

# GM in the Media

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A major media storm on genetically modified food has been brewing in the recent months in the US relating to the upcoming ballot initiative in California to label these products. Known as "Proposition 37, a Mandatory Labeling of Genetically Engineered Food Initiative," it will be decided by the citizens of California by voting on November 6, 2012.<sup>1</sup>

According to BallotPedia,<sup>2</sup> if Proposition 37 is approved by voters, it will: (1) require labeling on raw or processed food offered for sale to consumers if the food is made from plants or animals with genetic material changed in specified ways; (2) prohibit labeling or advertising such food as "natural." Exempt from this requirement foods that are "certified organic; unintentionally produced with genetically engineered material; made from animals fed or injected with genetically engineered material but not genetically engineered themselves; processed with or containing only small amounts of genetically engineered ingredients; administered for treatment of medical conditions; sold for immediate consumption such as in a restaurant; or alcoholic beverages."<sup>2</sup>

The ballot was initiated by James Wheaton, who collected a million signatures to place the proposition on California ballot for voting by the public in the general election. If passed, California will be the first state in the US to require a mandatory labeling for genetically modified foods. The proposition has been enthusiastically supported by organic and natural food trade groups while the opposition is led by hundreds of agbiotech and food companies such as Monsanto, Coca-Cola, Kellogg and Grocery Manufacturers Association,<sup>3,26</sup> and by many academic scientists including myself.

While much of the media stories and commentaries support the initiative to label GM foods, a few strong voices have

argued against it. For instance, an editorial in the *Contra Costa Times* called Prop 37 as onerous and unworkable as "it allows state government, local government or private parties to sue companies that violate the labeling requirement. It also relieves the plaintiffs of any burden to show specific damage because of the violation. That creates a cottage industry for rainmaker lawyers worthy of a John Grisham novel."<sup>4</sup>

Another newspaper editorial from the *High Desert Daily Press* called Proposition 37 as "anti-business, anti-agriculture, pro-union and pro-trial lawyer" which would "essentially ban thousands of common food products that contain ingredients made from modern varieties of corn, soybeans, canola, sugar beets and other crops produced with the benefit of biotechnology in California unless they are specially labeled as 'genetically engineered.'"<sup>16</sup>

A St. Louis based attorney Tom Redick who has co-edited a book on labeling laws of GM foods,<sup>5</sup> is quoted in a newspaper article on Proposition 37 as saying that

"It's not a law that will do any good for growers or the public, but it will sure be great for lawyers."<sup>6</sup> Professor Jayson Lusk of Oklahoma State University in an interview with Reason magazine argued that mandatory labeling of food will reduce consumer choice and availability: "In Europe, there essentially are no GMO-labeled foods on the market—so choice has essentially been removed (at least for those who would prefer the cheaper GM alternative). In the US, we do not have mandatory labeling and yet people who want to avoid GMOs can buy organic or products with GM-free certifications, which are available in most supermarkets. There is more choice in the US precisely because of the absence of mandatory labels."<sup>7</sup>

Professor Robert Goldberg, a renowned scientist from the University of California, Los Angeles, in a radio interview called

the Proposition 37 as "anti-Science" and a "Trojan horse." He said that "genetically modified foods are the most tested food in the history of agriculture" and that labeling is an indictment of such foods through "guilt by association."<sup>8</sup> Stacy Malkan, a spokeswoman for the "California Right to Know" campaign for the labeling of genetically modified food' disagreed with him saying that the labeling simply gives consumers a choice and that GM foods are not tested well. Databases such as Genera have listed more than 350 peer-reviewed studies on the safety of such foods.<sup>9</sup>

University of California, Davis released a study that also showed that Prop 37 will result in reduced food choices for the consumers while adding nearly \$1.2 billion in additional costs. The study concluded that the law would "introduce a double standard for accidental GM purity in organic versus non-organic foods, favoring organic."<sup>10</sup>

Strangely, even a major Natural products trade group has announced its opposition to Prop 37.<sup>11</sup> The Natural Products Association said in a press release: "Proposition 37 places every supplier, manufacturer and retailer of food products at risk of unreasonable and frivolous litigation. We are concerned the restrictions on natural foods in the proposition language could create a difficult business environment in California and further hinder the ability of our members to sell natural products."<sup>11</sup>

However, supporters of the proposition argue that GM foods are dangerous and that the labels would help the consumers to decide on their choice of food, and thus the initiative provides the consumers with "their right to know."<sup>12</sup>

Not all Europeans are gung-ho about labeling. For instance, a German commentator questions the utility of labeling GM food and calls it absurd as most foods

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now contain trace amounts of biotech ingredients.<sup>25</sup> In a translated text from German (thanks to our co-editor, Dr Vivian Moses), his statement reads “politicians must stop trying to hide behind the populist call for a “comprehensive, thorough identification.” You must declare that in nature and in the real world of international trade nothing can be absolutely GM-free, everything is a greater or lesser admixture. How labeling helps “informed buying decisions” is a matter for politics and society. There can be no science-based limit.”

In another related story, the retail giant Walmart from USA has announced that it will begin carrying genetically modified sweet corn on its shelves, and that this would not be labeled as “GM.” Although much of the corn grown in the US is now derived from genetically modified seeds, sweet corn producers have so far shied away from this technology. Thus the Walmart’s GM sweet corn is among a few “whole foods” to be sold in the US developed through biotechnology. Walmart also issued a statement that “After closely looking at both sides of the debate and collaborating with a number of respected food safety experts, we see no scientifically validated safety reasons to implement restrictions on this product.”<sup>13</sup>

Across the pond, in Europe the issue of GM crops and food continues to stir political, public and media controversy. The public in Switzerland voted for a five-year moratorium on GM plants in 2005 that was extended again for another three years by its parliament. Now, a Swiss government study costing \$12.5 million conducted during 2007 and 2011 encompassing 30 projects concluded that there was no discernable negative impact from GM crops on beneficial organisms, microorganisms or soil fertility.<sup>14</sup> Meta-analyses spanning over 1,000 international studies also reached a similar verdict.

GM crop researchers and crop biotech companies such as BASF are fleeing Europe, according to Hans-Jörg Jacobsen, Professor of Plant Biotechnology at Leibniz University in Hannover.<sup>15</sup> In an interview with SciLogs, Prof Jacobsen laments that research on GM crops in Europe faces political hostility and increased opposition from interest groups: “The political

situation surrounding plant biotechnology has worsened in the last few years and is making research activities difficult for universities and scientific institutions. The obstacles researchers are facing range from field destructions that sweep away years of valuable research activity, to coalition agreements between red and green politicians which indicate that there will be no state level sponsorship of plant biotechnology and fear-inducing news by various media and NGOs which could eventually fund their campaigns.”

In India, a parliamentary committee report came out strongly against GM crops calling for suspension of field trials of such crops and recommended that biotech research should be conducted under strict containment. In a Science magazine interview, Dr Swapan Dutta, deputy director general at the Indian Council of Agricultural Research has warned that any such action “would paralyze research and erode India’s food security” while Maharaj Kishan Bhan, secretary of the India’s Department of Biotechnology also stated that such a move would ensure that “hope for GM research in India is lost.”<sup>17</sup> In a strongly worded commentary, an Indian farmer leader criticized the Indian parliamentary report as it “totally fails to reflect farmers’ aspirations, and distorts the scientific significance of biotechnology—including genetic engineering—for the national economy. Instead, it echoes persistent canards by some environmental NGOs.”<sup>18</sup> Mr Reddy also added that GM crops are “an absolute must” to increase the farm productivity in India.

While not exactly the subject of GM crops, but of related interest, two high-profile scientific reports have called into question the claimed superiority of organic over conventional farming and the nutritional benefits of organic foods. A Stanford University research paper, published in the *Annals of Internal Medicine*, analyzed 17 human studies and 223 field studies, and concluded that the “published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods. Consumption of organic foods may reduce exposure to pesticide residues and antibiotic-resistant bacteria.”<sup>19</sup> The study was discussed around the globe through major stories in the news

media, but also drew predictable criticism from proponents of organic food.

Another study from UK’s University of Oxford analyzed 71 papers published in peer-reviewed journals comparing organic and conventional farms in Europe, and concluded “that whilst organic farming almost always supports more biodiversity and generally has a positive wider environmental impact per unit of land, it does not necessarily have a positive impact per unit of production.”<sup>20</sup>

A major victory for GM growers in Europe came with a European Court of Justice ruling on September 6, 2012, upholding the EU farmers’ right to cultivate biotech crops.<sup>21</sup> The Court ruled those GM crop events already approved by EC cannot be subjected to additional national regulations by member states, and also declared that coexistence measures as not mandatory to grow GM crops.

While Golden Rice with enriched provitamin A content is yet to be released for farmers’ cultivation, a recent paper, involving human trial reported in the *American Journal of Clinical Nutrition*, reported that the  $\beta$ -carotene in the GM rice was as good as pure  $\beta$ -carotene in oil and better than spinach at providing vitamin A to children. A bowl of cooked Golden Rice can provide more than half of the dietary requirements for this nutrient in children.<sup>22</sup> Greenpeace, along with other anti-biotech groups, has earlier criticized GM foods as being insufficiently tested especially for its effectiveness in humans, has condemned the study for using children, and has called for a halt to field trials of Golden Rice in Philippines.<sup>23</sup>

On a sad note, we learnt the passing of a noted plant geneticist Dr Simon Chan of UC Davis on August 22, 2012. Dr Chan, who was 38, had earlier discovered a way to develop true-breeding (homozygous) plants with genes from only one parent. A highly distinguished scientist, he was among the first group of scientists to be selected for funding by the Howard Hughes Medical Institute and the Gordon and Betty Moore Foundation. A New Zealander with a bachelor’s degree in biochemistry from the University of Auckland, he did his doctoral thesis at UC San Francisco under Professor Elizabeth Blackburn, winner of the 2009 Nobel Prize.<sup>24</sup>

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