ACT 120 A HISTORY

YLD MID-WINTER THAW

THE CONSTITUTIONALITY OF LABELING GENETICALLY ENGINEERED FOODS

Laura Murphy, Environmental & Natural Resources Law Clinic, VT Law School January 17, 2015 Modified for Web March 10, 2015

First things first . . . what does Act 120 do?

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- 1) Says that a food produced with genetic engineering must say on the label that it's produced with genetic engineering.
- 2) Says that a food produced with genetic engineering can't say on the label that it's "natural."
- 3) Establishes a "Food Fight Fund."

Wanna donate?

www.foodfightfund.org













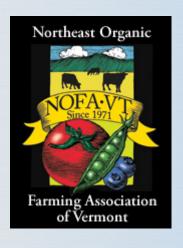
Vermont Right to Know GMOs

A Collaborative Project of Cedar Circle Farm, NOFA-VT,
Rural Vermont and VPIRG

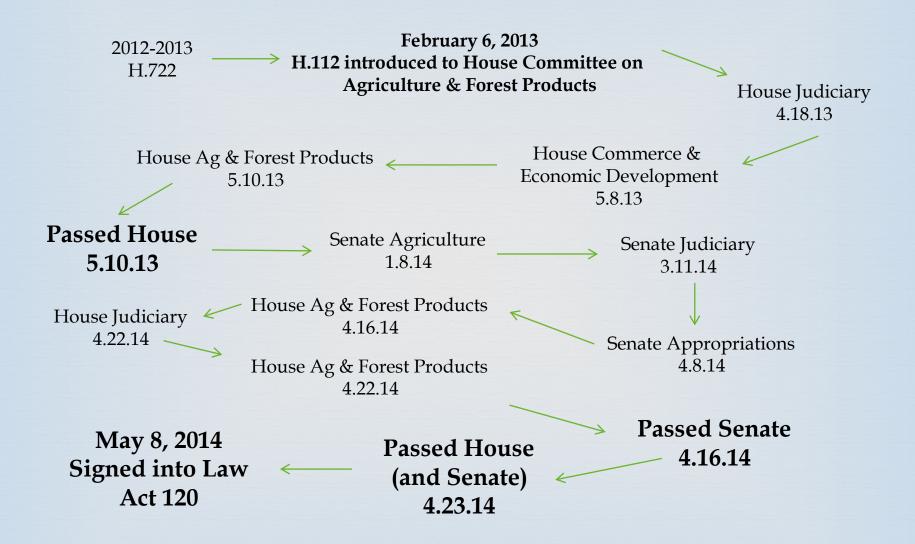








How a bill becomes a law





Who did the House Ag Committee hear from?

- Representative Kate Webb
- Legislative Counsel Michael O'Grady
- Assistant AG Bridget Asay
- Or. Michael Hansen, Consumers Union
- Steven Druker, Alliance for Bio-Integrity
- Dan Barlow, VBSR
- Andrea Stander, Rural Vermont
- Jillian Bernstein, Alex Funk, Laura Murphy, ENRLC
- [Marrison, VT Grocer's Association]
- Jim Leland, Chelsea Lewis, Tim Schmalz, AAF&M
- Rob Michalak & Jerry Greenfield, Ben & Jerry's
- Margaret Laggis, Laggistics
- Val Giddings, Information Technology & Innovation Foundation

- 😡 Dale Johnson, Abbott Labs
- Michelle Kropp, Gringo Jack's
- Robert Merker, FDA
- Jane Clifford, Green Mountain Dairy Farmers Cooperative Federation, Inc.
- Representative Duncan F. Kilmartin
- Mel Fields, Birnn Chocolates of Vermont
- George Schenk, American Flatbread
- cathy Bacon, Freedom Foods
- Kari Bradley, Hunger Mountain Coop
- Jeffrey Smith, Institute for Responsible Technology
- or. Dyeanne Racette, Copley Hospital
- Rev. Daniel Buford, Allen Temple Baptist Church
- Rabbi Elihu Gevirtz, Council of Netiya
- Stephen Pintauro, Professor UVM









Who did the House Judiciary Committee hear from?

- Representative Kate Webb
- Representative Carolyn W. Partridge
- Representative Teo Zagar
- Representative John L. Bartholomew
- Assistant AG Bridget Asay
- Assistant AG Wendy Morgan
- Karin Moore, Grocery Manufacturers Association
- Representative Paul Ralston
- Representative Anne B. Donahue
- Representative William F. Johnson





























Who did the Senate Ag Committee hear from?

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- ☐ Iim Harrison, Vermont Grocer's Association
- Lucy Leriche, Agency of Commerce & Community Development
- Laura Murphy, ENRLC
- James Maroney
- Dan Barlow, VBSR
- Margaret Laggis, Laggistics
- Dave Rogers, NOFA-VT
- Gary Hirshberg, Stonyfiled Farm
- Dr. Martin Donohoe, Oregon Physicians for Social Responsibility
- Val Giddings, Information Technology & Innovation Foundation
- Assistant AG Bridget Asay
- Mike Tetreault, VT Feed Dealers & Manufacturers Association

- Jane Clifford, Green Mountain Dairy Farmers
- Representative Harvey Smith
- Andrea Stander, Rural Vermont
- 😡 Janet Anderson, EPA
- Chris Miller & Jerry Greenfield, Ben & Jerry's
- Or. Dyeanne Racette, Copley Hospital
- Steven Druker, Alliance for Bio-Integrity
- Or. Michael Hansen, Consumers Union
- Jane Kolodinsky, Center for Rural Studies, UVM
- Representative Teo Zagar
- Representative Tristan Toleno
- Representative Kristina Michelsen
- Attorney General William Sorrell

Plus 50+ Vermonters at joint Ag/Judiciary public hearing.

















Who did the Senate Judiciary Committee hear from?

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- Or. Michael Hansen, Consumers Union
- ∇al Giddings, Innovation Technology & Innovation Foundation
- Stanley H. Abramson, Arent Fox PLLC
- Andrew Homan & Laura Murphy, ENRLC
- Stacey Chagnan
- Assistant AG Bridget Asay
- □ Dan Barlow, VBSR
- Margaret Laggis, United Dairy Farmers of Vermont
- Bill Moore, Legislative Director
- Mane Clifford, Green Mountain Dairy Farmers Cooperative Federation, Inc.
- Diane Bothfeld, AAF&M
- Steven Druker, Alliance for Bio-Integrity

Plus those 50+ Vermonters from the joint public hearing.





Senate Floor Vote April 2014 Final: 28-2





Why did Vermont pass this law . . . ?

- "Federal law does not provide for the labeling of food that is produced with genetic engineering"
- "Federal law does not require independent testing of the safety of food produced with genetic engineering"
- "The FDA does not use meta-studies or other forms of statistical analysis to verify that the studies it reviews are not biased by financial or professional conflicts of interest."

- "There have been no long-term or epidemiologic studies in the United States that examine the safety of human consumption of genetically engineered foods."
- "There is a lack of consensus regarding the validity of the research and science surrounding the safety of genetically engineered foods . . . there are peer-reviewed studies in international scientific literature showing negative, neutral, and positive health effects."

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- "... limited from conducting safety and risk assessment ... patent restrictions ... "
- "... increasingly available for human consumption . . . 80 percent of the processed foods . . ."
- "... conflicting studies assessing the health consequences . . ."
- "... unintended consequences ..."

Act 120, Sec. 1 FINDINGS, (2)(F), (3), (3)(A), (4)(A), (B)

- "... genetic homogeneity, loss of biodiversity, increased vulnerability of crops to pests, diseases, and variable climate conditions"
- "Cross-pollination of or cross-contamination by genetically engineered crops may contaminate organic crops, and, consequently, affect marketability of those crops."
- "... adverse effect on native flora and fauna ... displacement of ... native plants ..."

- "Public opinion polls conducted by the Center for Rural Studies . . . large majority of Vermonters want foods produced with genetic engineering to be labeled"
- "Polling by the New York Times indicated that many consumers are under an incorrect assumption about whether the food they purchase is produced from genetic engineering"
- "Persons with certain religious beliefs . . . need food to be labeled as genetically engineered in order to conform to religious beliefs"

Is there a reasonable basis for these findings?

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Please see above.

(2 years, 50+ committee meetings, 130+ presentations of testimony from folks including

- ✓ Science & medical professionals
- ✓ Policy experts
- ✓ Attorneys
- Business owners
- ✓ Agency personnel)
- Anything else?

E.g., studies & other info on health effects, environmental harms, consumer confusion, costs, & religious practices:

	Gone to Seed, Transgenic Contaminants in the Traditional Seed Supply by the Union of Concerned Scientists.
	Pollen-and-Seed-Mediated Transgene Flow in Commercial Cotton Seed Production Fields by S. Heuberger, C.
	Ellers-Kirk, B. Tabashnik, and Y. Carrière.
	Recent Long-Distance Transgene Flow into Wild Populations Conforms to Historical Patterns of Gene Flow in
	Cotton (Gossypium hirsutum) at its Centre of Origin by A. Wegier, et al.
	The Establishment of Genetically Engineered Canola Populations in the U.S. by M. Schafer, A. Ross, J. Londo,
	et al.
	Environmental Concerns with the Development of Herbicide-Tolerant Plants by Rebecca J. Goldburg.
	Evidence of Reduced Arbuscular Mycorrhizal Fungal Colonization in Multiple Lines of BT Maize by Tanya
	Cheeke, Todd N. Rosentiel, and Mitchell B. Cruzan.
	Milkweed Loss in Agricultural Fields Because of Herbicide Use: Effect on the Monarch Butterfly Population by
	John M. Pleasants and Karen S. Oberhauser.
	Increasing Cropping System Diversity Balances Productivity, Profitability and Environmental Health by Adam
_	S. Davis, Jason D. Hill, Craig A. Chase, Ann M. Johanns, and Matt Liebman.
	Impacts of Genetically Engineered Crops on Pesticide Use in the U.Sthe First Sixteen Years by Charles M.
_	Benbrook.
Ч	G. Séralini et al., Genetically modified crops safety assessments: present limits and possible improvements.
_	Environmental Sciences Europe (2011).
	American Academy of Environmental Medicine, Genetically Modified Foods Position Paper (2009).
ш	Kilic, M. Akay. A three generation study with genetically modified Bt corn in rats: Biochemical and
	histopathological investigation. Food and Chemical Toxicology. 46(3): 1164–1170 (2008).
Ч	Artemis Dona, Ioannis S. Arvanitoyannis. <i>Health risks of genetically modified foods</i> . Critical Reviews in
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	(2009). M. Malatesta, et al. A long-term study on female mice fed on a genetically modified soybean: effects on liver
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	uxcinx. I listochelli Celi Diology. 150. 707-777 (2000).

	M. Poulsen, S. Kroghsbo, M. Schrøder, et al. A 90-day safety study in Wistar rats fed genetically modified
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	(2007).
]	M. Schrøder, M. Poulsen, A. Wilcks, et al. A 90-day safety study of genetically modified rice expressing
	Cry1Ab protein (Bacillus thuringiensis toxin) in Wistar rats. Food and Chemical Toxicology. 45(3): 339-
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]	M. Trabalza-Marinucci, G. Brandi, C. Rondini, et al. A three-year longitudinal study on the effects of a die
	containing genetically modified Bt176 maize on the health status and performance of sheep. Livestock Science
	113(2): 178–190 (2008).
	R. Tudisco, P. Lombardi, F. Bovera, et al. Genetically modified soya bean in rabbit feeding: Detection of
	DNA fragments and evaluation of metabolic effects by enzymatic analysis. Animal Science. 82: 193–199
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]	Institute for Responsible Technology, <i>State-of-the-Science on the Health Risks of GM Food</i> (2010).
	Michael Antoniou, GM Soy, Sustainable? Responsible?: A Summary of Scientific Evidence Showing that
	Genetically Modified (GM) Soy and the Glyphosate Herbicide it is Engineered to Tolerate are Unsustainable
	From the Point of View of Farming, the Environment, Rural Communities, Animal and Human Health, and
	Economies, GLS Bank (2010).
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	S. Ewen and A. Pusztai, Effect of diets containing genetically modified potatoes expressing Galanthus nivalis
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	modified maize and to a Roundup herbicide, Journal of Food and Chemical Toxicology (2012).
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	Alejandra Paganelli, et al., Glyphosate-Based Herbicides Produce Teratogenic Effects on Vertebrates by
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	Reproduction Studies in Mice (2008).
	Aziz Aris and Samuel Leblanc, Maternal and Fetal Exposure to Pesticides Associated to Genetically Modified
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	Memorandum from Dr. Samuel I. Shibko to Dr. James Maryanski, FDA Biotechnology Coordinator.
	Subject: "Revision of Toxicology Section of the Statement of Policy: Foods Derived from Genetically Modified
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	R.C. Lajmanovich, et al., Induction of Mortality and Malformation in Scinax nasicus Tadpoles Exposed to
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	R. Mesnage, et al., Cytotoxicity on Human Cells of Cry1Ab and Cry1Ac Bt Insecticidal Toxins Alone or With a
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Ц	Cornucopia Institute, Cereal Crimes: How "Natural" Claims Deceive Consumers and Undermine the Organic
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	Caring for Life: Genetics, Agriculture and Human Life by the World Council of Churches.
	Book of Resolutions and Advocacy Issues of the United Methodist Church.
	2011 Statement of Conscience of the Unitarian Universalist Association of Congregations.
	Faith and GMOs: Christian, Jewish and Hindu Congregations Urged to Vote Yes on 37 by Faith & GMOs.
	Why the Venture to Genetically Engineer our Food Offends Science, Religion, and the Bill of Rights by the
	Alliance for Bio-Integrity

The Three Main Monotheistic Religions and GM Food Technology: An Overview of Perspectives by Emmanue
B. Omobowale, Peter A. Singer, and Abdallah S. Daar.
Vermont Religions available at city-data.com.
ENRLC, Constitutionality of GE Labeling Legislation in Vermont (Dec. 7, 2012).
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http://www.independentsciencenews.org/health/seralini-and-science-nk603-rat-study-roundup/.
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World Network Sept. 2013).
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Consumer Reports National Research Center, Food-Labeling Poll 2008, NRC #2008.18 (Nov. 11, 2008).
Kai Robertson, Independent Study: Why Label Changes Don't Affect Food Prices (Sept. 11, 2013).
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American Meat Institute v. USDA (D.D.C., Sept. 2013).
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Emord & Associates, Vermont H.112; An Act Relating to the Labeling of Food Produced with Genetic
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Letter from ENRLC to Senate Committee on Judiciary re: H.112 (Mar. 28, 2014).
Memo from Center for Food Safety to Senate Committee on Judiciary re: H.112 (Mar. 28, 2014).
ENRLC, Fact Sheet: Information on H.112 sec. 3044 Exemptions (Mar. 28, 2014).



A few highlights (just a few)







"We feel compelled to issue this statement because the claimed consensus on GMO safety does not exist. The claim that it does exist is misleading and misrepresents the currently available scientific evidence and the broad diversity of opinion among scientists on this issue.

Moreover, the claim encourages a climate of complacency that could lead to a lack of regulatory and scientific rigour and appropriate caution, **potentially endangering** the health of humans, animals, and the environment."

European Network of Scientists for Social & Environmental Responsibility, *Statement: No Scientific Consensus on GMO Safety* 1 (Oct. 21, 2013)

Published in Environmental Sciences Europe, January 24, 2015



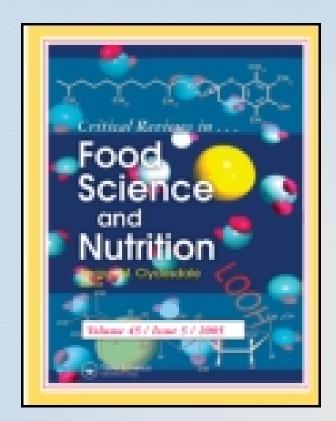
"In the preceding paragraphs, we have described the US regulatory system for GE foods, and with specific examples pointed out **serious deficiencies** in both regulatory oversight and corporate testing procedures. It is clear that the US regulatory process must be made mandatory, as well as **more stringent and transparent."**

William Freese & David Schubert, Safety Testing & Regulation of Genetically Engineered Foods, Biotech. & Genetic Eng'g Revs. 17 (Nov. 2004)

available at







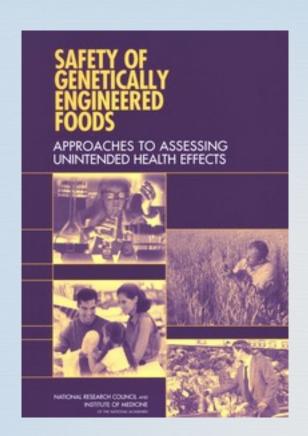
"The results of most studies with GM foods indicate that they may cause some common toxic effects such as hepatic, pancreatic, renal, or reproductive effects and may alter the hematological, biochemical, and immunologic parameters. However, many years of research with animals and clinical trials are required for this assessment."

Artemis Dona & Ioannis S. Arvanitoyannis, *Health Risks* of *Genetically Modified Foods*, 49 Critical Revs. Food Sci. & Nutrition 164, 164 (2009)



"With the precautionary principle in mind, because **GM foods** have not been properly tested for human consumption, and because there is ample evidence of probable harm, the AAEM asks . . . [f]or a moratorium on GM food, implementation of immediate long term independent safety testing, and labeling of GM foods, which is necessary for the health and safety of consumers."

American Academy of Environmental Medicine, *Genetically Modified Foods* 2 (May 8, 2009)

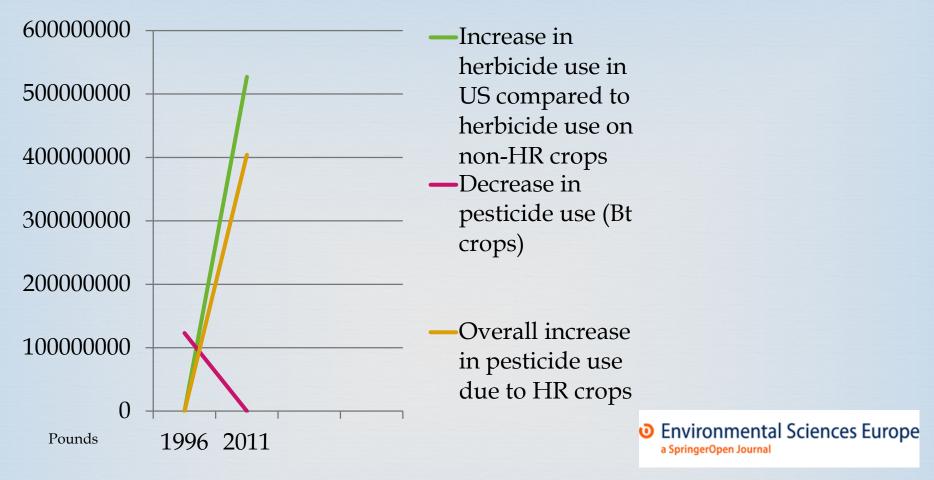


"there remain **sizeable gaps** in our ability to identify compositional changes that result from genetic modification of organisms intended for food; to determine the **biological relevance** of such changes to human health; and to devise appropriate scientific methods to predict and assess **unintended adverse effects on human health**"

National Research Council, Safety of Genetically Engineered Foods: Approaches to Assessing Unintended Health Effects 8-15 (2004)

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine



"Contrary to often-repeated claims that today's genetically-engineered crops have, and are reducing pesticide use, the spread of glyphosate-resistant weeds in herbicide-resistant weed management systems has brought about substantial increases in the number and volume of herbicides applied."

Charles M. Benbrook, *Impacts of Genetically Engineered Crops on Pesticide Use in the U.S. – the First Sixteen Years*, Environmental Sciences Europe 1 (2012)

* Graph created for Powerpoint

"But an equally alarming source of the decline, both Mr. Taylor and Mr. Vidal said, is the **explosive increase in American farmland planted in soybean and corn genetically modified to tolerate herbicides**.

The American Midwest's corn belt is a critical feeding ground for monarchs, which once found a ready source of milkweed growing between the rows of millions of acres of soybean and corn. But the **ubiquitous use of herbicide-tolerant crops has enabled farmers to wipe out the milkweed**, and with it much of the butterflies' food supply."

Michael Wines, Monarch Population Plunges to Lowest Level in Decades, N.Y. Times (Mar. 13, 2013)

"results strongly suggest that a loss of agricultural milkweeds is a major contributor to the **decline in the monarch population**"

John M. Pleasants & Karen S. Oberhauser, *Milkweed Loss in Agricultural Fields Because of Herbicide Use: Effect on the Monarch Butterfly Population*, Insect Conservation & Diversity 1 (2012)

traditional varieties of seeds used by U.S. farmers are "pervasively contaminated with low levels of DNA sequences originating in genetically engineered varieties of those crops"

Margaret Mellon & Jane Rissler, Gone to Seed-Transgenic Contaminants in the Traditional Seed Supply 1 (2004)

... genetically modified cotton genes in wild populations in Mexico . .

Wegier et al., Recent Long-Distance Transgene Flow into Wild Populations Conforms to Historical Patterns of Gene Flow in Cotton (Gossypium hirsutum) at Its Centre of Origin, 20 Molecular Ecology 4182, 4188-92 (2011)

gene flow "injury has an environmental as well as an economic component"

Monsanto Co. v. Geertson Seed Farms, 130 S. Ct. 2743, 2756 (2010)

Feral populations of canola were "large and widespread" based on a roadside survey of canola plants that found two GE varieties growing in the wild, as well as "novel combinations of transgenic forms."

Meredith G. Schafer et al., The Establishment of Genetically Engineered Canola Populations in the U.S., PLoS one 6(10): e25736.doi:10.1371/journal.pone.0025736 (2011)

Fewer than half polled said they knew large amount of processed foods they buy at supermarkets is GE; **almost half said they thought** most or a lot of their fruits and vegetables were GE.

777

Allison Kopicki, Strong Support for Labeling Modified Foods, N.Y. Times (July 27, 2013)

Only 69.2% of those polled knew that some of the food available in stores had been genetically engineered; for those earning less than \$25,000/year, only 51.3% were aware of this fact.

Thomson Reuters, National Survey of Healthcare Consumers: Genetically Engineered Food 5 (Oct. 2010)

"Over the 13 year period, on average **88.9 percent of Vermonters** agree there should be GMO labeling."

Jane Kolodinsky, *Vermonter's Views on GMO Labeling* **2** (Jan. 29, 2014)



So . . .

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"For multiple health, personal, religious, and environmental reasons, **the State of Vermont finds that** food produced from genetic engineering should be labeled as such, as evidenced by the following"

Act 120, Sec. 1 FINDINGS, (5)

In other words . . .

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"Because both the FDA and the U.S. Congress do not require the labeling of food produced with genetic engineering, the State should require food produced with genetic engineering to be labeled as such in order to serve the interests of the State, notwithstanding limited exceptions, to prevent inadvertent consumer deception, prevent potential risks to human health, protect religious practices, and protect the environment."

Act 120, Sec. 1 FINDINGS, (6)

Purposes

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- "Reduce and prevent consumer confusion and deception by . . . promoting the disclosure of factual information on food labels to allow consumers to make informed decisions." Act 120, Sec. 2, § 3041(3).
- "Establish a system by which persons may make informed decisions regarding the potential health effects of the food they purchase and . . . if they choose . . . avoid potential health risks of food produced from genetic engineering." Act 120, Sec. 2, § 3041(1).
- "Inform the purchasing decisions of consumers who are **concerned about the potential environmental effects** of the production of food from genetic engineering." Act 120, Sec. 2, § 3041(2).
- Provide consumers with data from which they may make **informed decisions for religious reasons**. Act 120, Sec. 2, § 3041(4).

How many other states have labeling laws?

03

TWO!!! But they have trigger clauses.



And the great state of Maine.

The great state of Connecticut.

More than 70 bills have been introduced in over 30 states to require GE labeling.

In 2014, at least 35 bills were introduced in 20 states.



source: www.centerforfoodsafety.org

How many other countries have labeling laws? About 64.



source: www.centerforfoodsafety.org















Why is Vermont's law constitutional?

03

Vermont had really good reasons for passing it and

A label is the best way to convey info about a product.

Want more?

See the **briefing** on the big three (First Amendment, Preemption, Commerce Clause) at:

http://ago.vermont.gov/hot-topics/ge-food-litigation.php (URL also in materials)

"It appears to be feared that if the pharmacist who wishes to provide low cost, and assertedly low quality, services is permitted to advertise, he will be taken up on his offer by too many unwitting customers. They will choose the low-cost, low-quality service and drive the 'professional' pharmacist out of business. They will respond only to costly and excessive advertising, and end up paying the price. They will go from one pharmacist to another, following the discount, and destroy the pharmacist-customer relationship. They will lose respect for the profession because it advertises. All this is not in their best interests, and all this can be avoided if they are not permitted to know who is charging what.

There is, of course, an alternative to this highly paternalistic approach. That alternative is to assume that this information is not in itself harmful, that people will perceive their own best interests if only they are well enough informed, and that the best means to that end is to open the channels of communication rather than to close them. If they are truly open, nothing prevents the 'professional' pharmacist from marketing his own assertedly superior product, and contrasting it with that of the low-cost, high-volume prescription drug retailer.

Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc., 425 U.S. 748, 769-70 (1976) (striking down Virginia law restricting pharmacists from advertising/disclosing prescription drug prices).

GROCERY MANUFACTURERS ASSOCIATION TO SUE VERMONT FOR PASSING GMO LABELING LAW.

WHAT DOES VERMONT HAVE TO SAY?



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