

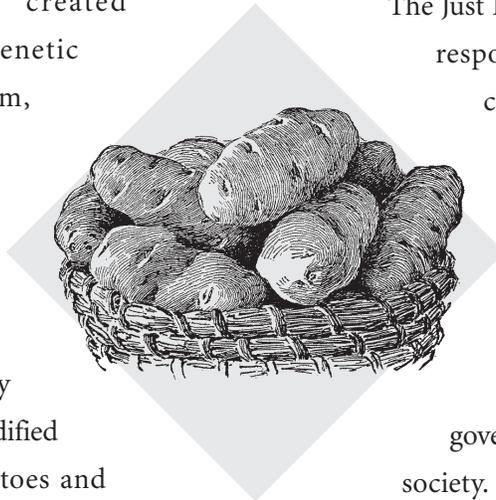


# New Hampshire Just Food Citizen Panel Consensus Conference February 7-9, 2002 Findings and Recommendations

## Introduction

In a change from traditional breeding techniques which selected for traits or characteristics found in whole organisms within a species, genetically modified organisms (GMOs) are created through the insertion of genetic material from one organism, often of a completely different and unrelated kind, into another.<sup>1</sup> Therefore, when food is manufactured from GMOs it is called genetically modified food. Genetically modified corn, soybeans, canola, potatoes and tomatoes are being grown on 70 million acres of American farmland. They are for sale as fresh and processed foods, with hundreds of other crops soon to follow.<sup>2</sup> Sixty to seventy percent of processed food contains a genetically modified ingredient.<sup>3</sup> Without labeling, there is no way to know whether the crops on the farm next door or the food we consume are genetically modified. Furthermore, without labeling it is impossible

to track GMOs through the food chain. Thus, there is no way to determine their affects on health or the environment.



The Just Food Citizen Panel was created in response to scientific and consumer concerns about genetically modified foods. Ordinary citizens needed a way to develop an understanding of this technology and, based on this understanding, a way to contribute to public policy governing the use of this technology in society. In August 2001 the University of New Hampshire Office of Sustainability Programs and Cooperative Extension, with a grant from the Nathan Cummings Foundation, convened a citizen panel based on a model developed in Denmark.<sup>4</sup> The panel of volunteers of all ages and from all walks of life participated in a five-month learning process that involved extensive reading, intensive retreats and a two-day consultation with experts.<sup>5</sup>

## Key Findings

1. Without exception, the experts we consulted stated that they could neither quantify nor qualify the potential harm from genetically modified organisms. Given this fact, the rapid and extensive dissemination of GMOs as commercial field crops is premature.

2. Scientific findings indicate that there is serious uncertainty involved in the process of creating genetically modified organisms. There is reason to be concerned about the behavior of GMO proteins in the food chain. Extensive testing for the presence of unintended results, nutritional changes, and other effects has not been done.<sup>6</sup>

3. Presently, GMOs are under-regulated and insufficiently tested by independent institutions.<sup>7</sup>

4. The inevitable drift of GMO genetic material compromises the ability of farmers to raise crops that are GMO-free. Genetic drift has the potential for impacting natural ecological systems and diminishing genetic diversity.<sup>8</sup>

5. Most information about GMOs is generated by companies and corporations that have a vested economic interest in genetically modified products.<sup>9</sup>

6. Presently, non-GMO agriculture provides sufficient safe and nutritious food.<sup>10</sup>

## Recommendations

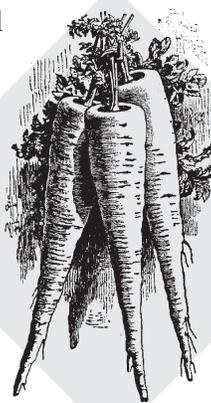
1. Improve the coordinated framework for regulation by the EPA, USDA, and FDA. Give these agencies access to the resources of other federal agencies as needed to effectively regulate GMOs.<sup>11</sup>

2. Mandate an appropriate increase in federal funds to provide for independent risk assessment.

3. Marketers of GMO products shall be required to submit sufficient independent scientific data to demonstrate that their product is reasonably certain to cause no harm.

4. Require review and re-licensing of existing GMO crops.

5. Products that are determined to have a significant percentage of GMOs must be labeled clearly and adequately. The label shall include a GMO product license number.<sup>12</sup>



6. Establish post-market/post-approval assessment of GMOs as warranted.

7. Assure that organic and other farmers may farm without infringement from agricultural production using GMOs.

8. Review and modify patent laws governing GMO technology. Change intellectual property rights to relieve farmers of the threat of lawsuits for unintentional use of proprietary genes.<sup>13</sup>

9. Prohibit use of antibiotic resistant marker genes.<sup>14</sup>

10. Provide consumer education regarding GMOs.

11. Significantly increase funding for research into agricultural systems that do not involve the use of GMOs.

# NEW HAMPSHIRE JUST FOOD CITIZEN PANEL CONSENSUS CONFERENCE

## Notes

<sup>1</sup> The term genetically modified organism (GMO) is generally referred to by scientists as “transgenic technology.” However, for the purpose of this report, the Panel chose to use the term GMO because it is the most commonly used term by the general public.

<sup>2</sup> See United States Department of Agriculture: <http://www.usda.gov/agencies/biotech/faq.html>

<sup>3</sup> Kathleen McGowen (September 2001), “Lessons from around the world,” *American Demographics*. Vol. 23, Issue 9.

<sup>4</sup> “The Consensus Conference model commonly used today was adapted by the Danish Board of Technology in 1987, as a social experiment in the management of technology in society, bringing together both citizens and experts. Use of this process has spread to a number of European countries including the Netherlands, Great Britain, France, Switzerland and Norway, and such non-European countries as Canada, Australia, Japan, Korea, Israel and the United States.” Deborah L. Eastlick and Edna F. Einsiedel (August 2000), *Convening Consensus Conferences: A Practitioner’s Guide*. University of Calgary.

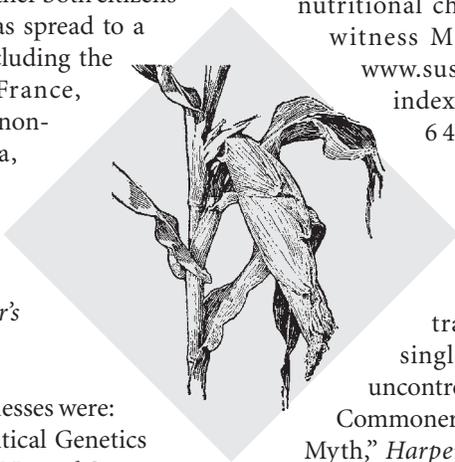
<sup>5</sup> Consensus Conference expert witnesses were: Dr. Barry Commoner, Director, Critical Genetics Project at the Center for Biology of Natural Systems, Queens College; Dr. F.J. Francis, Professor Emeritus, Department of Food Science, University of Massachusetts; Dr. Michael Hansen, Research Associate, Consumer Policy Institute, a division of Consumers Union; Mark Mansour, Attorney, Keller and Heckman LLP; Dr. Kathleen Merrigan, Director, Agriculture, Food, and the Environment graduate studies program, Tufts University; Gus Schumacher, former Massachusetts Commissioner of Agriculture and former Undersecretary of Agriculture for Foreign Agricultural Services, USDA; Dr. Kelley Thomas, co-director of the UNH Hubbard Center for Genome Studies.

<sup>6</sup> What the Panel discovered is that this process is neither fully understood nor fully predictable in advance because inheritance of a trait depends not only on genes, but also on other mechanisms within each cell. It is

possible therefore that unexpected, potentially harmful proteins may be produced. DNA directs the production of proteins inside cells. Information in DNA is encoded by the order of its four building blocks (nucleotides) along the chromosome. Discrete regions of DNA, called genes, contain the information needed to make individual proteins. The process of turning the information provided by DNA into a protein involves many different proteins already present in a cell, so the proper functioning of a cell is critical to the production of the correct protein specified by the DNA in a given gene or genes. For information regarding uncertainty in creating GMOs and their behavior in the food chain, see The National Research Council (2002), *Environmental Effects of Transgenic Plants: The Scope and Adequacy of Regulation*. National Academy Press, Washington D.C. For information concerning GMOs and testing for unintended results, allergens, nutritional changes and other effects, see expert witness Michael Hansen’s testimony, <http://www.sustainableunh.unh.edu/fas/justfoods/index.html> and Consumers Union, [http://64.224.99.117/i/Food\\_Safety/Genetically\\_Engineered\\_Food/index.html](http://64.224.99.117/i/Food_Safety/Genetically_Engineered_Food/index.html). The reader is also referred to technical documents concerning such subjects as alternative splicing, reverse transcription, multiple functions of a single protein, timing of expression and uncontrolled expression of a protein. See Barry Commoner (February 2002), “Unraveling the DNA Myth,” *Harper’s Magazine* and <http://www.qc.edu/CBNS/HarpersReferences.html>.

<sup>7</sup> At the current time, testing, tracking and reporting are left to the companies that are developing GMOs, and these measures are largely voluntary. For an overview of the current regulatory structure, see The Pew Initiative on Food and Biotechnology (September 2001), “Guide to U.S. Regulation of Genetically Modified Food and Agricultural Biotechnology Products,” *The Pew Initiative on Food and Biotechnology*.

<sup>8</sup> The concern for GM crops extends to animals, trees, and other life forms. See the Citizen Panel annotated bibliography, <http://www.sustainableunh.unh.edu/fas/justfoods/index.html>. See also English Nature (2002), “Gene stacking in herbicide tolerant oilseed rape: lessons from the North American experience,” *English*



# NEW HAMPSHIRE JUST FOOD CITIZEN PANEL CONSENSUS CONFERENCE

*Nature Research Reports* No. 443, <http://www.english-nature.org.uk/pubs/publication/PDF/enrr443.pdf>

<sup>9</sup> For letter articulating government reliance on corporations, see FDA letters, <http://www.cfsan.fda.gov/~lrd/biocon.html>. For figures of biotech campaign contributions, see The Center for Responsive Politics, <http://www.opensecrets.org>.

<sup>10</sup> The current problem of food insecurity is related primarily to the inequitable access and distribution of food rather than insufficient food production. For information on the current state of food insecurity, see The Food and Agriculture Organization of the United Nations (2001), "Food Insecurity: When People Live with Hunger and Fear Starvation," *The State of Food Security in the World 2001*, The Food and Agriculture Organization, [http://www.fao.org/sofi/sofi/index\\_en.htm](http://www.fao.org/sofi/sofi/index_en.htm). For information on how sustainable forms of agriculture have shown increases in crop yields, see Minor Sinclair and Martha Thompson, "Cuba: Going Against the Grain," *Oxfam America Report*, <http://www.oxfamamerica.org/cuba/cubatext.html> or Fred Kirschenmann (January 18, 2001), "Alternatives to Agricultural Biotechnology," National Resources, Agriculture, and Engineering Service Cooperative Extension conference: "Biotechnology: Progress or Problem?" in Binghamton, NY.



<sup>11</sup> State law, which is more restrictive than federal law regarding the regulation of GMOs, shall not be preempted.

<sup>12</sup> Without GMO labeling, consumers have no choice because they have no control over whether they eat a GM food or not. Without labeling, tracking of possible health effects due to GMO consumption is impossible.

<sup>13</sup> See *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), *J.E.M. AG Supply v. Pioneer Hi-Bred Inter.*, 534 U.S. 124 (2001) and *Monsanto v. Percy Schmeiser* (Canadian case). See generally: Plant Variety Protection Act.

<sup>14</sup> For an explanation of antibiotic resistant marker genes and related concerns, see Mae-Wan Ho et al., "Gene Technology and Gene Ecology of Infectious Diseases," *Microbial Ecology in Health and Disease* 10:33-59 and Nancy Matheson (October 2001), "Genetic Engineering of Crop Plants," *Appropriate Technology Transfer for Rural Areas* (ATTRA), <http://www.attra.ncat.org>.

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