flora
Institute for Agriculture and Trade Policy

"Government Investigates Reports That Taco Bell Uses Genetically Modified Corn That Is Only Fit For Animals." "Unapproved Biotech Corn Turns Up in Taco Shells." "StarLink Fiasco Wreaks Havoc In Heartland." These are some of the headlines that have appeared in newspapers across the country since Genetically Engineered Food Alert (www.gefoodalert.org) discovered a variety of genetically engineered corn that was not approved for human consumption in taco shells this past September.

The Environmental Protection Agency (EPA) is charged with regulating crops that contain pesticides within them. Thirty percent of genetically engineered (GE) crops grown in the US have been inserted with the Bt (Bacillus thuringiensis) pesticide, among them is StarLink corn.

In 1998 the EPA gave limited approval for StarLink. The Bt corn was not approved for human consumption because it contains the Cry9C gene, which has two significant characteristics of known allergens. It is not broken down by gastric juices or by heat. Because of the concerns that it could cause allergies in humans, the EPA determined that StarLink should only be used in animal feed and for industrial purposes (such as the production of ethanol) and that it should not be allowed to be consumed directly by humans. The other stipulation of the EPA's limited approval was that StarLink should have a 660 foot non-StarLink buffer zone around the crop to prevent corn destined for human consumption from contamination through cross-pollination.

With this limited approval in hand, AgrEvo (which was later purchased by Aventis) began selling its StarLink corn seed to farmers in 1998. It has become clear that many farmers where not properly informed of the EPA restrictions. StarLink was grown on a small percentage of US corn acres however, it was not separated from other corn and the extent of its contaminating neighboring corn crops through cross-pollination is not known. In Iowa, where the largest acreage of StarLink corn was planted, conservative estimates are that StarLink has contaminated 50% of this year's corn harvest. The failures of Aventis to fully inform farmers of the EPA restrictions and of US regulators to ensure that its rules were being followed are having far reaching implications.

The Food and Drug Administration has issued a recall on nearly 300 food products due to StarLink contamination. Both a major milling and a manufacturing plant temporarily closed down. Farmers, grain handlers, processors and manufacturers are paying for testing for StarLink all along the food chain. It is estimated that the costs of the unapproved variety entering the food chain will be in the hundred of millions of dollars. Distrust in the US food system, resulting in the loss of export markets could have economic reverberations for many years to come. Who will ultimately pay for these damages is in question. A wide range of lawsuits appears to be eminent.

Aventis is doing all it can to advert ultimate liability. After it became public that many farmers were not properly informed about the restrictions on StarLink, Aventis attempted to have farmers retroactively sign contracts stating that the corn would not be used for human consumption and that a 660 foot buffer would be implemented. Under pressure from the EPA, Aventis canceled its registration for StarLink corn in October. However, two weeks later Aventis petitioned the EPA to obtain temporary approval of StarLink for human consumption. The expert panel of scientists that reported to the EPA in early December concluded that there is a moderate risk that StarLink could produce adverse health impacts on humans and that there are many unanswered questions about the safety of the corn. If the EPA ignores the expert panel and grants the temporary approval of StarLink for human consumption, Aventis will gain immunity from much of its responsibility for contaminating the food system. In addition, foods which contain a protein that previously has never been consumed by humans and has characteristics of an allergen will be allowed to remain in the food system.

The US Department of Agriculture (USDA) is financing Aventis' attempts to buy up the 2000 StarLink crop. The agency was aware that StarLink was likely entering the food chain last year but did nothing to stop it. The USDA has voiced its support for the EPA's "expeditious" approval of StarLink for human consumption. This has raised concerns over regulatory processes. It is problematic if a government agency is siding with industry prior to the availability and evaluation of safety hazards or the full accounting of how much of a contaminant is actually in the food supply.

For years, those who have concerns about genetically modified organisms (GMOs) have been arguing that the US regulatory system is severely flawed. The StarLink case exemplifies these problems. StarLink was something few of us had heard of until the Genetically Engineered Food Alert announced its findings. It is scary to think that if a public interest coalition had not taken the initiative to pursue the matter, contamination would have continued and further threatened the integrity of our food system.

To prevent such problems in the future, the remedies must go far beyond simply ensuring that no other GMOs are given partial approval. The StarLink debacle should spur major changes in how the regulatory system evaluates, approves and oversees usage of GMOs. Approval for each and every GMO should be dependent upon independent safety testing demonstrating no harmful effects on human health or the environment. Those that are found to be safe should be labeled to ensure the consumer's right-to-know. And finally, the biotechnology corporations that hold the patent on the GMO should be held responsible for any harm.

****

The Minneapolis based Institute for Agriculture and Trade Policy (IATP) promotes resilient family farms, rural communities and ecosystems around the world through research and education, science and technology, and advocacy. IATP has been following the issues around genetic engineering for a decade and is a member of the Genetically Engineered Food Alert that conducted the initial testing for StarLink.

Subject: monsanto seeks to ease wheat concerns

Monsanto seeks to ease biotech wheat concerns
02/21/01 15:56 CST
KANSAS CITY, Mo., Feb 21 (Reuters) - Reeling from an international backlash against its plans to introduce the world's first biotech wheat variety, Monsanto Co. is stepping up efforts to win over growers and importers and toning down talk about taking the new wheat to market. "We are starting to understand we need to do a better job of outreach," Monsanto wheat industry affairs manager Michael Doane said Wednesday in a presentation to an annual

Wheat Quality Council meeting in Kansas City. Doane said teams of Monsanto officials were working in key wheat import markets to gain acceptance for the new biotech wheat, known as "Roundup Ready," a herbicide-tolerant spring wheat variety that would help farmers gain production efficiencies. Doane also declined to attach a time-frame to introduction of the genetically modified (GM) wheat, a turnabout from previous Monsanto comments that it would try to bring the new wheat to market between 2003 and 2005.

Instead, Doane stressed Monsanto's desire to assuage concerns surrounding the new wheat, chief among them that export markets would dry up for U.S. producers. "We want to work with the industry on this," Doane said in an interview with Reuters. "The process of market introduction is always subject to what the industry would want." Doane also sought to back off Monsanto's previously stated position that introduction of the new GM wheat would not wait for European Union approval. The EU is a top market for U.S. spring wheat, and EU countries have been adamant in their opposition to GM wheat, as have other top buyers, including Japan.

U.S. industry representatives have been pushing Monsanto not to release a GM wheat until EU acceptance is assured. A European grain market representative gave the meeting a feel for how deeply sentiments run against bioengineered crops on the Continent. "We don't want GM wheat," said Jim Shine, wheat importer for United Kingdom-based food group Rank Hovis McDougall. "It's too early to speculate on what will be required to bring this product forward," Doane said. "We've got a lot of time to bring this to market." Wheat Quality Council executive director Ben Handcock said Monsanto appeared to be adopting a less aggressive posture on marketing GM wheat and he hoped it would help appease those who are worried that GM wheat will cause the U.S. to lose export markets. "They sound different," Handcock said. "They appear to be in a conciliatory mood. They probably should. They've taken a lot of heat." Wheat industry consultant Bert D'Appolonia said he also sensed a shift in Monsanto's approach. "Given all that has transpired, they need to be more cautious," he said.

Still, D'Appolonia, Handcock and others said they feared Monsanto was not actually shifting its strategy, only its rhetoric. Indeed, Doane told the Wheat

Quality Council gathering that Monsanto would "likely" be ready to file applications seeking approval of the GM wheat with the U.S. Department of Agriculture and the Food and Drug Administration by the fourth quarter of 2001 or the first quarter of 2002. And Monsanto spokesman Mark Buckingham said Wednesday that Monsanto has not officially changed its market introduction strategy, including its decision not to wait for EU acceptance. But Buckingham stressed that a roll out was still up to four years out, and said that market acceptance was expected as industry players and consumers become educated on the issue. "We knew it would be a hot topic," Buckingham said. "Long-term, biotech has a huge potential for wheat. We can't put our heads in the sand."

From boom to bust in three seasons - the rapid rise and fall of GE markets

Dr Christine Dann, Aotearoa, New Zealand

1996 was the first year in which economically significant amounts of GE food crops were first grown in the world. Most of them were planted in the USA. By 1999 33% of US corn (maize) acres, 44% of soybean acres and 55% of cotton acres were planted with GE seed (St Louis Dispatch, 23.5.99). US farmers had obviously embraced the technology enthusiastically. Unfortunately for them, they did so largely in ignorance of the actual performance of GE seed, and of the market demand. They believed what the GE seed and agrochemical producers and suppliers told them about the agricultural and economic performance of their products. As the bullet point history of the rise and fall of GE markets given below proves – they were conned. Farmers in the rest of the world need to learn the lesson, and not be sucked into the brave new world of GE lies and half-truths.

The story of the fall of GE markets is woven from the threads of market manipulation, international trade regulation, consumer resistance, retailer initiatives, decline in investor confidence, and things going wrong down on the farm. It is difficult to separate the strands, as they all impact on each other. The following points trace these strands from the beginning of 1999, when the boom started to go bust.

January 1999

- Monsanto lays off staff, its stock price falls, and it faces more lawsuits by farmers unhappy with the performance of its GE seed
- Swiss Re, a major reinsurance company, advises that insurance companies are 'over-exposed' to GE claims; Lloyds advises other insurance companies to charge special premiums to insure GE crops
- Monsanto is suing 525 farmers for planting its seed 'illegally', including a farmer who claims he did not plant the seed and that his crops were contaminated by wind-blown GE pollen
- A Time magazine poll finds that 81% of respondents want GE foods labeled

February 1999

- Major French supermarket chain, Carrefours, bans GE ingredients from own-brand food and removes other GE foods from sale
- British supermarket chains Iceland, Sainsbury, Waitrose, the Co-Op, Marks and Spencer and Asda go GE free

March 1999

· A consortium of European supermarket chains (UK- Sainsbury and Marks and Spencer; France - Carrefours; Italy - Effelunga; Switxerland - Migros; Belgium - Delhainze; Ireland - Superquinn) is set up to jointly source non-GE foods

April 1999

· No new GE products have been approved by the EU since April 1998, and four new applications are deadlocked
· Greece has a total freeze on experimental and commercial growing of GE crops, other EU countries have partial bans on growing, selling and/or experimenting
· Unilever, the world's largest food manufacturer (annual turnover 35 billion pounds sterling) announces it is going GE free.
· Nestlé and Cadbury-Schweppes go GE free
· The last large British supermarket not yet GE free, Tesco, goes GE free
· The GE free supermarkets in Europe now have considerable market power - a joint annual turnover of $150 billion*
· The third largest US corn processor, A.E. Staley Co, announces that it will refuse GE corn not approved by the EU

May 1999

· Giant US agri-food company Archer Daniels Midland sets up GE-free elevators, announces that it wants farmers to separate GE and non-GE harvests at source, and offers a premium for non-GE soybeans
· Monsanto sets up a toll-free line to advise farmers which elevators will accept GE crops
· Commodity prices remain low, and economists warn that as surpluses grow, prices will fall
· Religious groups (Christian, Jewish, Hindu, Buddhist) sign on to a $30 million law suit against the US government, which demands that the Food and Drug Authority classifies genes used to alter foods as additives and tests them more rigorously
· The Supreme Court of India upholds a ban on testing GE crops

June 1999

· Northern Foods, one of the largest food companies in the UK, goes GE free, as do Walkers crisps and Kellogg's cereals
· Rank Hovis McDougall announces it will stop using GE soyflour in its breads
· By now 24 of the 30 largest food companies in the UK are GE free
· In Brazil a judge upholds the precautionary principle ands confirms a ban on planting and marketing GE soy

· EU Ministers for the Environment announce a factual ban on any new approvals for the commercial release of GMOs, until strict environmental standards can be set

July 1999

· A US Department of Agriculture survey of GE crop performance is released, and shows that yields are not consistently higher and may be lower, and that herbicide and pesticide use is not always less. Profits were also variable.
· Three US baby food manufacturers go GE free
· American trust-busting lawyer David Boies (leader of the successful US Justice Department prosecution of Microsoft) announces that he is considering taking a case for farmers against the anti-competitive behaviour of the major biotechnology companies
· The Advertising Standards Authority in the UK upholds complaints against Monsanto for misleading claims about its GE products
· US agri-food giant company ConAgra buys a GE-free health food company, and takes ownership of several GE-free website names e.g. no-gmo.com

August 1999

· Deustche Bank investment analysts note that the GE market is going bust, and that premiums are being paid for non-GE not GE crops. They advise investors to sell their Pioneer Hi-Bred stock, and not to invest in GE stock generally
· US lobbying of foreign food regulatory agencies against labelling GE foods continues, and is successful in slowing down and watering down ANZFA proposals on labelling
· In Japan the two largest breweries go GE free; in Mexico a major tortilla corn chip manufacturer goes GE free
· US pet food company Iams stops using non-EU approved corn in its cat and dog foods
· A University of Nebraska survey finds that only 36% of rural Nebraskans favour using GE seed

September 1999

· As the US harvest comes in, mid-western grain merchants offer 20-30 cents premium per bushel on non-GE soybeans and 8-15 cents premium on non-GE corn
· Of 100 mid-western grain elevators surveyed, 11% were segregating corn and 8% segregating soybeans

October 1999

· Thailand's Trade Minister (and WTO head-in-waiting) Supachai Panitchpakdi announces an indefinite ban on importing GE seed to Thailand

· Monsanto stock has lost a third of its value in the past year

November 1999

· A bi-partisan bill requiring full labelling of GE foods and supported by 20 legislators goes to the US Congress
· The Alliance for Better Foods (ABF), a lobbying organisations consisting of US pro-GE food manufacturers and retailers, reports that in the first nine months of 1999 it spent $676,000 in contributions to US politicians
· Member companies of ABF spent a combined $43.3 million in campaign contributions during the 1998 US election cycle; Monsanto, DuPont and Novartis spent more than $6 million on lobbying in 1998
· US-based genetic analysis company Genetic ID claims Australia could earn a $1 billion share of the world GE-free food market if it moves judiciously on the issue
· The US National Family Farm Coalition, a coalition of small farmer organisations, issues 'The Farmers' Declaration on Genetic Engineering in Agriculture', which demands an end to the sale, environmental release and further production of GE seeds and agriculture products until and independent and comprehensive assessment of the social, environmental, health and economic aspects of these products has been made
· Uncertain about market prospects and crop handling requirements for 2000, US farmers are confused about whether to order GE seed, and many decide against it

December 1999

· Brazil, the world's second largest soybean producer, offers farmers $5.37 million in low interest loans to pull out GE soy seedlings and replant with non-GE varieties (as an alternative to burning illegal crops)
· Brazil's exports of non GE soybeans to the Europe rose from 10,135 million tonnes in 1996 to 15,130 million tonnes in 1998; the USA's soy exports to Europe dropped from 8.854 million tonnes in 1996 to 6.572 million tonnes in 1998
· The value of US soy exports to Europe dropped from $2.1 billion in 1996 to $1.1 billion in 1999
· Britains's last Christmas with GE turkeys looms as UK supermarkets start sourcing meat, eggs and dairy products from animals that have not been fed GE grain
· American and British shareholders in major food companies such as Heinz, Coca-Cola, Safeway, Pillsbury, Burger King, ADM, Philip Morris, Sara Lee and McDonalds join a campaign co-ordinated by the Interfaith Center on Corporate Responsibility to get the companies to out a moratorium on GE ingredients and products until proper testing has been done

· Credit Suisse First Boston reports that the biotech industry is suffering from 'negative momentum' and compares it to the nuclear power industry - the science might be sound but no one is building new nuclear plants today.

January 2000

· A Reuters straw poll of 400 US farmers at the annual meeting of the largest US farm organisation, the American Farm Bureau Federation, indicates a drop in GE food crops for 2000 - 15% less GE soy, 22-24% less GE corn.
· Major US corn processor Frito-Lay tells its suppliers not to grow GE corn
· The UN Biosafety Protocol is signed in Montreal, and provides for stricter national and international controls on producing and trading in GMOs
· Deutsche Bank reports that biotech company stock is still a bear market, and the predicted two-tier market for GE and non-GE corn and soy has developed, with non-GE attracting the premium

February 2000

· Germany's Minister of Health suspends approval for Novartis Bt corn on the grounds that it is necessary to protect consumers and defend precautionary health protection
· Market rejection of Bt corn cost US farmers $200 million in lost export revenue in 1999
· Minnesota introduces a bill to place a moratorium on GE crop growing in Minnesota
· American soy farmers try and persuade Monsanto to refund the difference between the price of GE soy seed in the USA and Argentina - between $300-$600 million
· A survey of 1,200 US grain elevators estimates that 24% are planning to segregate GE corn and 20% will segregate soybeans in the fall of 2000 (up from 11% and 8% in 1999), and slightly more than one in ten elevators will offer a price premium for non-GE products

March 2000

· A group of transnational biotech industry companies (DuPont, Monsanto, Dow Chemical, AstraZeneca, Aventis, BASF, Novartis, and other smaller companies) award a $50 million contract to PR firm BSMG Worldwide to develop and run a 3-5 year advertising and communications campaign to promote GE foods as safe for humans and not harmful to the environment
· Top American chefs start ridding their restaurants of GE foods
· American corn farmers advise their Filipino counterparts not to grow GE corn
· A European Union Directorate-General for Agriculture study of the economic impacts of GE summarises American studies which show that GE crops exhibit variable profitability, and that profitability depends on market as well as farm conditions, hence the future profitability of GE is hard to predict. It also notes

that GE soybeans attract the same subsidies (aka flexibility payments, marketing loans and crop insurance) as non-GE beans, and that marketing loan benefits averaged 44 cents a bushel in 1998. Oilseed producers are also likely to be eligible for emergency payments averaging 14 cents a bushel in 2000 to offset record low market prices.

April 2000

· A major Coca-Cola shareholder (William Wardlaw III, with 2,020,682 shares worth $98 million) sponsors a resolution for Coke to go GE free
· US farmers start to report GE plants appearing as weeds in their fields
· First US supermarket chain - Genuardi's Family Markets - goes GE-free and supports labelling of GE products
· US Department of Agriculture predicts a 25% drop in GE corn harvest
· GE papaya grown in Hawaii is rejected by Japanese, Canadian and European markets; growers get a 300-700% premium on non-GE fruit
· McDonalds burger chain stops using GE french-fries, and McDonalds suppliers instruct growers to stop growing GE spuds
· Frito-Lay stops making GE potato chips
· Burger King reassures customers that it does not use GE french-fries

May 2000

· Archer Daniels Midland offers 18 cents per bushel premium on a non-GE variety of soybean
· The Tokyo Grain Exchange launches a non-GE soybean futures market

June 2000

· 310 scientists from developed and developing countries sign a letter to delegates to the fifth Conference of the Parties on the Convention on Biological Diversity in Kenya calling for an immediate suspension on the release of GE crops and products for at least five years, and for all patents of living processes, organisms, seeds, cell lines and genes to be revoked and banned
· A major independent worldwide research study by Angus Reid Group on consumer reaction to GE foods finds that opposition to GE foods has risen to 51% of consumers in the USA, 59% in Canada, 71% in France, 73% in Germany and 82% in Japan. Opposition to GE foods is higher in countries where respondents feel they understand more about genetic engineering of food and lower in countries where consumers feel they do not know much and need to know more.
· GE canola in Canada found to be resistant to three commonly-used herbicides as a result of crossing in the field, adding to the growing problem of herbicide resistance
· The US National Science Foundation's Science and Engineering Indicators survey finds that well-educated Americans (college graduates) are more likely to

oppose GE than the poorly educated, and that women are more likely to be sceptical about GE than men
· Canadian farmer Percy Schmeiser, sued by Monsanto for allegedly planting its GE canola illegally, countersues demanding 4.2 million pounds sterling compensation for trespass, crop contamination and defamation.
· A survey of US corn growers shows that over half are concerned that they will be held liable for contaminating non-GE crops through cross-pollination, and over two thirds are concerned that they will have to bear the costs of segregating GE from non-GE corn and will plant less GE corn if they have to segregate
· Swedish pharmaceutical company Pharmacia buys Monsanto and tries to sell off the agricultural (GE seed) division
· The Prime Minister of New Zealand says that, contrary to the claims of industry and the Australian Prime Minister, a KPMG study shows that full labeling of GE foods would add only 0.19% to the total food bill

July 2000

· A US Department of Agriculture survey suggests that GE acreage in 2000 is down from 1999 - 20% for corn and 6% for soybeans
· The Tokyo Grain Exchange non-GE soy futures market booms, with almost three times as many non-GE contracts being traded as GE ones. Prices for the non-GE beans are 9-10% above GE beans.
· Non-GE papaya growers in Hawaii start labelling their fruit 'Not Genetically Modified' to take advantage of non-GE premiums running as high as 700%

January 2001

- Algeria declares an edict making the growing and selling of GMOs illegal.

· All dollars quoted are US dollars, unless otherwise stated.

Information in this history comes from media releases, research reports and other documentation posted on the following website addresses:

www.purefood.org
www.biotech-info.net
www.ers.usda.gov
www.agbioforum.missouri.edu/vol2no34/
www.prwatch.org/prw_issues/1999-Q4/
www.europa.eu.int/comm/dg06/publi/gmo/

Foreign Agricultural Service
GAIN Report
Global Agriculture Information Network

Voluntary Report - public distribution Date: 11/8/2000
GAIN Report #JA0128
Japan
Biotechnology
Agricultural Biotechnology in Japan
2000

Approved by:
George Pope
U.S. Embassy

Prepared by:
George Pope

Report Highlights: This report provides a survey of the agricultural biotechnology situation in Japan as of October 31, 2000. It covers Government regulations and approval requirements, biotech research, labeling, CODEX, marketing issues, consumer reactions and offers several useful websites.

Includes PSD changes: No
Includes Trade Matrix: No
Unscheduled Report
Tokyo[JA1], JA

TABLE OF CONTENTS

[Note to Reviewers-I had hoped to complete this study before the inevitable "biotechnology time-bomb" exploded in Japan. Unfortunately, this was not to be. Rather than continually revising this paper to try and keep up with the ever-changing dynamic situation in Japan, I am closing it off as of end October. I hope the information presented will be useful. -gp]

I. Summary

In Japan, the development and acceptance of Genetically Modified Organisms (GMO's) is a major Government, food processing industry and consumer issue.

The Government of Japan (GOJ) has, to date, followed a "sound science" policy in the review and approval of GMO's. However, the GOJ, as well as the food, feed, industrial processing industry, is extremely concerned over the issue of "non-approved"(in Japan) GMO's.

On April 1, 2001, Japan will adopt mandatory-labeling requirements for certain GMO products. As a result, numerous Japanese food and beverage processors, as well as some industrial users, have announced a GMO-free policy only to discover the difficulty involved with substantiating such claims as well as the increased cost implications.

Also on April 1, 2001, the review and approval of GMO's for food safety by the Ministry of Health and Welfare (MHW) will become mandatory. The Ministry of Agriculture, Forestry and Fisheries (MAFF) review of GMO's for animal feed safety and environmental issues is still "voluntary, but could soon become "mandatory" as well.

Published opinion polls indicate a high degree of consumer "concern" over GMO's. Other unpublished polls indicate that these "concerns" are significantly reduced when consumers learn of the environmental benefits of GMO's and that the MHW has tested and approved any products, which are sold in Japan. Industry campaigns to educate consumers are still in the planning stages.

II. Government Regulation

In Japan, the use of biotechnology for the production of agricultural and food products is regulated by the Science and Technology Agency (STA), the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Ministry of Health and Welfare (MHW).

--MAFF is responsible for overseeing developments in the agricultural sector which include animal feed safety, environmental aspects and field testing under the "Guidelines for GMO Utilization in the Agricultural and Fisheries Sector,"

--MHW is responsible for determining the safety of products developed through biotechnology which are destined for the human food supply under the "Safety Assessment Guidelines for Foods and Food Additives Produced by Recombinant DNA Technology".

Japan follows the principle of "substantive equivalency". The Japanese government holds that a product developed through the use of biotechnology is substantively equivalent to a product developed through traditional breeding practices if no difference in chemical composition and biological characteristics is found to exist between the products.

The Government of Japan has consistently taken the public position that GMO products approved by the MHW and MAFF are "safe". This position is stated in public fora and is contained in official written documents and Ministry websites/home pages. Unfortunately, most consumers probably don't spend much time reading Food Safety Council reports or surfing MHW/MAFF websites.

Despite the strong "sound science" position of the GOJ, there are those in the bureaucracy who would like to adopt a more negative policy towards GMO's. This faction reportedly argues that Japan doesn't have any GMO crops and that rallying consumers against GMO's would encourage consumers to eat more Japanese food, a stated goal of the MAFF. The "sound science" faction has so far successfully countered that this view is shortsighted.
They think that within a few years, Japan will have GMO rice that is more disease resistant and that will need less chemicals. The last thing they need is to create a consumer backlash that would keep Japanese farmers from taking advantage of this, or other new technologies, when they become available. They further argue that the "sound science" approach is defensible and desirable, especially in light of the fact that Japan imports some 60 percent of its food. They are slowly but surely realizing that Food Security, a major goal of Japan, and biotechnology are inseparable.

Nevertheless, in this ever-changing debate, it is still to be determined which side will prevail. The current "StarLink" situation doesn't help.

A. MHW Review for Food Safety

MHW's Safety Assessment Guidelines are implemented by a Food Sanitation

--STA is charged with overseeing laboratory and experimental tests under the "Experimental Guidelines for DNA in GMO Products,"

Research Council task force which examines biological characteristics and performs a risk analysis of the potential impact on public health.

Currently, the MHW regulatory review of GMO's for food safety is done on a "voluntary" basis. However on April 1, 2001, the MHW review and approval will become mandatory. Although MHW is expected to follow basically the same approval guidelines, MHW has confirmed that they will require additional information, for monitoring purposes, on DNA sequencing, plant genome data, unexpected protein production and seed storage data. MHW has also requested the above information for products already approved so that they may be re-examined and "re-approved".

Between 1996 and 1999, 29 food and 6 food additives involving recombinant biotechnology were approved by the MHW. Biotech products approved include soybeans, rapeseed (Canola), potatoes, corn, cotton, tomatoes and sugar beets. Of the 35 approved products, 16 are from U.S. companies, 8 from Belgian companies, 4 from German companies, 3 from Danish companies, 2 from Canadian companies and 1 each from companies in the Netherlands and Switzerland.

B. MAFF Review for Animal Feed, Environmental Factors and Field Testing

Between 1992 and 1999, 37 products developed through the use of biotechnology were approved by MAFF. Biotech products approved includes soybeans, corn, rapeseed (Canola), cotton, tomatoes, rice, petunia, melon and carnations. Of the 37 products, 14 are from U.S. companies, 2collaboratively from a U.S. and Japanese companies, 13 from Japanese companies, 3 from Canadian companies and 5 collaboratively from joint Australian and Japanese companies.

The MAFF review process is, at the moment, voluntary. However, a task force commissioned by MAFF is expected to recommend, and MAFF is expected to adopt, a mandatory process for review of environmental aspects, and possibly for assessment of animal feed safety, of GMO's.

C. MAFF and Biotech Research

Agricultural biotechnology research has been for many years intensively undertaken in MAFF laboratories (See GAIN Report JA9038). Along with the Rice Genome Project, MAFF labs conduct a wide range of research in plant biotechnology. A top priority is to create a "super rice" which will be resistant to pests and diseases.

Private sector involvement in GMO agricultural biotechnology is limited. Most large corporations might be expected to engage in GMO research and development have reportedly been frightened by fear of consumer backlash.

Three of the six Japanese companies approved by the MAFF to conduct field research of GMO are recently announced they will abandon, or sharply reduce, their GM research programs citing consumer concerns and lack of progress. The six companies, and the status of their work are:

Company
Type of Work
Status

Japan Tobacco Group
Rice plant development
Work continuing

Mitsubishi Chemical Group
Rice plant development
Reduced research program

Mitsui Chemical Group
Rice plant development to reduce protein levels
Program stopped

Kirin Beer Corp
Long shelf life tomato
Rice Program stopped, New project on flowers

Kagome Corp
Long shelf life tomato
Program stopped

Takii Seeds Corp
Cauliflower
Reduced research program

D. Labeling

On April 1, 2001 mandatory labeling of some foods containing GMO's will be required under the Food Sanitation Law administered by MHW and the Japan Agricultural Standards Law administered by MAFF. (See GAIN Report JA9154).
Although two government agencies have announced identical labeling regulations, each will demand their own separate compliance. Both the MAFF and the MHW have filed WTO notices on their new labeling schemes.

Briefly, labeling will be required for covered products where novel (GMO)

DNA or protein is present and detectable. Covered products are found in 24 categories including soybean tofu and flour, corn flour, snacks, starch and grits, and processed foods where these products are one of the three major ingredients with over five percent of total weight. Products such as soybean oil where no DNA or protein are detected are not subject to labeling.

The new requirements will recognize three categories of product: GMO free, Contains GMO's, or "not-segregated" (may contain).

As of this point in time, it appears that both Ministries are leaning towards the adoption of a duel monitoring system utilizing both testing and an "Identity Preserved" audit paper trail. A key unanswered question on the mandatory labeling program is, what happens if, in the future, the two Ministries have different interpretations of their labeling requirements.

E. Codex

Japan is an active participant in the Codex Alimentarius Commission, an intergovernmental agency which develops international standards, including safety standards, for food products. Japan is the chair of the Ad Hoc Intergovernmental Task Force on Food Derived from Biotechnology, a committee to develop standards, guidelines or recommendations for food derived from biotechnology. The task force is expected to complete its work by July 2003. The next scheduled meeting is March, 2001.

III. Marketing Issues

Immediately after the MAFF announcement of a mandatory labeling requirement, many Japanese food processors, both those affected by the new labeling requirement (especially corn based snacks and tofu) and those which were not (beer), announced with great fanfare that they would be moving to a non-GMO policy. As a result, an active, but unstructured, market for GMO free and/or identify preserved (IP) corn and soybeans has developed. This market is unstructured in that there is no standard contract for 'GMO free'...some importers want zero tolerance while others will accept product with one to five percent GMO's. Further, there is no standard testing mechanism for accurately determining if the product meets contract requirements, whatever they might be. The bottom line is that there has been no reliable "premium" established for GMO-Free or IP products and importers are learning that there is no such thing as guarantee of "zero tolerance".

A specific concern has come from Japanese feed importers, food and beverage processors and industrial users who are concerned that accurate testing be available for both approved and non-approved varieties. While they welcome the GOJ's apparent movement towards an IP "paper trail" compliance system, they

fear that consumers would not accept any level of GMO's, whatever the explanation, in any product labeled "GMO Free". There is strong feeling within Japanese industry that the first company "tagged" will be driven into bankruptcy. As a result, there is a growing level of panic and dismay as these companies realize the impossible situation they have led themselves into. While most importers are focusing on the US, some are slowly realizing that their main problems will come from those countries with "less strict" regulatory systems.

Nevertheless, there is a strong possibility that market disruptions will occur, some of which could impact U.S. exports, as Japanese users frantically search for the "silver bullet" of guaranteed GMO free product. [Note: StarLink has made this all too true. -gp/11/07/00]

One thing is clear. Costs of going "GMO-free" are going up and processors are finding that consumers "concerns" over GMO's may not extend to paying a GMO-free premium in the marketplace. In the general processed food products area, data is mostly anecdotal, however supermarket executives indicate that they see no rush by consumers to pay a GMO free premium.

On the cost side, corn starch manufacturers have increased their price of GMO free starch by some 30 percent to $.85 per kg. Some analysts think this will cost the beer industry alone over $1 billion a year. Further, the food/feed industry has not come to grips over the cost implications of any additional sampling/testing requirements that may be included in export contracts a result of the recent USG "Notice to Exporters" or as a result of new GOJ requirements.

IV. Consumer Reaction

It is still to be determined if consumer "concerns" will translate into revised purchasing patterns in the marketplace. There are a number of published polls which indicate that a high percentage of Japanese consumers do claim to know what GMO's are and a high percentage of those express various "concerns". However there is unpublished evidence that indicates that when consumers learn of the environmental and other benefits of GMO's and that GMO's have been extensive tested and declared "safe" by the Japanese MHW, their concerns are significantly reduced.

Several industry groups are preparing to organize and carry out a campaign to present a balanced picture of GMO's to the Japanese consumer. Such a campaign, carefully designed to reflect Japanese customs and concerns, would do much to speed the ultimate acceptance of GMO's in the Japanese marketplace.

A related issue concerning the acceptance of GMO's by the Japanese consumer relates to a series of food safety scares which gripped Japan this summer.

In one, over 14,000 consumers were taken ill after consuming contaminated milk products. Ever since, hardly a day passes without another media story of lizards in cans and chips, flies in fries and bottles, pieces of plastic in cartons, funny smells, strange tastes, etc. Although hot weather and food safety scares go together in Japan, observers note that this summer has been especially difficult. This situation was further strengthened by the consumer group announcement of October 25 that StarLink corn had been discovered in Japanese processed corn products.

V. Useful Web Sites

- Useful Web sites for Biotech. Information and Updates in Japan -

For MAFF information: http://ss.s.affrc.go.jp/docs/sentan/index.htm. (Japanese/English)
For MHW information: http://www.mhw.go.jp/topics/idenshi_13/index.html (Japanese/English)
For CODEX information and developments:
http://www.mhw.go.jp/english/codex_13/sec05.html (English)

The Genetic Threat to US Wheat Exports

Traders on the Tokyo Grain Exchange began buying and selling contracts for soybeans certified as free of genetic modification last May. Within a month, the new exchange was trading three times as many GM-free contracts as the conventional soybean exchange, and the GM-free soybeans were bringing nine to ten percent higher prices.

Unless state or federal regulators take action, GM wheat will be introduced and grown in the next couple of years, and it will become increasingly difficult (and expensive) to keep GM wheat from contaminating supplies of GM-free wheat.

Eventually, even producers who don't use GM seeds will see export prices for their wheat dragged down to the lower price foreign consumers will pay for GM wheat — if they buy U.S. wheat at all. Overseas customers will buy from states, regions or countries that can supply certifiably GM-free crops.

Overseas markets for U.S. crops grown from genetically modified seeds are shrinking. Supply and demand is setting different prices to U.S. farmers for different crops, but decisions by state legislatures may determine whether U.S. farmers can participate in the more lucrative GM-free market at all.

- The Deutsche Bank, the largest bank in Europe, released a report on the potential development of a two-tiered marketing system, with the premium price going to non-GM crops, in 1999. The report — *Ag Biotech: Thanks, But No Thanks?* —recommended against investment in many agricultural biotechnology companies.
- The Illinois Agriculture Department wants seed companies to refrain from selling any seed in Illinois not approved for use in major markets.
- U.S. wheat marketing officials are begging Monsanto to go slow on the introduction of GM wheat. "With five classes of wheat in the U.S., we already can give the customer what he wants," U.S. Wheat Associates board member Fred Elling, a Montana wheat grower, told *Reuters* at a recent grain industry conference. "Why should we grow something they don't want?"

Consumer Acceptance

In Japan and the European Union, strong labeling requirements imposed at the insistence of consumers — not artificial trade barriers set up by the EU and Japan — are the major impediment to selling GM products. On April 1, 2001, Japan will begin requiring GMO labeling on 24 product categories, including soybean tofu and flour, corn flour, snacks, starches and grits, and processed foods where these products are one of the three major ingredients. Polls of Japanese consumers show that 92.5% favor mandatory labeling and 80% have "reservations" about GM food. The Japanese market represents 20% of all U.S. agricultural exports, worth $11 billion a year.

The story is much the same in Europe. Under EU Regulation 258/97, GMO's have been labeled since May 1987. New labeling requirements will include strict trace-back ability and strong labeling at the consumer level. The Mad Cow crisis and a lack of confidence in the ability of their governments and scientists to evaluate the safety of the food supply have increased demand for GM food labeling (86% want GM food labeled), which led to the new EU labeling rules.

"We already can give the customer what he wants. Why should we grow something they don't want?"
— Fred Elling, U.S. Wheat Associates

In Japan and Europe, grocery stores and importers are giving consumers what they want: non-GMO food.

- The Asahi, Kirin and Sapporo Breweries have all pledged to go GM-free.
- Nisshin Flour Milling Co. LTD and soymilk-maker Kibun Food Chemifa no longer use any GM products in their processing.
- In March 1999, six major European supermarkets — Sainsbury and Marks & Spencer of Britain, Carrefour of France, Delhaize of Belgium, Effelunga of Italy, Migros of Switzerland and Superquinn of Ireland — banded together to ensure access to GM-free foods.
- Tesco, the largest food retailer in the UK, has also gone GM-free; it will not purchase crops grown on any land which has ever grown a GM crop.

Countries Respond

In addition to actions by grain-buying corporations, some countries are responding to consumers and voters with outright or *de facto* bans on GMO's.

- Italian farm and consumer groups are warning exporting nations that they will not accept GM wheat.
- The EU has placed a *de facto* moratorium on the commercial growing of GM crops, except on Novartis' Bt corn, which is grown in Spain.

- Partial or complete bans are in place in Austria, Luxembourg, Italy and Greece. Britain has a formal moratorium on growing GMO crops until 2003.
- France, Italy, Denmark, Greece and Luxembourg have announced they will block any new licenses until new regulations are established.
- Algeria banned imports, sales and consumption of GM plants and products derived from them as of January 5. Algeria is the largest buyer of American durum wheat.

Consumer attitudes toward GM crops have started to affect world grain markets. In Brazil, the second leading soybean grower after the US, a legal ruling in a lawsuit filed by the Consumer Defense Institute and the environmental organization Greenpeace International has blocked efforts to liberalize the planting of genetically modified crops.

Brazilian exports of non-GM soybeans are growing. U.S. soybean exports to Europe declined from $2.1 billion in 1996 to $1.1 billion in 1999. "At the current rate at which food manufacturers are withdrawing GM ingredients... from their products," says the British government's Science and Technology Committee, "there will be no market for GM food in this country."

> *"We will never be in the market for it." We have to listen to our customers, and they don't want GM wheat."*
> — Norwegian importer Kjetil Gran Bergsholm

"We will never be in the market for it," Kjetil Gran Bergsholm, a trader at Norwegian importer Stakorn, told *Reuters*. "We have to listen to our customers, and they don't want GM wheat. If the U.S. goes ahead with this, we'd have to turn to Canada and Kazakhstan to get those supplies," he said.

Keeping GM wheat separate from conventionally grown wheat is the most obvious solution to this problem, but the U.S. grain handling system was developed to handle vast quantities of grain and move it efficiently -- not to segregate every kernel of GM grain from GM-free grain.

Todd Leake, Dakota Resource Council member and a wheat farmer from Emerando, North Dakota, argues that segregation of the two types of wheat is virtually impossible. "It's the physics of the grain handling system," he said.

The introduction of GM wheat, without proper biological controls, handling and segregation, will lock this region's wheat out of export markets to our largest customers. A growing number of U.S. and Canadian farmers and agriculture officials argue that a moratorium is needed to keep insure access to all segments of the market place.

— *Frank James*

Come to WORC's Website House Warming Party!!!

Time: *Anytime Today*
Place: www.safefoodfight.org
Why: *Your food is worth fighting for! Our new website explores food safety issues: genetically modified organisms, country of origin labeling and food inspection.*

50

Modified crops draw attention

JERRY W. KRAM, Bismarck Tribune

A trio of bills before the North Dakota Legislature will take on the thorny issue of how the state will regulate genetically modified crops in the future.

The House Agriculture Committee will hold hearing on two of the bills Thursday at 11 a.m. The first bill, HB 1338, would restrict the sale of genetically modified (GMO) seed wheat in North Dakota before August of 2003. HB 1442 would put limits on the rights of companies who hold patents on GMO crops to collect crops samples without permission.

The other bill, SB 2235, authorizes the state seed commission to do analysis of seed samples to establish genetic identities of varieties. A hearing date for SB 2235 hasn't been set yet.

Sen. Terry Wanzek (R-Cleveland) Chairman of the Senate Agriculture Committee, said these bills were very important to the future of agriculture in North Dakota. He said the episode with Starlink corn, which was only authorized for animal feed but showed up in human food products, was part of the impetus behind this flurry of legislation. Wanzek is a sponsor of SB 2235.

"I think the whole issue is getting a lot of attention nationwide," Wanzek said. "Agriculture is our major industry. If we jeopardize our reputation with our market, that could have a serious economic impact on us."

Rep. Phillip Mueller (D-Wimbledon) said he introduced HB 1338 to help safeguard North Dakota's place in the world wheat market in light of the impending introduction of GMO wheat.

"This issue is very simple, our potential market loss," Mueller said. "We don't really need any other excuses for our markets to get lower than they are. That isn't our only concern, but it is certainly the major concern."

Currently eight of the United States' 11 biggest customers for wheat have placed some kind of restrictions on the importation of GMO crops, Mueller said.

"That represents a huge, huge quantity of wheat," Mueller said.

It is expensive to prove that a shipment of seed has no GMO varieties mixed in with non-GMO crops Mueller said. Currently, there are no GMO varieties commercially available, although Monsanto is set to release two varieties in 2003.

Alan Lee, chairman of the North Dakota Wheat Commission, said the organization hasn't taken a firm position on the bills, but that he personally supports them in principal. Because the majority of wheat grown in the U.S. is exported, Lee would like to see the introduction of GMO wheat delayed until the majority of importing countries accept it.

"I definitely don't oppose the idea behind the bill," Lee said. "We need to wait on Roundup Ready wheat until it is accepted in all of the countries that we do business with."

Todd Leake, a board member of the Dakota Resource Council and a farmer from Emerado, strongly supports all three bills. He said HB 1442 would protect farmers in disputes with companies that hold patents on GMO crops.

"In the past the companies have not notified the landowner (before an inspection)," Leake said. "The bill will create a situation where we can handle these issues in our local courts and not have our farmers threatened with litigation down in St. Louis or somewhere. We're trying to guarantee our farmers some rights in these disputes."

The bill requires companies who suspect a farmer is growing a crop covered by their patents to get the landowner's permission or authorization from a judge to go onto their land to take samples of the crop. It also requires that duplicate samples be taken by a neutral third party. The samples are to be analyzed at an independent laboratory and the landowner must be notified of the results.

Disputes about the results would be mediated by the state Mediation Service.

Wanzek and Mueller said this is an issue that cuts across party lines. They think the state needs to find a balance between allaying the concerns of the countries that buy North Dakota farm products while not stifling innovation.

"How far does the state want to go?" Wanzek asked. "Do we want to be viewed as against any new development or progress? In my mind, we have to be a little bit cautious not to send out a totally negative message about North Dakota and its position in agriculture."

Mueller intends to introduce a resolution for an interim committee to study issues related to genetically modified crops and make recommendations to the 2003 Legislature.

They Say No

Major U.S. wheat buyers balk at GM wheat

Duane Grant is so eager to adopt Roundup Ready wheat technology on his Rupert, Idaho, farm that he is willing to accept a 20¢- to 30¢-per-bushel discount to raise it.

"We have looked forward to it [Roundup Ready wheat] for years. It would solve a host of our weed problems," says Grant.

But as a citizen of a global industry, Grant may find himself asking companies to hold off public release of this coveted wheat technology because many international wheat customers simply do not want genetically modified (GM) wheat. Idaho exports almost 85% of its wheat to the Pacific Rim.

Customers first. "We recognize, especially after StarLink, that the needs of our customers have to come first," says Grant, a member of the National Association of Wheat Growers (NAWG) biotechnology committee. "We may have to ask technology companies to wait for a year or two before they release [GM wheat] commercially," says Grant.

GM wheat could otherwise infiltrate sensitive export markets where it is unwelcome, risking our status as the world's largest wheat exporter, says Grant.

According to in-country surveys conducted by U.S. Wheat Associates (USWA), the wheat-industry-export promotion arm, eight out of the top 11 U.S. wheat customers do not want GM wheat. Those buyers account for more than half of U.S. wheat exports, 16 million to 17 million metric tons.

Some customers, like Japan, are implementing tough new grain-labeling laws for some GM products, virtually eliminating them from the food-grade soybean market. Japan accounts for some 10% of U.S. wheat exports. Last winter, many Japanese food processing and milling companies announced they were substituting wheat for other U.S. commodities like corn and soybeans because U.S. wheat is GM-free.

If the U.S. tries to sell GM wheat to Japan, "it may lead to a total boycott of U.S. agricultural products," warns a USWA internal report. "The Japanese milling industry will not simply accept the product."

Japan is not alone. Even hungry countries like Russia and Nigeria are balking at GM wheat, according to USWA surveys. Of the top markets, only Israel, Colombia and Mexico have indicated willingness to buy GM wheat (see chart).

Should the U.S. press the issue, other countries are poised to capture wheat and other markets. The Brazilian government, for example, has announced it will burn any corn or soybean fields that test positive for GM material.

Clearly Brazil has its eyes on lucrative European and Japanese markets where GM foods are meeting resistance, says the U.S. Wheat Associates South America report.

U.S. consumers have yet to develop resistance to GM foods, according to almost all industry and independent polls. But if producers and grain handlers try to serve two masters—domestic markets that buy GM wheat, and international markets that don't—they must undergo a systems overhaul, warns Heidi Linehan, another Idaho wheat grower.

"It is absolutely essential that we listen to our customers and heed what they say," Linehan adds. "We are very dependent on exports and we have to protect those markets."

The future at stake. Right now, the wheat industry doesn't have a widespread identity-preserved system for GM wheat. And, as with other commodities, problems abound. Last year, for example, Thailand millers found U.S. wheat flour tested positive for GM material, resulting in a brief panic. In the end, the culprit was discovered to be Bt corn left in the hold of a cargo ship. But, like StarLink, it was a harbinger of potential problems.

At stake is half the U.S. wheat crop slated for export. A misstep risks 40 years of market development in some countries, the USWA report warns. Of Japan, the report says, "We must act promptly and in the right direction. Any weak statement will not be accepted."

All of this leaves producers like Grant waiting and hoping for a break. "We are very frustrated that we can't use this technology because of all the misinformation," he says. "But wheat has the most competitive markets in the world.

"We have to be sensitive to our customers' needs and hope that in the long run, we can use the technology we have waited for," he adds. FJ

How Top U.S. Wheat Customers Vote

Country	Total Imports* (metric tons)	Vote
Egypt	4,168,000	
Japan	3,122,000	
Philippines	2,226,000	
Mexico	1,986,000	
Korea	1,475,000	
Russia	1,193,000	
Nigeria	1,185,000	
Taiwan	1,005,000	
Israel	917,000	
Colombia	744,000	
Italy	705,000	

Figures include commercial sales and food aid for the 1999-2000 marketing year

SOURCE: U.S. WHEAT ASSOCIATES

As of October, eight of the top 11 U.S. wheat customers indicated resistance to buying genetically modified wheat.

By Laura Sands

Biotech's Revolving Door

The following individuals have gone from high positions with biotech companies to regulatory positions with the FDA, EPA, USDA, and Clinton/Gore administration, where they have directly influenced decisions regarding the testing, labeling, release, and marketing of Genetically Modified Organisms:

William Ruckelshaus, former chief administrator of EPA, now (and for the past 12 years) a member of Monsanto's Board of Directors;

David Beier, former head of government affairs for Genentech Inc., now chief domestic policy advisor to Vice President Al Gore;

Linda Fisher, former assistant administrator of EPA's Office of Pollution, Prevention, Pesticides and Toxic Substances, now vice-president of government and public affairs for Monsanto;

Marcia Hale, former Presidential aid and director of intergovernmental affairs, now director of international government affairs for Monsanto;

Michael (Mickey) Kantor, former secretary of the Department of Commerce and US trade representative, now a member of Monsanto's Board of Directors;

Margaret Miller, former chemical laboratory supervisor for Monsanto, now deputy director of Human Food Safety and Consultative Services, New Animal Drug Evaluation Office, and the Center for Veterinary Medicine, FDA;

Michael Friedman, former deputy commissioner, FDA, now head of clinical research, Monsanto's J.D. Searle & Co.;

Michael A. Friedman, M.D., former acting commissioner of the United States Food and Drug Administration (FDA) Department of Health and Human Services . . .now senior vice-president for clinical affairs at G. D. Searle & Co., a pharmaceutical division of Monsanto Corporation.

Josh King, former director of production for White House events, now director of global communications in the Washington, DC office of Monsanto;

Lidia Watrud, former biotechnology researcher, Monsanto, now environmental effects laboratory, EPA; . . . former microbial biotechnology researcher at Monsanto Corporation in St. Louis, Missouri, . . .now with the United States Environmental Protection Agency Environmental Effects Laboratory, Western Ecology Division;

Patrick J. Griffin, former chief congressional lobbyist for President Bill Clinton, now lobbyist for Monsanto;

Biotech's Revolving Door (continued)

David E. Johnson, former director of the Democratic Senatorial Campaign Committee, now lobbyist for Monsanto;

Michael Taylor, former legal advisor to the United States Food and Drug Administration (FDA)'s Bureau of Medical Devices and Bureau of Foods, later executive assistant to the Commissioner of the FDA, . . . still later a partner at the law firm of King & Spaulding where he supervised a nine-lawyer group whose clients included Monsanto Agricultural Company, . . . still later Deputy Commissioner for Policy at the United States Food and Drug Administration, . . . and later with the law firm of King & Spaulding. . . . now head of the Washington, D.C. office of Monsanto Corporation.

Leonard Swinehart, a top aide to former House Speaker Newt Gingrich, now lobbyist for Monsanto;

Keith Heard, from the staff of Sen. Thad Cochran, now lobbyist for Monsanto;

L. Val Giddings, former biotechnology regulator and (biosafety) negotiator at the United States Department of Agriculture (USDA/APHIS), . . .now Vice President for Food & Agriculture of the Biotechnology Industry Organization (BIO);

Terry Medley, former administrator of the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture, former chair and vice-chair of the United States Department of Agriculture Biotechnology Council, former member of the U.S. Food and Drug Administration (FDA) food advisory committee, . . . and now Director of Regulatory and External Affairs of Dupont Corporation's Agricultural Enterprise;

Michael Phillips, recently with the National Academy of Science Board on Agriculture . . . now head of regulatory affairs for the Biotechnology Industry Organization;

Jack Watson, former chief of staff to the President of the United States, Jimmy Carter, . . .now a staff lawyer with Monsanto Corporation in Washington, D.C.;

Clayton K. Yeutter, former Secretary of the U.S. Department of Agriculture, former U.S. Trade Representative (who led the U.S. team in negotiating the U.S. Canada Free Trade Agreement and helped launch the Uruguay Round of the GATT negotiations), now a member of the board of directors of Mycogen Corporation, whose majority owner is Dow AgroSciences, a wholly owned subsidiary of The Dow Chemical Company; and

Larry Zeph, former biologist in the Office of Prevention, Pesticides, and Toxic Substances, U.S. Environmental Protection Agency, . . . now Regulatory Science Manager at Pioneer Hi-Bred International.

List compiled and distributed by the Gene Watch Action Team, Winona, MN.

Websites About GM Foods

Fight Genetically Altered Food s Fund
Profile and request for assistance in the litigation between Percy Schmeiser and Monsanto in regards to Roundup Ready canola.
http://www.fightfrankenfood.com

New Scientist | Magazine that deals with Genetically Modified Organisms.
http://gmworld.newscientist.com/

Mothers & Others for a Livable Planet
A national consumer education organization focusing on sustainable and healthy choices. Newsletter, The Green Guide, and Shoppers' Campaign.
http://www.mothers.org

Genetically Modified Foods 'Super Site'
Northern Light Technology, Inc., today introduced a comprehensive Web site devoted to the subject of genetically modified foods.
http://www.lightparty.com/Health/GESuperSite.html and
http://special.northernlight.com/gmfoods

Genetically Engineered Food Introduction
A potentially useful technology genetically engineered or modified food has been pushed through the US and increasingly around the world very quickly without enough time to test.
http://www.globalissues.org/EnvIssues/GEFood.html

Home of the BioDemocracy Campaign, a public interest organization dedicated to building a healthy, safe, and sustainable system of food production and consumption. BioDemocracy publishes a free monthly e-newsletter featuring the GMO debate edited by Ronnie Cummins.
www.purefood.com and www.organicconsumers.org

Huge website of the Alliance For Bio-Integrity. Many links to documents, new items, status of lawsuits, religious considerations, etc.
www.biointegrity.org

The website of the Union of Concerned Scientists of America
www.ucsusa.org

U.S. Department of Agriculture
www.aphis.usda.gov/biotechnology/

U.S. Food and Drug Administration
www.fda.gov/oc/biotech/default.htm

Gene-Spliced Wheat Stirs Global Fears

Buyers Spurn Grain Before It's Planted

By Marc Kaufman
Washington Post Staff Writer
Tuesday, February 27, 2001; Page A01

Special Reports
• Gene Research
• Cloning

Full Coverage
• More Science News

E-Mail This Article
Printer-Friendly Version
Subscribe to The Post

Agricultural scientists have developed the first genetically engineered variety of wheat designed for sale to farmers, stirring intense controversy around the globe years before it is expected to come onto the market.

The wheat, produced by the biotechnology giant Monsanto, has been spliced with a gene that protects it from Monsanto's powerful and popular herbicide Roundup, allowing farmers to kill weeds efficiently without harming their crop. Monsanto says it will be ready for farmers within two to four years, and the company estimates it will increase crop yields by $6 to $11 an acre.

The company hopes the wheat will also lead to other engineered improvements to one of the world's oldest and most important crops, but the international reaction illustrates just how contentious and unpredictable genetically engineered crops have become.

As news of Monsanto's wheat has spread, buyers from Japan to Europe and Egypt have told U.S. exporters that their consumers will not accept genetically modified wheat because of general fears about possible harm to the environment and human health from engineered crops. Some have said that the wheat's very presence on American farms could threaten future purchases of all U.S. wheat. Half of all American wheat is exported, accounting for $3.7 billion in sales and almost 20 percent of all agricultural commodities shipped abroad in 1999.

"We may in the future have a biotech wheat that the world does want," said Darrell Hanavan, chairman of a joint wheat industry committee on biotechnology. "But we need to proceed now under the assumption that some markets won't want it anytime soon. And the challenge will be to make sure that buyers and their customers get exactly what they want."

In an effort to respond to these concerns, Monsanto has agreed to an unprecedented wheat industry request to put in place a system to strictly segregate the modified wheat before it is ever sold to farmers or even approved by regulators. The company has also agreed generally to promote wheat biotechnology to buyers and consumers abroad.

"Some farmers do have concerns about the market for our wheat, but many really want it," said Monsanto spokesman Mark Buckingham. "Farmers need to make improvements and reduce costs, and farmers know our technology can provide that . . . We want to be frank and open because in the current atmosphere, it's very easy for misconceptions to arise."

About 55 percent of U.S. soybeans and 25 percent of corn harvested last year were genetically engineered. Development of genetically modified wheat has lagged behind other crops because it is a more complex plant, made from the union of three wild grasses that have been improved by farmers over the millennia. Rights to wheat varieties are often publicly owned, which can make them less desirable to profit-making companies.

Since last year's Starlink corn debacle -- in which an engineered corn only approved for animal consumption inadvertently made it into the human food supply -- already negative attitudes in major foreign markets about genetically modifed foods have intensified.

The result is that unlike the American corn and soybean industries, which quickly embraced biotech products in the mid-1990s, many in the wheat industry are approaching biotechnology now more as a challenge to surmount than an immediate opportunity to exploit. That wheat has an unusual emotional resonance for many people stemming from its use in bread, the ancient "staff of life," just adds to the challenge.

"Monsanto's wheat can definitely be a real benefit to the producers and our country," said Phil Isaak, a board member of U.S. Wheat Associates, the national organization that promotes American wheat exports for growers. "But unless we get worldwide public approval of it, we have to take the position of resisting release for commercialization."

Critics of biotechnology call the worldwide debate over genetically modified wheat a positive development, and are pleased it is happening well before the crop is actually introduced. While major U.S. scientific organizations have generally found that current genetically engineered crops pose no danger to the environment or human health, opponents argue that taking genes from one kind of plant or animal and inserting it into another could have unforeseen long-term consequences.

"It is a very healthy thing for people to be asking now if we really need this wheat, if it's wise to release it and whether it will benefit people who need help," said Margaret Mellon of the Union of Concerned Scientists. "This has never happened before with a major product of biotechnology."

Monsanto's wheat is being tested in greenhouses in the upper Midwest and bred into local varieties. Company officials say they are in no rush to introduce Roundup Ready wheat, and will bring it onto the market gradually when they do. The company has asked for Environmental Protection Agency approval to add wheat to the approved list of crops for its Roundup herbicide, but has not yet approached two other federal agencies.

Industry and company officials said they hoped to devise a segregation system for engineered wheat -- which would parallel those already in place for some special conventional varieties -- by year's end.

Montana wheat farmer Frank Elling said he would be happy to use Roundup Ready wheat if he was certain customers would accept it. But his Pacific Rim buyers have made their reservations known, and Asian governments have taken dramatic steps in recent years to reject shipments of genetically modified crops.

Japanese officials, for instance, turned back a boatload of corn last year suspected to contain the Starlink variety, and Thai officials did the same with a shipment of wheat 18 months ago. In that case, officials concluded that the American wheat had been mixed with small amounts of engineered corn while being transported from the West Coast.

Similar messages of concern have been coming in to the 17 international offices of U.S. Wheat Associates, the American export marketing group. A letter from Tsutoma Shigeta of the Japan Flour Millers Association said, for instance, that "Japanese consumers are highly suspicious and skeptical about safety of [genetically modified] farm products which may be hazardous to human health and environment. Under the circumstances, I strongly doubt that any bakery and noodle products made of [modified] wheat or even conventional wheat that may contain [modified] wheat will be accepted in the Japanese market."

Jef Smidts of the Dutch wheat supplier Andre & Cie wrote even more bluntly, "[Genetically modified] wheat for sure will be a market destructor." Because of such concerns, legislators in Montana and North Dakota have introduced bills to place a moratorium on the use of genetically engineered wheat.

Val Giddings, vice president for food and agriculture for the Biotechnology Industry Organization, said he has heard similar concerns, but that he believes the "perception of resistance is substantially greater than the reality is likely to be.

"Monsanto has recognized and is acting on the understanding that some folks want to have more input into this product," he said. "They are trying to do this in an open and transparent way, and that is not without risk."