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FOOD SAFETY

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A New View of U.S. Agriculture

*State-by-state factsheets on top agricultural
commodities, organic sales, and regulations
on genetically engineered foods*





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US map illustration by:

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Introduction

There is a common misconception that genetically engineered (GE) foods dominate the U.S. agricultural industry, saturating our fields and flowing unimpeded through our regulatory system. In reality, only four crops (corn, soybeans, canola, and cotton) are currently grown in significant amounts, and for nearly half of the states, none are major agricultural commodities.

Nevertheless, in comparison to many nations, our federal regulatory agencies are negligent when it comes to GE regulation. Many countries have national regulations requiring the labeling of GE foods, a clear safety evaluation before introducing new varieties, and even outright bans on production of GE crops and/or importation of some GE products. In stark contrast to these nations, an analysis of our federal regulatory system reveals a tangle of agencies and a regulatory vacuum.

In the absence of federal regulation, state and local governments have made significant advances into those exact regulatory fields the federal government avoids. States and localities have taken actions that range from requiring GE seed labels to banning GE fish to banning all GE crops outright. Genetically engineered foods are not a national inevitability.

This chart looks at individual states, providing information on various aspects of their agricultural industry. It features the state's top agricultural commodities, and the percentage which is produced with genetically engineered varieties. For many states, none of their top agricultural products are genetically engineered. The chart also ranks states according to how much organic agriculture they produce relative to total U.S. organic production and, perhaps more revealing, they are also ranked according to how much of the state's agricultural industry is organic. In addition to this numeric data, the charts also include state legislation or regulations that seek to control the production or use of GE food.

When looked at together, this information constructs a new picture of a state's agriculture industry. Some examples of how this information works together to construct a new view of a state's agriculture:

- **California** ranks #1 in U.S. organic agricultural sales, producing nearly 40% of all organics sold in the nation. The state has banned GE fish from its waters and essentially pre-empted commercial GE rice cultivation with the Rice Certification Act of 2000, setting up regulations for rice varieties of commercial impact. In addition, a total of 5 counties and cities have declared themselves "GMO-free" zones.
- **Massachusetts** ranks #1 in the percentage of its agricultural industry producing organics, and none of its top commodities are genetically engineered. Also, a number of towns have called on the state's United States Senators and Congressional Representatives to support legislation that imposes a national moratorium on cultivation of GE crops.
- **Alaska** has taken significant steps to protect its \$300 million a year fishing industry, which is nearly 6 times Alaska's agricultural sales. The state has banned all finfish

aquaculture, including GE fish, and enacted a bill that requires labeling of all GE fish and fish products.

- **Arkansas** ranks near the bottom in organic agriculture and over 90% of the state's soybeans and cotton are grown from GE varieties. However, the state has enacted the Arkansas Rice Certification Act which, like California's act, essentially pre-empts potential commercial GE rice cultivation and also sets up a regulatory framework for rice varieties of commercial impact. Rice is an \$800 million industry in Arkansas, over half of which is exported. Facing widespread international rejection of GE foods, the Act keeps this important industry from losing its major markets.

The potential to reframe the way we look at agriculture in the U.S. is evident in the data compiled in this report. The federal government's inaction has not stopped state and local authorities, consumers, farmers, and other concerned citizens from defending themselves against GE foods. The data in this report indicates that these efforts have been successful at the state and local level, and with continued vigilance and effort, future regulations on GE foods will multiply and prevail.

Alabama

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	45
1. Broilers	58.7	11.8	2,406,976	0%	Organic as % of US organic ag sales state ranking:	44
2. Cattle and calves	11.4	1	469,323	0%	Total value of organic sales (\$1000):	186
3. Chicken eggs	7	5.4	287,956	0%		
4. Greenhouse/nursery	6.4	1.7	263,092	0%		
5. Cotton	4.7	3.6	193,535	n/a		
All commodities		1.7	4,103,235			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

Alaska

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	50
1. Greenhouse/nursery	27.6	0.1	14,630	0%	Organic as % of US organic ag sales state ranking:	50
2. Hay	7.4	0.1	3,910	0%*	Total value of organic sales (\$1000):	0
3. Dairy products	5.3	0	2,822	0%		
4. Potatoes	4.2	0.1	2,250	0%*		
5. Cattle and calves	2.7	0	1,413	0%		
All commodities		0	52,987			
Legislation and regulations controlling GMOs:						
<p>GE Fish Labeling: Bill (SB25) passed requiring that “food is conspicuously labeled to identify the fish or fish product as a genetically modified fish or fish product...” <i>Alaska Stat. §17-20-040 (2005)</i> http://www.legis.state.ak.us/folhome.htm</p> <p>Aquaculture Ban: Alaska Fish and Game statutes state that “a person may not grow or cultivate finfish in captivity or under positive control for commercial purposes.” Since the statute bans all finfish, this would include GE fish. <i>Alaska Stat. §16.40.210 (1990)</i> http://www.legis.state.ak.us/folhome.htm</p>						
					State legislation restricting local control of GMOs:	None

Arizona

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	20
1. Cattle and calves	25.1	1.6	770,066	0%	Organic as % of US organic ag sales state ranking:	25
2. Lettuce	19.2	28.5	589,896	0%	Total value of organic sales (\$1000):	3,410
3. Dairy products	18.6	2.1	570,381	0%		
4. Cotton	6.3	3.6	194,309	n/a		
5. Hay	3.6	2.5	111,420	0%*		
All commodities		1.3	3,065,603			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	SB1282 Passed 4/22/05

Arkansas

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	47
1. Broilers	41.4	13.4	2,731,300	0%	Organic as % of US organic ag sales state ranking:	46
2. Rice	12.2	46.8	808,021	0%	Total value of organic sales (\$1000):	136
3. Soybeans	11.6	4.2	766,264	92%		
4. Cattle and calves	8.4	1.2	555,145	0%		
5. Cotton	7	8.6	464,672	96%		
All commodities		2.7	6,604,400			
Legislation and regulations controlling GMOs:						
<p>GE Rice Regulation: The Arkansas Rice Certification Act (HB2574) regards rice with “characteristics of commercial impact. These characteristics include those “that may adversely affect the marketability of rice in the event of commingling with any other rice [and]...that cannot be identified without the aid of specialized equipment or testing.” The Act allows the State Plant Board to prohibit or place restrictions on the “selling, planting, producing, harvesting, transporting, storing, processing, or other handling” of such rice. <i>Ark. Code Ann. §2-15-201 to 2-15-208 (2005)</i></p> <p>http://www.arkleg.state.ar.us/ftproot/acts/2005/public/act1238.pdf</p>						
					State legislation restricting local control of GMOs:	None

California

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	8
1. Dairy products	16.9	19.6	5,365,992	0%	Organic as % of US organic ag sales state ranking:	1
2. Greenhouse/nursery	10.5	21.2	3,328,147	0%		
3. Grapes	8.7	91.5	2,758,467	0%		
4. Almonds	6.9	100	2,200,055	0%		
5. Cattle and calves	5.1	3.5	1,633,740	0%	Total value of organic sales (\$1000):	149,137
All commodities		13.2	31,835,183			
Legislation and regulations controlling GMOs:						
<p>GE Fish Ban: Bill (SB245) passed which states that “in the waters of the Pacific Ocean that are regulated by this state, it is unlawful to spawn, incubate, or cultivate any...transgenic fish species.” <i>Cal. [Fish & Game] Code §15007 (2003)</i> http://www.leginfo.ca.gov/calaw.html</p> <p>GE Rice Regulation: The Rice Certification Act of 2000 (HB2622) regulates rice that has “characteristics of commercial impact.” This is defined as characteristics that “may adversely affect the marketability of rice in the event of commingling with other rice and may include, but are not limited to, those characteristics that cannot be visually identified without the aid of specialized equipment or testing, those characteristics that create a significant economic impact in their removal from commingled rice, and those characteristics whose removal from commingled rice is infeasible.” The Act provides for regulation and potential certification of such rice varieties. <i>Cal. [Food & Agric.] Code § 55000 to 55108 (2000)</i> http://www.leginfo.ca.gov/calaw.html</p> <p>County GMO Ban: Measure H passed by voters (March 2004) in Mendocino County which states that “it shall be unlawful for any person, firm, or corporation to propagate, cultivate, raise, or grow genetically modified organisms in Mendocino County.” (<i>Measure has yet to be codified</i>) http://www.gmofreemendo.com/</p> <p>County GMO Ban: Marin County voted for a measure which states that “it is unlawful for any person or entity to cultivate, propagate, raise or grow genetically modified organisms in Marin County.” (2004) http://www.smartvoter.org/2004/11/02/ca/mrn/meas/B/</p> <p>County GMO Ban: Trinity County passed Ordinance No. 1284 which states that “it is unlawful for any person to propagate, cultivate, raise, or grow genetically engineered organisms in Trinity County.” <i>Chpt 8.25 of County Code (2004)</i> http://www.trinitycounty.org/</p> <p>City GMO Ban: City of Arcata City ordinance states that “it is unlawful for any person, partnership, corporation, firm or organization of any kind to sell, distribute, propagate, cultivate, raise or grow seeds or crops of genetically engineered organisms in the City of Arcata...” <i>Ordinance No. 1350 (2004)</i> http://www.environmentalcommons.org/arcata-ordinance-1350-final.pdf</p> <p>City GMO Ban: Point Arena passed Ordinance No. 193 which states that “it is unlawful for any person, partnership, corporation, firm or organization of any kind to sell, distribute, propagate, cultivate, raise or grow seeds, whole plants, or crops of genetically modified organisms in the City of Point Arena” <i>Chpt 8.25 of City Code (2004)</i> http://www.environmentalcommons.org/Point-Arena-Ordinance.pdf</p>						
					State legislation restricting local control of GMOs:	None

Colorado

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	14
1. Cattle and calves	60.8	7.1	3,342,808	0%	Organic as % of US organic ag sales state ranking:	8
2. Dairy products	6.2	1.3	343,281	0%		
3. Corn	5.2	1.3	285,378	n/a	Total value of organic sales (\$1000):	12,516
4. Greenhouse/nursery	5	1.8	276,427	0%		
5. Hogs	3.7	1.4	206,057	0%		
All commodities		2.3	5,501,155			
Legislation and regulations controlling GMOs:						
City GMO Restriction: In the City of Boulder, it is illegal to plant GMOs on public land. The City is the largest land owner in the city, with approximately 40, 000 acres under its control.						
					State legislation restricting local control of GMOs:	None

Connecticut

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	7
1. Greenhouse/nursery	44.3	1.5	233,011	0%	Organic as % of US organic ag sales state ranking:	28
2. Dairy products	12.7	0.2	67,124	0%		
3. Chicken eggs	8.7	0.9	45,944	0%	Total value of organic sales (\$1000):	2,822
4. Aquaculture	3.2	1.9	16,725	0%		
5. Corn, sweet	2	1.3	10,664	0%		
All commodities		0.2	526,580			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

Delaware

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	48
1. Broilers	73.5	3.4	686,458	0%	Organic as % of US organic ag sales state ranking:	49
2. Soybeans	4.8	0.2	45,083	n/a		
3. Corn	4.7	0.2	44,292	n/a	Total value of organic sales (\$1000):	8
4. Greenhouse/nursery	3.6	0.2	33,980	0%		
5. Dairy products	2.3	0.1	21,488	0%		
All commodities		0.4	933,843			

Legislation and regulations controlling GMOs:

State legislation restricting local control of GMOs:	None
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Florida

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales <i>state ranking:</i>	24
1. Greenhouse/nursery	23.8	10.4	1,628,672	0%	Organic as % of US organic ag sales <i>state ranking:</i>	15
2. Oranges	14.3	62.5	980,309	0%	Total value of organic sales (\$1000):	5,913
3. Cane for sugar	8	55.1	549,669	0%		
4. Tomatoes	7.3	24.3	500,472	0%*		
5. Cattle and calves	6.5	0.9	443,145	0%		
All commodities		2.8	6,843,731			
Legislation and regulations controlling GMOs: GE Fish Regulation: Under broad the broad mandate to regulate state aquaculture, the Division of Aquaculture within the Florida Department of Agriculture and Consumer Services created a Transgenic Aquatic Species Task Force. Under the Best Management Practices (BMPs) rule, “certified aquaculturists must apply to and receive from the FDACS, Division of Aquaculture, written authorization prior to culturing any transgenic aquatic species.” Aquaculturists must comply with the BMPs in order to receive an Aquaculture Certificate of Registration. <i>Aquaculture Best Management Practices Rules, January 2005 (Note: To date, the Task Force has approved only one transgenic fish: the Glofish)</i> http://www.floridaaquaculture.com/publications/BMP%20Rule-Manual112805.pdf Bt Cotton Geographic Restriction: Under current EPA regulations, the agency has “imposed sale and distribution restrictions on <i>B.t.</i> cotton in Florida, restricting its use to those sites North of Tampa (Route 60).” This is due to potential gene flow into the wild cotton species found in that area. <i>Biopesticides Registration Action Document for the Bacillus thuringiensis (Bt) Plant-Incorporated Protectants</i> , October 15, 2001 http://www.epa.gov/pesticides/biopesticides/pips/bt_brad.htm						
					State legislation restricting local control of GMOs:	HB1717 Passed 5/6/2005

Georgia

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	44
1. Broilers	46.8	14	2,857,580	0%	Organic as % of US organic ag sales state ranking:	37
2. Cotton	8	9	487,410	95%	Total value of organic sales (\$1000):	671
3. Cattle and calves	6.5	0.8	395,833	0%		
4. Chicken eggs	6.5	7.4	394,223	0%		
5. Peanuts	5.7	41.7	347,700	0%		
All commodities		2.5	6,107,025			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	SB87 Passed 2/18/2005

Hawaii

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	3
1. Greenhouse/nursery	17.2	0.6	94,525	0%	Organic as % of US organic ag sales state ranking:	18
2. Pineapples	14.5	100	79,934	0%	Total value of organic sales (\$1000):	4,801
3. Cane for sugar	11.9	6.6	65,429	0%		
4. Macadamia nuts	7.3	100	40,115	0%		
5. Coffee	4.1	100	22,365	0%		
All commodities		0.2	549,830			
Legislation and regulations controlling GMOs:						
<p>Bt Cotton Geographic Restriction: Under EPA regulations, "current Agency restrictions in Hawaii preclude the sale and use of <i>B.t.</i> cotton for commercial planting [on the islands]." This is due to potential gene flow into the wild cotton species found in those areas. <i>Biopesticides Registration Action Document for the Bacillus thuringiensis (Bt) Plant-Incorporated Protectants</i>, October 15, 2001 http://www.epa.gov/pesticides/biopesticides/pips/bt_brads.htm.</p>						
					State legislation restricting local control of GMOs:	None

Idaho

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	6
1. Dairy products	31.2	5	1,358,400	0%	Organic as % of US organic ag sales state ranking:	2
2. Cattle and calves	24.4	2.2	1,059,388	0%	Total value of organic sales (\$1000):	25,328
3. Potatoes	11.6	21.2	503,034	0%*		
4. Wheat	7.6	4.5	332,091	0%		
5. Hay	6.1	6	265,042	0%*		
All commodities		1.8	4,349,253			
Legislation and regulations controlling GMOs: GMO Restriction: Idaho Plant Pest Act of 2002 (HO448) passed, which states that “the shipment, introduction into or release within this state of any plant pest, biocontrol agent, or genetically engineered plant or plant pest, or any other organism which may directly or indirectly affect the plant life of this state as an injurious pest, parasite or predator of other organisms, or any arthropod, is prohibited, except under permit issued by the Department [of Agriculture].” Idaho Code Ann. §22-2016 http://www3.state.id.us/cgi-bin/newidst?sctid=220200016.K						
					State legislation restricting local control of GMOs:	HB38 Passed 3/23/2005

Illinois

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	40
1. Corn	42.5	18.6	4,121,224	36%	Organic as % of US organic ag sales state ranking:	31
2. Soybeans	30.3	16	2,944,989	81%	Total value of organic sales (\$1000):	1,778
3. Hogs	10.6	7.2	1,027,628	0%		
4. Cattle and calves	5	1	486,612	0%		
5. Dairy products	3.2	1.1	308,819	0%		
All commodities		4	9,708,304			
Legislation and regulations controlling GMOs: 						
					State legislation restricting local control of GMOs:	None

Indiana

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	43
1. Corn	29.6	8	1,786,401	26%	Organic as % of US organic ag sales state ranking:	35
2. Soybeans	27	8.9	1,632,248	89%	Total value of organic sales (\$1000):	851
3. Hogs	12.2	5.1	738,470	0%		
4. Dairy products	8.1	1.8	490,646	0%		
5. Chicken eggs	4.8	5.5	291,947	0%		
All commodities		2.5	6,043,191			
Legislation and regulations controlling GMOs:						
<p>Seed Contract Restriction: Bill (HB1119) passed which states that “a seed contract may not give ... a seed supplier or an agent of a seed supplier the right to enter real property owned or occupied by the farmer to acquire samples [for testing] of the crop grown from the seed or any other plant growing on the real property unless” specific conditions, such as written notification, are met. <i>Ind. Code §15-4-13 (2002)</i></p> <p>http://www.in.gov/legislative/ic/code/title15/ar4/ch13.html</p>						
					State legislation restricting local control of GMOs:	HB1302 Passed 3/25/2005

Iowa

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	23
1. Corn	28.8	19	4,220,252	60%	Organic as % of US organic ag sales state ranking:	6
2. Hogs	25.9	26.5	3,801,018	0%	Total value of organic sales (\$1000):	13,333
3. Soybeans	19.7	15.7	2,887,238	91%		
4. Cattle and calves	14.5	4.5	2,124,600	0%		
5. Dairy products	4.2	2.3	620,052	0%		
All commodities		6.1	14,652,946			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	HF642 Passed 4/6/2005

Kansas

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	38
1. Cattle and calves	59.4	11.9	5,643,895	0%	Organic as % of US organic ag sales state ranking:	29
2. Wheat	11.7	15.1	1,115,680	0%		
3. Corn	8.8	3.7	831,885	63%	Total value of organic sales (\$1000):	2,320
4. Soybeans	5.6	2.9	531,004	90%		
5. Hogs	4	2.6	379,048	0%		
All commodities		3.9	9,502,727			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	HB2341 Passed 4/1/2005

Kentucky

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	27
1. Horses/mules	23	81.8	950,000	0%	Organic as % of US organic ag sales state ranking:	27
2. Broilers	16.7	3.4	690,932	0%		
3. Cattle and calves	15	1.3	620,650	0%	Total value of organic sales (\$1000):	2,987
4. Tobacco	10.2	27.8	421,694	0%*		
5. Soybeans	9	2	372,216	n/a		
All commodities		1.7	4,126,185			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

Louisiana

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	46
1. Cane for sugar	14.9	33.2	331,220	0%	Organic as % of US organic ag sales state ranking:	47
2. Rice	10.9	14.1	243,420	0%*	Total value of organic sales (\$1000):	51
3. Cattle and calves	9.2	0.4	205,490	0%		
4. Soybeans	9	1.1	200,610	n/a		
5. Cotton	8.8	3.6	196,766	95%		
All commodities		0.9	2,225,803			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

Maine

Top 5 agricultural commodities	% of state total	% of US total	Value of receipts (\$1000)	% GE	Organic as % of all state ag sales state ranking:	4
1. Dairy products	19.7	0.4	109,260	0%	Organic as % of US organic ag sales state ranking:	21
2. Potatoes	16.6	3.9	92,126	0%*		
3. Chicken eggs	11.1	1.2	61,408	0%		
4. Greenhouse/nursery	7.5	0.3	41,322	0%		
5. Aquaculture	6.8	4.2	37,385	0%	Total value of organic sales (\$1000):	4,113
All commodities		0.2	553,830			
Legislation and regulations controlling GMOs: GE Pesticide Regulation: Maine pesticide law provides that "No commercial applicator may use or supervise the use of any pesticide within the State without prior certification from the board, provided that a competent person who is not certified may use such a pesticide under the direct supervision of a certified applicator." <i>Me. Rev. State. Ann. Tit. 258-A, §1741-D (2006)</i> http://janus.state.me.us/legis/statues/22/title22sec1471-D.html On December 12, 1998, the Board of Pesticides used this authority to prohibit the planting of several genetically engineered, Bt corn varieties because there was no sufficient need for use of the pesticide incorporated into the corn varieties. GE Seed Regulation: Bill (HP952) passed which states that "the manufacturer or seed dealer of the genetically engineered plants, plant parts or seeds shall provide written instructions to all growers on how to plant the plant parts, seeds or plants and how to grow and harvest the crop to minimize potential cross-contamination." <i>Me. Rev. Stat. Ann. tit. 7, §1052 (2001)</i> http://janus.state.me.us/legis/statutes/7/title7sec1052.html GE Labeling: Bill (SP569) passed which states that "a label may be placed on any food, food product or food ingredient offered for sale in the State designating that food, food product or food ingredient as free of or made without recombinant deoxyribonucleic acid technology, genetic engineering or bioengineering...The rules must allow any food 1% or less of which consists of genetically engineered ingredients to be labeled as free of genetically engineered ingredients." Law further states that "if a manufacturer, distributor, processor, wholesaler or retailer falsely labels or advertises any food, food product or food ingredient offered for sale in the State as free of or made without recombinant deoxyribonucleic acid technology, genetic engineering or bioengineering, the food, food product or food ingredient is misbranded..." <i>Me. Rev. Stat. Ann. tit. 7, §530-A (2001)</i> http://janus.state.me.us/legis/statutes/7/title7sec530-A.html Milk Labeling: The Department of Agriculture, Food, and Rural Resources sets out criteria for the State of Maine Quality Trademark on milk and milk products in the Code of Maine Rules. A licensed user of the label must have submitted "a sworn statement stating that the milk producer has not used recombinant bovine somatotropin (rBST) in the previous 60 days, does not possess, and does not intend to use (rBST) during the upcoming year." <i>01-001 CMR Chapter 136 (1994)</i> http://www.maine.gov/sos/cec/rules/01/001/001c136.doc Town GMO Ban: On March 25, 2006 the town of Montville approved a resolution that declared itself a GMO-free zone. "Montville Bans Genetically Modified Seeds," <i>Bangor Daily News</i> , 27 March 2006 http://www.bangornews.com						
					State leg. restricting local control of GMOs	None

Maryland

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	15
1. Broilers	36	3.1	628,406	0%	Organic as % of US organic ag sales state ranking:	23
2. Greenhouse/nursery	20.7	2.3	360,396	0%	Total value of organic sales (\$1000):	3,614
3. Dairy products	11.2	0.7	196,010	0%		
4. Corn	6.9	0.5	120,191	n/a		
5. Soybeans	6.4	0.6	112,155	n/a		
All commodities		0.7	1,743,357			
Legislation and regulations controlling GMOs: GE Fish Ban: Bill (HB189) passed which states that “the Department [of Natural Resources] may not issue a permit for the raising of a transgenic species or a genetically altered species, unless the permit limits the aquaculture operation to waters of the State that do not flow into any other body of water; and the aquaculture operation is constructed in a manner that assures that transgenic or genetically altered stocks are precluded from entering any other waters or contaminating other aquatic species of the State.” <i>Md. Code Ann., [Nat. Res.] §4-11A-02 (2001)</i> http://mlis.state.md.us/cgi-win/web_statutes.exe						
					State legislation restricting local control of GMOs:	None

Massachusetts

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	1
1. Greenhouse/nursery	35.4	0.9	146,398	0%	Organic as % of US organic ag sales state ranking:	13
2. Cranberries	15.1	29.1	62,378	0%	Total value of organic sales (\$1000):	7,837
3. Dairy products	12.4	0.2	51,275	0%		
4. Corn, sweet	4.1	2	16,965	0%		
5. Apples	3.3	0.8	13,456	0%		
All commodities		0.2	413,954			
Legislation and regulations controlling GMOs: Currently, 7 towns have passed resolutions voicing opposition to GMOs and, calling on the state’s US Senators and Congressional Representatives to support legislation regulating GMOs.						
					State legislation restricting local control of GMOs:	None

Michigan

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	18
1. Dairy products	23.7	3.7	1,020,380	0%	Organic as % of US organic ag sales state ranking:	14
2. Greenhouse/nursery	14.1	3.9	609,209	0%		
3. Corn	10.6	2.1	458,050	40%		
4. Soybeans	9.8	2.3	422,684	76%		
5. Cattle and calves	6.1	0.6	262,757	0%	Total value of organic sales (\$1000):	7,019
All commodities		1.8	4,312,320			
Legislation and regulations controlling GMOs: GE Fish Restriction: Bill (SB226) passed which states that “unless authorized by a permit issued by the department...a person shall not knowingly release or allow to be released into this state [a genetically engineered fish or a nonnative fish]...that is not naturalized in the location of release.” <i>2003 Mich. Pub. Acts No. 270 (effective March 2004)</i> http://www.legislature.mi.gov/documents/2003-2004/publicact/htm/2003-PA-0270.htm GE Fish Restriction: Bill (SB229) passed which states that “...each genetically engineered variant of an aquaculture species shall be considered a distinct aquaculture species. A genetically engineered variant of an aquaculture species is not included on the list of approved aquaculture species ... unless specifically identified ...A genetically engineered organism that is a variant of an aquaculture species is not covered by an aquaculture research permit...” <i>2003 Mich. Pub. Acts No. 272 (effective March 2004)</i> http://www.legislature.mi.gov/documents/2003-2004/publicact/htm/2003-PA-0272.htm						
					State legislation restricting local control of GMOs:	None

Minnesota

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	25
1. Corn	18.7	8.2	1,827,809	66%	Organic as % of US organic ag sales state ranking:	11
2. Hogs	17.6	12	1,724,512	0%		
3. Soybeans	16.8	9	1,648,271	83%		
4. Dairy products	13.6	4.9	1,336,334	0%		
5. Cattle and calves	10.1	2.1	989,285	0%	Total value of organic sales (\$1000):	8,330
All commodities		4.1	9,794,912			
Legislation and regulations controlling GMOs: Wild Rice Law: This law states that “the board shall establish an advisory committee on genetically engineered organisms to provide advice at the request of the board on general issues involving genetic engineering and on issues relating to specific proposals, including the identification of research needed for adequate regulation of field trials.” <i>Minn. Stat. §116C.91-116C.98 (2006)</i> http://www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=STAT_CHAP&year=current&chapter=116c#stat.116C.92.0 GMO Regulation: Bill (H2212) passed which is meant to “establish permits for the release of certain genetically engineered agriculturally related organisms to protect humans and the environment from the potential for significant adverse effects of those releases.” <i>Minn. Stat. §18F.01 to 18F.13 (1994)</i> http://www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=STAT_CHAP&year=current&chapter=18F GE Pesticide Regulation: Minnesota statutes state that “a person may not use, distribute, or conduct release experiments with a genetically engineered pesticide in any amount in the state until it is registered under this section.” It further states that “the commissioner may issue an experimental genetically engineered pesticide product registration if the commissioner determines that the applicant has adequately demonstrated that the proposed release does not have the potential for unreasonable adverse effects on the environment.” <i>Minn. Stat. §18B.285 (1991)</i> http://www.revisor.leg.state.mn.us/bin/getpub.php?pubtype=STAT_CHAP&year=current&chapter=18b						
					State legislation restricting local control of GMOs:	None

Mississippi

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	42
1. Broilers	47.2	9.4	1,930,412	0%	Organic as % of US organic ag sales state ranking:	38
2. Cotton	12.9	9.7	526,497	96%	Total value of organic sales (\$1000):	649
3. Soybeans	9.6	2.1	393,188	96%		
4. Aquaculture	6.8	31	276,971	0%		
5. Cattle and calves	4.8	0.4	196,129	0%		
All commodities		1.7	4,089,158			
Legislation and regulations controlling GMOs:						
GE Fish Regulation: Bill (H0336) passed which states that “an aquaculturist shall obtain a cultivation and marketing permit for cultured aquatic products produced from...any aquatic plants or animals which have been genetically modified or are to be genetically modified by means other than breeding and crossbreeding.” <i>Miss Code Ann. §79-22-9 (2000)</i> http://www.sos.state.ms.us/pubs/mscode/						
					State legislation restricting local control of GMOs:	None

Missouri

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	41
1. Soybeans	20.3	6.4	1,183,646	89%	Organic as % of US organic ag sales state ranking:	34
2. Cattle and calves	19.4	2.4	1,131,621	0%	Total value of organic sales (\$1000):	979
3. Corn	13.5	3.5	787,566	55%		
4. Hogs	10.7	4.3	623,260	0%		
5. Dairy products	5.1	1.1	298,808	0%		
All commodities		2.4	5,818,727			
Legislation and regulations controlling GMOs:						
GE Rice Regulation: The Missouri Rice Certification Law (HB 741, amended to include SB 387) allows an advisory council to condition or prohibit the production, transporting, or handling of rice varieties with characteristics of “commercial impact.” <i>MO H.B. 741 and S.B. 387 (2007)</i> http://www.senate.mo.gov/07info/BTS_Web/Bill.aspx?SessionType=R&BillID=8005 http://www.house.mo.gov/bills071/bills/HG741.htm						
					State legislation restricting local control of GMOs:	None

Montana

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	17
1. Cattle and calves	49.3	2.3	1,104,387	0%	Organic as % of US organic ag sales state ranking:	22
2. Wheat	25.3	7.7	565,647	0%	Total value of organic sales (\$1000):	3,847
3. Barley	5.6	18.4	124,839	0%		
4. Hay	3.9	2	86,794	0%*		
5. Sugar beets	2.5	4.4	56,244	0%*		
All commodities		0.9	2,238,979			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

Nebraska

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	33
1. Cattle and calves	52.6	13.1	6,196,896	0%	Organic as % of US organic ag sales state ranking:	20
2. Corn	21.6	11.5	2,543,705	69%	Total value of organic sales (\$1000):	4,145
3. Soybeans	10.9	7	1,280,621	91%		
4. Hogs	6.5	5.3	761,953	0%		
5. Wheat	1.8	3	217,810	0%		
All commodities		4.9	11,779,728			
Legislation and regulations controlling GMOs:						
<p>GE Pesticide Regulation: Bill (LB588) passed, known as the Pesticide Act, with the intent “to regulate, in the public interest, the labeling, distribution, storage, transportation, use, application, and disposal of pesticides for the protection of human health and the environment.” The act defines a biological control agent as “any living organism applied to or introduced into the environment that is intended to function as a pesticide against another organism” and further classifies it as a pesticide, to be regulated by the Act. Genetically engineered B.t. crops fall within the definition of “biological control agent.” <i>Neb. Rev. Stat. §2-2622 to §2-2654 (1993)</i> http://srvwww.unicam.state.ne.us/legislature/legaldocs/Statutes/CHAP02/</p>						
					State legislation restricting local control of GMOs:	None

Nevada

					Organic as % of all state ag sales state ranking:	35
Top 5 agricultural commodities	% of state total	% of US total	Value of receipts (\$1000)	% GE	Organic as % of US organic ag sales state ranking:	24
1. Cattle and calves	52.6	13.1	6,196,896	0%	Total value of organic sales (\$1000):	3,613
2. Corn	21.6	11.5	2,543,705	n/a		
3. Soybeans	10.9	7	1,280,621	n/a		
4. Hogs	6.5	5.3	761,953	0%		
5. Wheat	1.8	3	217,810	0%		
All commodities		4.9	11,779,728			
Legislation and regulations controlling GMOs:					State legislation restricting local control of GMOs:	None

New Hampshire

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	<i>Organic as % of all state ag sales state ranking:</i>	5
1. Greenhouse/nursery	36	0.4	60,819	0%	<i>Organic as % of US organic ag sales state ranking:</i>	33
2. Dairy products	31.3	0.2	52,923	0%		
3. Apples	4.5	0.4	7,618	0%		
4. Cattle and calves	4.1	0	7,001	0%		
5. Corn, sweet	3.1	0.6	5,292	0%	<i>Total value of organic sales (\$1000):</i>	1,154
All commodities		0.1	168,871			

<i>Legislation and regulations controlling GMOs:</i>	State legislation restricting local control of GMOs: None
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New Jersey

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	36
1. Greenhouse/nursery	42.5	2.3	368,546	0%	Organic as % of US organic ag sales state ranking:	43
2. Horses/mules	12.6	9.4	109,000	0%	Total value of organic sales (\$1000):	222
3. Blueberries	5.3	15.4	45,630	0%		
4. Dairy products	3.7	0.1	32,308	0%		
5. Chicken eggs	3.3	0.5	28,912	0%		
All commodities		0.4	866,719			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

New Mexico

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	29
1. Dairy products	39	3.7	1,000,224	0%	Organic as % of US organic ag sales state ranking:	32
2. Cattle and calves	37	2	948,659	0%	Total value of organic sales (\$1000):	1,576
3. Hay	5	2.9	127,680	0%*		
4. Pecans	3.5	27.2	88,920	0%		
5. Greenhouse/nursery	2.3	0.4	59,873	0%		
All commodities		1.1	2,564,863			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

New York

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	10
1. Dairy products	53.4	7.1	1,950,144	0%	Organic as % of US organic ag sales state ranking:	7
2. Greenhouse/nursery	10.4	2.4	378,415	0%	Total value of organic sales (\$1000):	12,920
3. Apples	4.7	9.7	172,860	0%		
4. Cattle and calves	3.5	0.3	127,331	0%		
5. Hay	3.3	2.7	120,252	0%*		
All commodities		1.5	3,653,431			
Legislation and regulations controlling GMOs:						
						State legislation restricting local control of GMOs: None

North Carolina

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	28
1. Hogs	25.3	14.5	2,078,800	0%	Organic as % of US organic ag sales state ranking:	17
2. Broilers	24.9	10	2,041,785	0%	Total value of organic sales (\$1000):	5,365
3. Greenhouse/nursery	11.4	5.9	932,871	0%		
4. Tobacco	7.6	40.8	620,085	0%*		
5. Turkeys	5.5	15	448,812	0%		
All commodities		3.4	8,210,497			
Legislation and regulations controlling GMOs:						
						State legislation restricting local control of GMOs: None

North Dakota

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	26
1. Wheat	26.3	14.6	1,075,122	0%	Organic as % of US organic ag sales state ranking:	26
2. Cattle and calves	18.1	1.6	738,975	0%		
3. Soybeans	13.1	2.9	536,619	89%		
4. Corn	6.6	1.2	269,265	n/a		
5. Sugar beets	5.9	19	240,853	0%*	Total value of organic sales (\$1000):	3,262
All commodities		1.7	4,090,864			
Legislation and regulations controlling GMOs: GE Seed Inspection: Bill (SB2235) passed which states that “the commissioner shall establish procedures for inspecting, analyzing, and verifying the genetic identity or physical traits of seeds or crops. The procedures must address the compilation of all necessary documentation and other administrative functions.” <i>N.D. Cent. Code § 4-42 (2001)</i> http://www.legis.nd.gov/cencode/t04c42.pdf Seed Collection Restriction: Bill (HB1442) which states that “before a person holding a patent on a genetically modified seed may enter upon any land farmed by another for the purpose of obtaining crop samples to determine whether patent infringement has occurred, the person holding the patent: Shall notify the agriculture commissioner in writing of the person's belief that a patent infringement has occurred and include facts from the allegation; shall notify the farmer in writing of the allegation that a patent infringement has occurred and request written permission to enter upon the farmer's land; and must obtain the written permission of the farmer.” <i>N.D. Cent. Code § 4-24-13 (2001)</i> http://www.legis.nd.gov/cencode/t04c24.pdf						
					State legislation restricting local control of GMOs:	SB2277 Passed 3/16/2005

Ohio

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	21
1. Soybeans	22.4	6.6	1,220,297	77%	Organic as % of US organic ag sales state ranking:	16
2. Corn	18.8	4.6	1,024,109	18%	Total value of organic sales (\$1000):	5,616
3. Dairy products	13.8	2.7	751,980	0%		
4. Greenhouse/nursery	10.8	3.8	589,124	0%		
5. Hogs	7.4	2.8	402,719	0%		
All commodities		2.3	5,459,380			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	HB66 Passed 6/30/2005

Oklahoma

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	49
1. Cattle and calves	46.7	5	2,362,342	0%	Organic as % of US organic ag sales state ranking:	48
2. Hogs	12.2	4.3	615,411	0%	Total value of organic sales (\$1000):	12
3. Broilers	10.8	2.7	547,096	0%		
4. Wheat	10.5	7.2	528,314	0%		
5. Dairy products	4.3	0.8	218,575	0%		
All commodities		2.1	5,054,570			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	HB1471 Passed 4/18/2005

Oregon

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	13
1. Greenhouse/nursery	25.8	6.1	951,452	0%	Organic as % of US organic ag sales state ranking:	9
2. Cattle and calves	13.8	1.1	508,910	0%		
3. Dairy products	9.7	1.3	359,520	0%		
4. Hay	7.1	6	262,327	0%*		
5. Ryegrass	5.5	100	204,557	0%	Total value of organic sales (\$1000):	9,933
All commodities		1.5	3,691,554			
Legislation and regulations controlling GMOs: GE Fish Ban: Oregon Administrative Rules states that “the Department [of Fish and Wildlife] shall not authorize the release of transgenic fish into locations where such fish may gain access to wild fish populations.” <i>Or. Admin. Rules 635-007-0595 (2004)</i> http://arcweb.sos.state.or.us/rules/OARS_600/OAR_635/635_007.html Bentgrass Control Area: The department of agriculture, under the Oregon Administrative Rules, established “a control area...in Jefferson County to regulate the production of bentgrass. This control area is designed to provide physical separation between varieties of bentgrass produced using techniques of modern biotechnology and conventionally bred varieties with which they might cross-pollinate.” The rule prohibits using processing equipment for both GE and conventional bentgrass and restricts GE bentgrass to the control are unless shipped in sealed containers. <i>Or. Admin. Rules 603-052-1240 (2002)</i> http://arcweb.sos.state.or.us/rules/OARS_600/OAR_603/603_052.html						
					State legislation restricting local control of GMOs:	None

Pennsylvania

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	16
1. Dairy products	36.4	6.5	1,768,976	0%	Organic as % of US organic ag sales state ranking:	10
2. Cattle and calves	9.5	1	459,569	0%	Total value of organic sales (\$1000):	8,808
3. Greenhouse/nursery	8.8	2.7	425,464	0%		
4. Mushrooms, agaricus	7.8	58.7	380,994	0%		
5. Chicken eggs	7	6.4	339,676	0%		
All commodities		2	4,859,336			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	HB2387 Passed 11/29/2004

Rhode Island

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	9
1. Greenhouse/nursery	64.5	0.3	41,155	0%	Organic as % of US organic ag sales state ranking:	41
2. Corn, sweet	5.9	0.5	3,762	0%	Total value of organic sales (\$1000):	270
3. Dairy products	5.4	0	3,434	0%		
4. Potatoes	1.8	0	1,124	0%*		
5. Cattle and calves	1.5	0	938	0%		
All commodities		0	63,825			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

South Carolina

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	32
1. Broilers	27.3	2.6	521,884	0%	Organic as % of US organic ag sales state ranking:	36
2. Greenhouse/nursery	15.6	1.9	297,997	0%	Total value of organic sales (\$1000):	746
3. Turkeys	9.7	6.2	185,280	0%		
4. Cattle and calves	7.6	0.3	145,504	0%		
5. Tobacco	6	7.6	115,004	0%*		
All commodities		0.8	1,909,099			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

South Dakota

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	30
1. Cattle and calves	33.6	3.5	1,639,061	0%	Organic as % of US organic ag sales state ranking:	30
2. Corn	19.5	4.3	949,749	83%	Total value of organic sales (\$1000):	2,239
3. Soybeans	16.8	4.5	820,587	95%		
4. Wheat	8.8	5.8	426,961	0%		
5. Hogs	7.6	2.6	371,000	0%		
All commodities		2	4,877,484			
Legislation and regulations controlling GMOs:						
<p>Seed Collection Restriction: Bill (SB179) passed titled "An Act to regulate sampling procedures for verification of transgenic seed use." It states that "before a person holding a patent on transgenic seed may enter upon any land farmed by another for the purpose of obtaining crop samples to determine whether patent infringement has occurred, the person holding the patent" must provide written notification and receive permission of the farmer. <i>S.D. Codified Law § 38-1-44 through 38-1-50 (2001)</i></p> <p>http://legis.state.sd.us/statutes/DisplayStatute.aspx?Statute=38-1&Type=StatuteChapter</p>						
					State legislation restricting local control of GMOs:	SB152 Passed 2/25/2005

Tennessee

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	37
1. Cattle and calves	20.1	1.1	514,388	0%	Organic as % of US organic ag sales state ranking:	39
2. Broilers	17.2	2.2	439,604	0%	Total value of organic sales (\$1000):	637
3. Soybeans	11	1.5	282,763	n/a		
4. Greenhouse/nursery	10.6	1.7	272,509	0%		
5. Cotton	8.8	4.2	225,093	n/a		
All commodities		1.1	2,561,984			
Legislation and regulations controlling GMOs:						
						State legislation restricting local control of GMOs: None

Texas

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	22
1. Cattle and calves	48.4	16.9	7,989,786	0%	Organic as % of US organic ag sales state ranking:	5
2. Cotton	9.4	28.6	1,546,320	63%	Total value of organic sales (\$1000):	15,183
3. Broilers	8.6	7	1,424,520	0%		
4. Greenhouse/nursery	8.4	8.8	1,388,443	0%		
5. Dairy products	5.9	3.6	975,718	0%		
All commodities		6.8	16,498,398			
Legislation and regulations controlling GMOs:						
						State legislation restricting local control of GMOs: HB2313 Passed 6/17/2005

Utah

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	<i>Organic as % of all state ag sales state ranking:</i>	34
1. Cattle and calves	34.4	0.9	431,201	0%	<i>Organic as % of US organic ag sales state ranking:</i>	40
2. Dairy products	20	0.9	250,415	0%		
3. Hogs	12.4	1.1	155,103	0%		
4. Hay	9.2	2.6	114,710	0%*		
5. Greenhouse/nursery	5.9	0.5	73,726	0%	<i>Total value of organic sales (\$1000):</i>	437
All commodities		0.5	1,253,154			

Legislation and regulations controlling GMOs:

State legislation restricting local control of GMOs:	None
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Vermont

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales <i>state ranking:</i>	2
1. Dairy products	74.6	1.6	433,823	0%	Organic as % of US organic ag sales <i>state ranking:</i>	12
2. Cattle and calves	8.3	0.1	48,238	0%		
3. Greenhouse/nursery	4.6	0.2	26,895	0%		
4. Hay	2.7	0.4	15,746	0%*		
5. Maple products	2.3	35.9	13,650	0%	Total value of organic sales (\$1000):	8,136
All commodities		0.2	581,773			
Legislation and regulations controlling GMOs: GE Seed Labeling: Bill (H.777) passed which states that “for all seed containing genetically engineered material the label or labeling shall specify the identity and relevant traits or characteristics of such seed, plus any requirements for their safe handling, storage, transport, and use, the contact point for further information and, as appropriate, the name and address of the manufacturer, distributor, or supplier of such seed.” Additionally, “for seeds sold in Vermont which contain genetically engineered material, the manufacturer or processor distributing such seed in Vermont shall report annually...regarding sales during the previous calendar year.” <i>Vt. Stat. Ann. tit. 6, §644 (2004)</i> http://www.leg.state.vt.us/statutes/sections.cfm?Title=06&Chapter=035 Farmer Protection: At time of printing, the Farmer Protection Act (S.18) had passed both the state House and Senate. It states that “[g]enetically engineered crops cannot be successfully segregated from crops that are not genetically engineered in current agronomic science, agricultural practices, and agricultural infrastructure. Therefore, it is the purpose of this act to ensure that farmers are not harmed by this technology and to place the liability for any harm on the manufacturer of the genetically engineered crops.” <i>S.18 (2006)</i> http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2006/bills/senate/S-018.HTM Additionally, 83 towns have passed resolutions against GMOs. See http://www.gefreevt.org for map and information.						
					State legislation restricting local control of GMOs:	None

Virginia

					Organic as % of all state ag sales state ranking:	19
Top 5 agricultural commodities	% of state total	% of US total	Value of receipts (\$1000)	% GE		
1. Broilers	22	2.9	590,172	0%	Organic as % of US organic ag sales state ranking:	19
2. Cattle and calves	11.8	0.7	317,677	0%		
3. Dairy products	11.5	1.1	308,417	0%		
4. Greenhouse/nursery	8.7	1.5	232,453	0%		
5. Turkeys	6.8	6.1	182,855	0%		
All commodities		1.1	2,684,393		Total value of organic sales (\$1000):	4,306
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	None

Washington

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales <i>state ranking:</i>	11
1. Apples	19.5	64	1,142,105	0%	Organic as % of US organic ag sales <i>state ranking:</i>	4
2. Dairy products	14.6	3.1	857,010	0%	Total value of organic sales (\$1000):	20,326
3. Cattle and calves	9.3	1.1	543,427	0%		
4. Wheat	8.9	7.1	521,898	0%		
5. Potatoes	7.7	19.1	453,268	0%*		
All commodities		2.4	5,868,196			
Legislation and regulations controlling GMOs: Canola Control Areas: Bill (HB 1888) passed which states that “species, hybrids, varieties, and variations of plants of the genus Brassica have potential to form genetic crosses, particularly when they are grown in geographic proximity, and will, if not properly regulated, result in significant loss of quality, purity and value in the seed produced” This law allows growers and processors of a Brassica seed plant to petition the Washington State Department of Agriculture to request specific production zones that prevent genetically engineered crop use. <i>Wash H.B. 1888, Chapter 181 (2007)</i> http://www.leg.wa.gov/pub/billinfo/2007-08/Pdf/Bills/Session%20Law%202007/1888.SL.pdf GE Fish Ban: In the Washington Administrative Code, an aquatic farmer must have a valid marine finfish aquaculture permit for any fish rearing program but it states that “the use of transgenic fish (as defined by the actual transfer of genetic material from one species to another) is prohibited.” <i>Wash. Admin. Code 220-76-100 (2003)</i> http://apps.leg.wa.gov/WAC/default.aspx?cite=220-76-100						
					State legislation restricting local control of GMOs:	None

West Virginia

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	31
1. Broilers	36.9	0.8	155,848	0%	Organic as % of US organic ag sales state ranking:	45
2. Cattle and calves	20.7	0.2	87,386	0%	Total value of organic sales (\$1000):	176
3. Chicken eggs	7.6	0.6	32,325	0%		
4. Dairy products	7.5	0.1	31,515	0%		
5. Turkeys	7	1	29,702	0%		
All commodities		0.2	422,871			
Legislation and regulations controlling GMOs:						
					State legislation restricting local control of GMOs:	SB580 Passed 4/16/2005

Wisconsin

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	12
1. Dairy products	53.7	13.5	3,687,749	0%	Organic as % of US organic ag sales state ranking:	3
2. Cattle and calves	11.7	1.7	800,703	0%	Total value of organic sales (\$1000):	20,828
3. Corn	9.7	3	668,997	46%		
4. Greenhouse/nursery	3.5	1.5	237,404	0%		
5. Soybeans	3.5	1.3	236,901	84%		
All commodities		2.8	6,864,150			
Legislation and regulations controlling GMOs:						
GMO Release Notification: State statutes titled "Notice of release of genetically engineered organisms into the environment" sets up requirements for regulated releases, including proper notification of the Department of Agriculture. <i>Wis Stat. §146.60 (1989)</i> http://www.legis.state.wi.us/rsb/stats.html						
					State legislation restricting local control of GMOs:	None

Wyoming

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	39
1. Cattle and calves	77.5	1.8	855,676	0%	Organic as % of US organic ag sales state ranking:	42
2. Hay	3.9	1	43,594	0%*	Total value of organic sales (\$1000):	268
3. Sugar beets	2.8	2.4	30,982	0%*		
4. Hogs	2.6	0.2	28,330	0%		
5. Sheep and lambs	2.5	5.4	27,574	0%		
All commodities		0.5	1,104,702			
Legislation and regulations controlling GMOs:						
						State legislation restricting local control of GMOs: None

United States

<i>Top 5 agricultural commodities</i>	<i>% of state total</i>	<i>% of US total</i>	<i>Value of receipts (\$1000)</i>	<i>% GE</i>	Organic as % of all state ag sales state ranking:	-
1. Cattle and calves		19.6	47,295,573	0%	Organic as % of US organic ag sales state ranking:	-
2. Dairy products		11.3	27,367,857	0%	Total value of organic sales (\$1000):	392,813
3. Corn		9.2	22,198,830	52%		
4. Broilers		8.5	20,446,085	0%		
5. Soybeans		7.6	18,374,576	87%		
All commodities			241,241,402			
Legislation and regulations controlling GMOs:						
<p>Bt Cotton Geographic Restriction: Under current EPA regulations, the agency has “imposed sale and distribution restrictions on <i>B.t.</i> cotton in Florida, restricting its use to those sites North of Tampa (Route 60).” Also, “current Agency restrictions in Hawaii preclude the sale and use of <i>B.t.</i> cotton for commercial planting [on the islands].” This is due to potential gene flow into the wild cotton species found in those areas. <i>Biopesticides Registration Action Document for the Bacillus thuringiensis (Bt) Plant-Incorporated Protectants</i>, Oct 15, 2001 http://www.epa.gov/pesticides/biopesticides/pips/bt_brad.htm</p>						
						State legislation restricting local control of GMOs: -

Notes and key for State Factsheets

Top 5 agricultural commodities		% of state total	% of US total	Value of receipts (\$1000)	% GE	Organic as % of all state ag sales state ranking
1.						
2.						
3.						
4.						
5.						
All commodities						Organic as % of US organic ag sales state ranking:
						Total value of organic sales (\$1000):
Legislation and regulations controlling GMOs:						
						State legislation restricting local control of GMOs:

A General agricultural data source:
Economic Research Service, United States Department of Agriculture, "State Fact Sheets" (data last updated 8 December 2005)
<http://www.ers.usda.gov/StateFacts/>.

"% of state total" is the given commodity value as a percent of a state's total agricultural sales.

"% of US total" is the given commodity value as a percent of the total US sales of that commodity.

B GE soybean, cotton, and corn data source:
National Agricultural Statistical Services, United States Department of Agriculture, *Acreage Report* (Washington, D.C.: USDA, 30 June 2005). <http://usda.mannlib.cornell.edu/reports/nassr/field/pcp-bba/acrg0605.pdf>

"% GE" is the percentage of the commodity that is genetically engineered. For crops, it is the percentage of total acreage planted in a GE variety.

There are currently no GE poultry, cattle or dairy cow on the market. However, those animals may have given GE feed and dairy products may have come from cows treated with the GE growth hormone rBGH.

While at least 35 species of GE fish and shellfish have been developed, none are currently on the commercial market. See *The Catch with Seafood* (Washington, D.C.: Center for Food Safety, 2005) for more information on GE aquaculture.
<http://www.centerforfoodsafety.org/thecatchwithseafoodaquaculturereport.cfm>

*See "Deregulated GE Foods" for more information regarding specific commodities.

C "Total value of organic sales" data source:
National Agricultural Statistical Services, United States Department of Agriculture, "State level data" in 2002 Census of Agriculture, vol. 1 (Washington, D.C.: USDA, released June 2004). http://www.nass.usda.gov/census/census02/volume1/us/st99_2_002_002.pdf

"Organic as % of all state ag sales" is a ranking based on the percentage of the state's agricultural sales that are organic.

"Organic as % of US organic ag sales" is a ranking based on the percentage of total US organic agricultural sales produced by that state.

D "State legislation restricting local control of GMOs" data source:
Environmental Commons, "2006 Food Control Legislation Tracker." <http://www.environmentalcommons.org/gmo-tracker.html>

In 2004, following the wave of GE food bans at the regional level (see California and Vermont factsheets for examples), the biotech industry began supporting state legislation that would void these local level bans, pre-empting those citizens' right to defend themselves against GE foods through democratic action.

Regulatory notes:

The current federal system for regulation of agricultural biotechnology involves three separate programs: the Animal and Plant Health Inspection Service (APHIS) of the US Department of Agriculture (USDA); the Environmental Protection Agency (EPA), which regulates GE pest-resistant crops, and the Food and Drug Administration (FDA) of the US Department of Health and Human Services.

APHIS - In general, new GE crops are considered “regulated materials” and APHIS initially authorizes and oversees field trials for them. Since the mid-1990s, APHIS has allowed the vast majority of GE field trials to occur with a simple notification system, requiring permits for only a few. Following field trials, the institution can submit a petition to APHIS for nonregulated status of the particular GMO. If the agency grants nonregulated status, it gives up authority to regulate the crop and therefore, no further authorization from the agency is required to grow the crop commercially. As a result, the institution is free to cultivate the GE crop without any additional oversight.¹

EPA - The EPA is responsible for registering and approving GE pest-resistant crops (which at the moment only includes plants with a gene from *Bacillus thuringiensis*, called Bt crops). The agency uses its authority under the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 (FIFRA), even though this regulation was developed decades ago for new chemicals, not engineered organisms that can reproduce and exchange genetic material in ways never imagined by chemical regulators. The result is a murky regulatory obligation where EPA technically regulates the pesticide, but not the plant itself. In practice, this means it approves field trials and commercial registration, as it does with other pesticides, but does not place use-restriction labels on the commercial seed, unlike the requirement for other pesticides. Instead, the agency relies on seed producers and dealers to ensure regulatory compliance. Without the government inspectors and compliance officials normally involved in pesticide regulation, seed dealers and growers are left with little, if any, oversight.²

FDA - The FDA claims regulatory authority under the 1958 Food Additive Amendment to the Federal Food and Drug Act, passed decades before GE foods even became feasible. Under the Act, the FDA regulates food additives through premarket reviews, with the exception of those substances that are “generally recognized as safe” (GRAS). This exemption from regulation was originally intended for substances with a long history of human consumption, like salt or refined sugar. However, with the development of GE foods, the FDA created a statement of policy in 1992 using those same guidelines from 1958. That document claims that since every plant and animal cell already contains nucleic acid, inserted DNA is not viewed as a safety concern and would most likely be given GRAS status. The agency does note that the proteins, fats, or carbohydrates resulting from DNA insertion might not be GRAS and may need to be evaluated. The FDA continues to recommend consulting with the agency prior to commercial release of new GE foods, although it has yet to finalize a mandatory procedure.³

Deregulated GE Foods:

Crops that have been granted nonregulated status by APHIS are listed below; the number in brackets following each crop represents the number of different gene insertions in that crop that have been granted nonregulated status.⁴ The National Agricultural Statistical Service from the USDA only keeps data regarding GE cotton, soybean, and corn production on a limited state-by-state basis. This data has been included in the state information when available. Some information regarding other GE plants approved for commercial cultivation has been included below.

Alfalfa (1) In June 2005, Roundup Ready Alfalfa was de-regulated by the USDA to become the first GE alfalfa commercially available. However, final foreign import approval from Japan, Mexico, and Canada, which assures open markets for US alfalfa exporters and is necessary for full unrestricted production, was not granted until 2006. This would have reduced the adoption rate of the alfalfa last year in states like California and Washington that export a lot of alfalfa. For its first summer on the market, Monsanto released approximately 1 million pounds of seed, which were planted on about 75,000 acres or 3% of total US alfalfa acreage.⁵ For the summer of 2006, the company plans on releasing approximately 4 million pounds of seed.⁶

Canola/Rapeseed (7) About 90% of the US's canola is produced in North Dakota, of which approximately 75% is Monsanto's Roundup Ready canola (a GE herbicide-resistant variety).⁷

Corn (20) Most are varieties of Bt corn, herbicide tolerant corn, or so-called "stacked" varieties that include both traits. The most widely publicized contamination incident with GE food involved a GE corn from Aventis called StarLink, which was approved only for animal feed due to potential allergenicity. In 2000, StarLink corn was discovered in processed foods, like taco shells, sparking a nation-wide recall. Further testing confirmed seed contamination as well.⁸ Class action lawsuits were later filed on behalf of farmers whose non-StarLink corn was contaminated (settled for \$110 million)⁹ and consumers who said they suffered allergic reactions to the corn (settled for \$9 million).¹⁰

Cotton (11) Like GE corn, most are varieties of Bt cotton, herbicide tolerant cotton, or so-called "stacked" varieties that include both traits.

Flax (1) USDA produces "marketing statements" designed to assure foreign markets, many of which prohibit GMOs, that specific commodities from the US are GMO-free. Regarding flaxseed, the agency states that "[t]he United States Department of Agriculture has deregulated one variety of herbicide-tolerant flaxseed; but based upon information supplied by the developer, this variety is not for sale or in commercial production in the United States."¹¹

Papaya (1) 53% of the papaya grown in Hawaii (the only state in the US which produces papaya) is the GE "Rainbow" variety.¹²

Potato (5) No GE potatoes are currently grown in the US. According to the Executive Vice President of the US Potato Council, the main reason for this is a lack of varieties with useful traits.¹³ Monsanto did have a Bt potato variety on the market, but it was a commercial failure and the company discontinued production in 2001. It is worthwhile to note that in the year prior McDonald's refused to use the GE potato, which resulted in its suppliers discontinuing cultivation.¹⁴

Rice (2) A marketing statement from USDA regarding GE rice states the following:

"The United States Department of Agriculture has deregulated two varieties of transgenic herbicide-tolerant rice (*Oryza sativa*); but based upon information provided by the developer, these varieties were not available for sale as of October 11, 2005.

"Transgenic rice grown under USDA permit as a regulated article is not in commercial production for use as food or feed. USDA permit conditions require strict confinement procedures which are subject to Federal oversight and enforcement."¹⁵

Soybean (5) 87% of the soybeans grown in the US are herbicide-resistant, making Monsanto's Roundup Ready soybean is by far the most widely grown GE crop in the US.¹⁶

Squash (2) Genetically engineered squash acreage is not recorded by any reliable agency. As a result, there are conflicting estimates regarding its prevalence but at best estimate, it is only cultivated in negligible amounts.¹⁷

Sugarbeet (3) While Roundup Ready sugarbeets have been de-regulated by the USDA, none are currently in commercial cultivation. However, various field trials have been planted around the country and the first commercial demonstration is planted in Idaho. At present, the sugarbeet industry is developing seeds specific to various regions with the intention of large-scale introduction within a few years.¹⁸ However, it is unknown how the domestic or international markets will respond to sugar produced from GE sugarbeets.

Tobacco (1) Vector Tobacco has developed a nicotine-free tobacco variety that has been deregulated by the USDA. It is used to produce Quest brand cigarettes. In 2002, the initial commercial crop was planted on 5000 acres in Mississippi, Louisiana, Illinois, and Pennsylvania, all states that are not traditional tobacco growing regions.¹⁹ However, according to a company spokesperson, there is no GE tobacco currently in cultivation although the cigarettes are still available for sale.²⁰

Tomato (11) No GE tomatoes are currently in cultivation. However, the first commercially grown GE food was Calgene's Flavr Savr tomato, which the company submitted to the FDA for voluntary review in 1989 and marketed briefly beginning in 1994. Ultimately, the tomatoes were a failure, but Calgene opened the door for future regulatory procedures regarding other GE foods.²¹

¹ M. Taylor, J. Tick, and D. Sherman, *Tending The Fields: State and Federal Roles in the Oversight of Genetically Modified Crops* (Washington, D.C.: Pew Initiative on Food and Biotechnology, 2004) p 38.

² Ibid, p 52.

³ Food and Drug Administration, Department of Health and Human Services, "Statement of Policy: Foods Derived from New Plant Varieties," *Federal Register* 57(104):22984-23004 <http://www.cfsan.fda.gov/~acrobat/fr920529.pdf>.

⁴ *Deregulated crops taken from the database supplied by* Information Systems for Biotechnology, "Crops No Longer Regulated by USDA," *Online Database funded by USDA*, 31 March 2006 <http://www.isb.vt.edu/CFDOCS/biopetitions1.cfm> (4 April 2006).

⁵ B. Curran, "Roundup Ready Alfalfa Approved for Sale in U.S." *Penn State Field Crop News* vol. 05:08, July, 8 2005 <http://fcn.agronomy.psu.edu/2005/fcn0508.cfm#sale>.

⁶ J. Dickrell, "RR Alfalfa Debuts," *Dairy Today* April 2006, http://www.agweb.com/get_article.asp?sigcat=dairy&pageid=126565.

⁷ S. Sankula, G. Marmon, E. Blumenthal, *Biotechnology-Derived Crops Planted in 2004 – Impacts on US Agriculture* (Washington, D.C.: National Center for Food and Agricultural Policy, 2005).

⁸ M. Nestle, *Safe Food: Bacteria, Biotechnology, and Bioterrorism* (Berkely: University of California Press, 2003); M. Kaufman, "Biotech Critics Cite Unapproved Corn in Taco Shells," *The Washington Post* 18 Sept 2000.

⁹ *For terms of settlement, see* <http://www.non-starlinkfarmerssettlement.com>.

¹⁰ "Modified Corn Lawsuit Is Settled," *New York Times* 8 March 2002.

¹¹ GIPSA, USDA, "Letterhead Statements," 12 September 2005 < http://archive.gipsa.usda.gov/rdd/transgenic_statements.pdf > (6 April 2006).

¹² Hawaii Field Office, National Agricultural Statistical Services, United States Department of Agriculture, "Papaya Acreage Survey 2005 Results," *Online Reports Archive* <http://www.nass.usda.gov/hi/fruit/annpap.pdf>.

¹³ John Keeling, Executive Vice President and CEO of the National Potato Council, personal communication, 4 April 2006.

¹⁴ S. Kilman, "Monsanto's Genetically Modified Potatoes Find Slim Market, Despite Repelling Bugs," *The Wall Street Journal* 21 March 2001.

¹⁵ GIPSA, USDA, "Letterhead Statements."

¹⁶ *The phosphinothricin-tolerant soybeans ("Liberty Link" soybean) from Aventis has been deregulated by the USDA, but the company has not sold it commercially.* National Agricultural Statistical Services, United States Department of Agriculture, *Acreage Report* (Washington, D.C: USDA, 30 June 2005). <http://usda.mannlib.cornell.edu/reports/nassr/field/pcp-bba/acrg0605.pdf>; T. Redick, "Preventing Liability for Genetically Engineered Crops," *Agricultural Management Committee Newsletter* 5(2), <http://www.abanet.org/envirom/committees/agricult/newsletter/mar01/redick.html>.

¹⁷ S. Sankula, G. Marmon, E. Blumenthal, *Biotechnology-Derived Crops Planted in 2004 – Impacts on US Agriculture*; GEO-PIE Project, "Squash and Zucchini," Genetically Engineered Organisms Public Issues Education Project, Cornell Cooperative Extension <<http://www.geo-pie.cornell.edu/crops/squash.html>> (21 April 2006).

¹⁸ Luther Markwart, Executive Vice President of the American Sugarbeet Growers Association, personal communication, 3 April 2006.

¹⁹ GEO-PIE Project, "Tobacco," Genetically Engineered Organisms Public Issues Education Project, Cornell Cooperative Extension <<http://www.geo-pie.cornell.edu/crops/tobacco.html>> (21 April 2006).

²⁰ Carrie Bloom, Public Relations, Vector Tobacco, personal communication, 28 April 2006.

²¹ M. Nestle, *Safe Food: Bacteria, Biotechnology, and Bioterrorism*.