Margaret Mellon: Scientist, lawyer supports biotech for drug industry, not agriculture

Margaret “Mardi” Mellon is a science consultant for the Center for Food Safety, an NGO that’s stated purpose is to promote organic agriculture[1]. However, she is most known for her role as the agriculture policy coordinator for the Union of Concerned Scientists. In this capacity, Mellon was in charge of leading their campaigns against GMOs in foods. Mellon does believe GMOs are safe for human consumption but also believes the environmental risks make growing GM crops too dangerous. She does support the biotechnology but only in terms of pharmaceutical manufacturing and development. She also openly advocates for the adoption and consumption of organic farming because, in her opinion, it is healthier for people and safer for the environment. She also believes that organic food is superior because it is produced without antibiotics and pesticides.

Mellon’s key scientific objections and concerns raised about GMOs involve the risk of horizontal gene transfer (natural exchange of DNA from one adult plant to another typically through a viral vector) and off target gene silencing. She states that these genetic changes could lead to unintended environmental effects. She claims the costs/risks of GMOs outweigh potential benefits citing loss of value/efficacy of Bt for use in organic agriculture and negative impacts on pollinators like monarch butterflies of GMO enabled pesticide-using monoculture deserts.[5]

Career

Mellon’s career in GMO advocacy was initially funded by a grant from Joyce Foundation (same funder of the Natural Resources Defense Council Alar in Apples scare in 1989) in the mid 1980’s.[3] From September 1985 to August 1993 she served as the director of National Biotechnology Center for the National Wildlife Federation.

In August of 1993, she founded and was named director of the Food and Environment Program at the Union of Concerned Scientists, an organization founded in 1963 that has sought to influence government policy in areas where science and technology are significant. Its early efforts were against nuclear weapons and the Cold War arms race. However, it has since expanded to environmental and agricultural issues.

While at the Union of Concerned Scientists, Mellon was involved in several publications, including co-authoring *The Ecological Risks of Engineered Crops* and *Hogging It!: Estimates of Antimicrobial Abuse in Livestock* (2001) and serving as the co-editor of *Now or Never: Serious New Plans to Save a Natural Pest Control*. She held the post of director of Food and Environment program until January of 2012, but stayed with the Union of Concerned Scientists as a senior scientist until January of 2014.

She served three terms on the U.S. Department of Agriculture’s Advisory Committee on Biotechnology and 21st Century Agriculture and for many years taught a popular course in biotechnology and the law at the Vermont Law School. She was named a Fellow of the American Association for the Advancement of Science in 1994. She has also worked with DC based environmental law firm Beveridge & Diamond, PC

(law firm)[4] and the Environmental Law Institute, a non-profit environmental group, as their toxics program director.

Education

- University of Virginia School of Law, J.D., Environmental Law, 1978 – 1981
- University of Virginia, Ph. D, Molecular Biology (virology), 1972 – 1976
- Purdue University, Research Fellow molecular virology, In 1993 she received a Distinguished Alumni Award from Purdue University's School of Science.

Quotes

- "I agree that GE products currently on the market—overwhelmingly herbicide tolerant (HT) and BT crops–are unlikely to be allergenic or toxic and on that basis are likely safe to consume. But I also believe that there are holes in the risk assessment process that leave some questions unanswered…" *September 10, 2013* [8]

- "The use of toxic chemicals in agriculture is skyrocketing. This is not the path to sustainability." *Sep 20, 2011*[9]

- "We do need to worry about jumping genes. We know that these genes are going to move through the crop into wild organisms. So we've got all kinds of gene-flow problems…" 2007 [5]

- "I should also say, however, that my colleagues and I at the Union of Concerned Scientists are not opposed to biotechnology. We think its use in research and drug manufacture, for example, is essential. The therapeutic benefits of the new drugs outweigh the risks, and often there aren't any alternatives. But in agriculture, it's different. So far, at least, there are only modest benefits associated with biotechnology products, and it has yet to be shown that the benefits outweigh the risks. And there are exciting alternatives to solving agricultural problems that we are simply ignoring… Genetic engineering has a place and should not be taken off the table, but I don't believe it is a panacea for world hunger. Treating it as if it is distorts this important debate. It is also amazing to me how quickly some have dismissed the virtues of traditional breeding—the technology that, after all, made the U.S. into an agricultural powerhouse." December 2006.[11]

- "And there are environmental risks out there. Most scientists agree now that gene flow will occur—genes will go from engineered crops to nearby relatives. That means pollen will carry novel genes from the agricultural settings into neighbors' fields or into the wild. Widespread use of GM crops has already led to the creation of herbicide-resistant weeds in Canada and the U.S… You just can't get an elephant to mate with a corn plant. Scientists are making combinations of genes that are not found in nature. From a scientific standpoint, there is no dispute that this is fundamentally different from what has been done before. And that it is unnatural… We've got plenty of food. In fact, we've got too much. And although we have many problems associated with our food system, they are not going to be solved by biotechnology." December 2006 [11]

- “I disagree strongly with the statement that the BT and HT crops are safe for the environment. Yes, scientists have documented pesticide reductions in pesticide use immediately following the introduction of these crops, which I welcome and applaud. But these benefits exist only until resistance develops to glyphosate or the BT toxins…” December 2006 [11]

Criticisms

Mellon plays a close line in her public comments on GMOs acknowledging there is no current evidence they are harmful to people, while asserting they do have a harmful impact on the environment. However, according to Dan Charles in his 2008 book “Lords of the Harvest,” Mellon engaged in subtle tactics asking GMO-related questions but noted, Mellon “wasn’t in the business of accepting answers. Her job was to keep asking more questions, always alert for potential dangers either to the environment or consumers. Her natural allies were government regulators and the news media; her natural adversaries, profit-driven private companies. Success was measured by tighter government regulations passed, more press coverage obtained, and more grant requests funded…” [3]

Resources

- Margaret Mellon on LinkedIn
- Mellon on Twitter

References

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- 3 Lords of the Harvest: Biotech, Big Money, And The Future of Food,” by Dan Charles, Basic Books, 2008
- 4 Biodiversity and the Law: Intellectual Property, Biotechnology and Traditional Knowledge, by Charles R. McManis, Earthscan, 2012.
- 5 Dinner at the New Gene cafe: How Genetic Engineering is Changing What We Eat,” by Bill Lambrecht, Macmillan Publishing, 2007.
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- 7 http://blog.ucsusa.org/reasons-to-buy-organic-let-us-count-the-ways
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