

Will GMO makers, advocates support labeling of consumer focused 2nd generation GMOs?

It's time for a new generation of food. The so-called "second generation" of recombinant DNA crops (or those subject to gene editing or epigenetic changes) has started to move from the lab into the market. These new types of "GMOs," which, ironically, were the first ones proposed, create changes in food that may require new ways to regulate them, and may even see a benefit from labeling.

Such crops, including Simplot's newly approved "Innate" potato, engineered to produce less acrylamide ([among other things](#)), now provide benefits that appeal directly for the consumer. Contrast this with the so-called first generation of GMOs, whose benefits included increases in crop yields or resistance to pesticides and were less obvious to the consumer. These first generation traits benefited farmers but did not provide something that tasted different or changed the nutritional or chemical nature of the food itself. The new generation of GM, however, could produce changes in the nutrition or chemistry of the food.

Labeling GMOs has been a divisive issue in agriculture for decades. Anti-GMO groups have pressed for labeling, particularly in Europe and the United States. The organization "[Just Label It](#)" states on its website that:

Ever since GMOs entered the market 20 years ago, we've been kept in the dark about whether foods we feed our families contain GMOs.

Who are the companies fighting our right to know? Transparency is our right. Yet a handful of companies, such as Monsanto, Kraft, Kellogg's and General Mills, have gotten away with hiding important information about our food for nearly two decades.

This is changing. Now, [Campbell's Soup](#) has pledged that it will voluntarily label products that contain GM ingredients, partly to live up to its own pledge of transparency and partly to support a national labeling standard:

There is currently no federal regulation requiring labeling that informs consumers about the presence of GMOs in their food. In the absence of federal action, many states—from California to Maine—have attempted to address this issue. Campbell has opposed this state-by-state patchwork approach, and has worked with GMA to defeat several state ballot initiatives.

Even the food giant (and to many genetic engineering opponents, lightning rod) Monsanto has stated it would favor certain voluntary labeling provisions (it remains opposed to mandatory labeling), and [has supported a bill](#) currently circulating through the US Congress that would require FDA to conduct a safety review of new GM varieties and require labeling if the FDA believed it was necessary to protect human health.

New regulatory issue

But the new generation of GMOs, even if found to be safe, may necessitate a new regulatory and labeling approach in the United States. Because these second-generation crops change the output of the food — for example, with additional Vitamin A, reduced levels of harmful chemicals (like acrylamide), or other fortifications like higher levels of lysine in corn — they cannot be regulated using the “substantial equivalence” rule followed by the US Department of Agriculture, European regulators, and others, [say some experts](#):

Regulators may need to compare the GM plant with a range of natural variation of control plants grown under the same conditions. They may also have to conduct more field experiments to test GM and comparison crops against various stresses (since a drought resistant crop could thrive with no water, while the comparisons die). In addition, the final product component (such as a change in oil), would have to be evaluated based on its history of safe use.

The European Food Safety Agency, which regulates foods in the European Union, [declared that](#) in this case, it would test the food itself for any changes or safety issues:

Where no comparator can be identified, a comparative risk assessment cannot be made and a comprehensive safety and nutritional assessment of the GM plant and derived food and feed itself should be carried out. This would, for instance, be the case where the food and/or feed derived from a GM plant is not closely related to a food and/or a feed with a history of safe use, or where a specific trait or specific traits are introduced with the intention of changing significantly the composition of the plant.

New type of labeling

The new generation of GMs may herald a new age of labels too, which may actually result in greater consumer acceptance of engineered foods. For these new products, “the GM industry has an incentive to differentiate its products from conventional ones with branding or labeling,” wrote Wallace Huffman, an agricultural economics professor at Iowa State University and Jill McCluskey, an ag economics professor at Washington State University. “The tide is turning with consumers being willing to pay for products with GM content rather than conventional products.” One study showed that consumers claimed to be willing to pay 25 percent more for vegetables that had been genetically enhanced to produce more antioxidants and Vitamin C if the traits were introduced non-transgenically (which is now possible).

- A 2002 study in China found that consumers said they were willing to pay a 38 percent premium for genetically engineered rice that had more Vitamin A and a 14 percent premium for soybean oil that was genetically modified. However, younger buyers were more enthusiastic about genetic engineering than older ones and the way information was presented made some differences in consumer preferences.

- A [study in Brazil](#) on acceptance of GM cassava, conducted in 2009, found that consumers' "mean willingness to pay is estimated at 60–70% above market prices for traditional cassava. This is higher than the results from similar studies in developed countries, which is plausible given that micronutrient malnutrition is more severe in developing countries. GM foods with enhanced nutritive attributes seem to be well received by poor consumers." Acceptance was heightened if the food was fortified with pro-vitamin A compounds.

Opposition to GMOs was heightened by a number of events that anti-GMO activists interpreted as a pro-corporate strategy of genetic engineering. This included the fact that the earliest successful GM crops were ones that benefited farmers with increased yields and resistance to pesticides. Such resistance was seen as benefiting only the companies manufacturing those pesticides, and thus was fodder for building consumer and regulator opposition to recombinant DNA approaches and other genetically engineered crops in general.

Now it's not just about Monsanto. Genetic modifications will include more changes in nutrition, which will probably create positive changes in the nutritional make-up of our food and, in turn, consumer demand. Enter a new version of the old label, "new and improved!"

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