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Regulating Genetically Modified Foods: Is Mandatory Labeling the Right Answer?

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REGULATING GENETICALLY MODIFIED FOODS: IS MANDATORY LABELING THE RIGHT ANSWER?

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{1} Thank you. It's a very common mistake to believe that consumers could only have a choice if the government requires mandatory labeling of genetically engineered food. My question back to you, Jean, is, exactly what kind of information do consumers get if all you do is label the product as "Genetically Engineered?" We can take this up later in the debate part of our panel discussion. I think the one thing that we can all agree on, however, is that the food label is a very important source of information to consumers.

{2} Now, labeling advocates would say that genetically engineered foods could be changed in unexpected ways or that they're inherently different from more conventional forms of plant breeding – even inherently different from some of the more scientifically advanced forms of plant breeding that Dr. Hoover talked about earlier – things that are totally unnatural and things that can only happen in a laboratory environment.

{3} What are some of the things that labeling advocates talk about? A potential for new allergens or toxins, or for an accidental change in the nutrient level of foods, or, on the other hand, environmental effects such as those from pest protected plants: the Monarch Butterfly issue. Pest protected plants could harm non-target insects and others can pass on genes and erode biodiversity. Herbicide tolerant or pest protected plants could become invasive and spread genes to wild plants making them invasive. Now, at least in theory, I don't think that there's a single person in the room here that knows anything about the technology who would say that any of these things are false, that any of these risks are not possible with genetic engineering and with genetically engineered foods.

{4} I think the bigger issue that we need to deal with is that every one of these things, every one of these potential risks, is also equally true about those other, more conventional methods of plant breeding or even animal breeding. For example, food grade plants like wheat, rye, barley, squash, and countless others are routinely mated with distant wild relatives, often from different species and sometimes from different genera, in a way that could never take place in a natural environment. Any one of the genes introduced into the food supply from one of these wild plants that had never previously been part of the food supply could code for the creation of the protein that is allergenic.

{5} Potatoes and tomatoes, two of our favorites, which are themselves descendants of the deadly nightshade family, are routinely mated with wild relatives that retain their natural toxicity to humans. Now, these kinds of things are totally unregulated when they're put on the market, and we trust that plant breeders will do the appropriate tests to ensure the food is safe by the time it gets to the consumers. Take a single one of those genes from one of these wild plants and transfer it into a crop plant with recombinant DNA techniques, and all of a sudden you open an entire Pandora's Box of new

regulatory requirements. You have to go to the USDA. You often go to the EPA. And, Greg Jaffe notwithstanding, companies do go to the FDA to ensure that their products are safe for consumers to eat.

{6} With environmental impacts, herbicide tolerant varieties of canola, wheat and soybean have been produced for three decades with selection techniques, basic hybridization, or, one of my favorites, mutation breeding, which is something again that Dr. Hoover was talking about earlier. Now, mutation breeding, for those of you that don't know what it is, is essentially what it sounds like. You take tens of thousands of plant seeds and you expose them to radiation – gamma rays or X-rays – or sometime a caustic chemical to induce random genetic mutations, perhaps one in ten thousand of which will produce a useful agronomic trait. Now, these things are routinely done. There are at last count 2,250 varieties registered with the International Atomic Energy Agency, and these things are eaten in every country of the world.

{7} Again, in every country but Canada, they go on the market totally without regulation and totally without any sort of labeling. Now, if you want to talk about the potential for unanticipated effects, alterations in existing genes, then let's talk about mutation breeding, not recombinant DNA. One of the earlier speakers mentioned that she was a little concerned that there was a possibility of genetically engineered canola growing in North America. Well let me tell you, canola wouldn't exist if it wasn't for mutation breeding. Canola is a variety derived from a plant of the same species that in North America we call rapeseed. It was zapped with some gamma radiation in the 1960's to silence two genes that occur naturally in rapeseed – one produces a toxin, and one produces an anti-nutrient – so you have edible cooking oil. Nobody in the world can tell you what other possible mutations happened when these Canadian plant breeders zapped canola with gamma rays. No food regulator, no environmental activists, and no labeling advocate knows. And what's more, no labeling advocate cares – rather curiously.

{8} Another thing that people have been talking about throughout the program today, RoundUp Ready wheat, has two additional genes transferred through recombinant DNA techniques. BASF, a German chemical company, used chemical mutation breeding to cause a wheat variety to be tolerant to its own proprietary herbicide Clearfield. Even today, plant breeders at Oregon State University and Colorado State University are using these mutant wheat varieties and putting them straight in the market, without any sort of government regulation and without labeling.

{9} Once you consider that genetic engineering lets breeders identify the specific genes that are to be transferred or altered, lets them characterize the function of those genes, lets them test the genes to ensure that they have been stably inserted into the plant genome, and lets them test to see that other genes, endogenous to the plant genome, are working properly, you can see why I think most plant geneticists will tell you that genetic engineering techniques allow you to produce a safer product than conventional breeding – not more dangerous, safer.

{10} Labeling advocates just aren't interested in these potential other health or environmental impacts. They're not concerned unless it has to do with genetic engineering, which I think should lead observers to the conclusion that labeling isn't about safety at all. Indeed, if safety was the concern, then you'd think labeling advocates would insist on specifying the potential harm, such as "potential for allergenicity" or "potential for changed toxicant or nutrient content." If the safety were the issue, then those would be the things that should be included on food labels and not just "genetic engineering," but you wouldn't need new laws to do that, because, as Jean Halloran mentioned, it's already FDA policy.

{11} If there's a change in the nutrient level of the plant, outside the normal range to be expected, or if there's a potential for a new toxin to have been introduced or a new allergen to have been introduced, or even a change in the storage and preparation, or the taste characteristics of the food, that has to be labeled and it has to be explained to consumers in a way that they understand what the difference is – not just "Genetically Engineered."

{12} Now, I think Val Giddings hit the nail right on the head earlier when he talked about the fact that labeling is really about scaring consumers into believing there's an important difference between genetically engineered foods and conventional foods, when there really isn't. But, to the extent that there is a distinction that we can make between genetic engineering and conventional breeding, the difference is genetic engineering is probably a little safer. Instead, once you consider that genetically engineered plants are subject to exhaustive, often duplicative mandatory testing and regulation, there's no question that an across-the-board labeling mandate is totally unnecessary. As Jean Halloran says, the question is really about consumer choice, and whether we can say the product has been genetically engineered is inherently safe or maybe safer than conventional product is not really at issue here.

{13} The question is, "Can consumers choose?" I'm an advocate of markets; I'm an individualist, so I think consumers have a right to demand information. There are dozens of polls, as we've heard, that indicate that consumers in the United States do seem to want labeling. Now, Professor Adler will talk a little bit about the constitutionality of labeling, so I won't talk about that at all. But that aside, the fact of the matter is a typical grocery store already contains enough information for consumers to fill their shopping carts with products that are not genetically engineered.

{14} You can find organic foods in every major grocery store in the United States now. And, increasingly, a lot of food producers are taking the lead of Ben & Jerry's, which back in 1993 started labeling its products specifically and explicitly not genetically engineered. Now, I don't know that we need more to facilitate consumer choice, but why anyone thinks that the addition of a single, simple, generic "Genetically Engineered" label is going to give consumers any additional information, I don't understand. It will do nothing other than provide a way for anti-biotechnology campaigners to scare consumers away from these products. Thank you.

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