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**STATEMENT ON SUSTAINABILITY ISSUES RAISED BY NEW  
NATIONAL RESEARCH COUNCIL REPORT ON GENETICALLY  
ENGINEERED CROPS**

***Kimbrell: Genetically Engineered Crops Are Already Having Negative Impact  
on Farm Sustainability in the United States***

**Washington, DC April 13, 2010** – The Center for Food Safety today released a statement in response to a National Research Council (NRC) report that purports to address the impact of genetically engineered (GE) crops on “farm sustainability,” understood to include farmer economic welfare as well as the environment. Center for Food Safety Executive Director Andrew Kimbrell reacted to the report, which was released this morning by NRC in Washington, DC:

“Center for Food Safety has maintained for years that most GE crops are unsustainable, in that they foster a pesticide-promoting agriculture that degrades the environment and increases production costs for farmers.<sup>i</sup> The NRC has taken a small step toward acknowledging the truth of this critique, but its recommendations fall far short of adequately addressing the problem.

“At issue is Monsanto’s Roundup Ready technology, which is found in over 70% of GE crops grown on 130 million acres in the U.S.<sup>ii</sup> Roundup Ready crops are engineered to survive direct application of glyphosate, the active ingredient of Roundup herbicide, which would kill or injure a conventional crop. Roundup Ready crops do not increase yield.<sup>iii</sup> Rather, they have provided about a decade of convenient, labor-saving weed control by facilitating vastly increased and more frequent use of glyphosate, perhaps the most effective weed-killer ever developed.

“The costs of what the NRC calls ‘excessive reliance’ on Roundup Ready technology are legion. In just 14 years, the Roundup Ready system has triggered an epidemic of glyphosate-resistant weeds,<sup>iv</sup> in the same way that an overused antibiotic fosters resistant bacteria. Resistant weeds lead to increased pesticide use, which in turn harms the

environment<sup>v</sup> and human health.<sup>vi</sup> The leading independent study demonstrates that Roundup Ready crops and resistant weeds have increased use of herbicides (weed-killing pesticides) by 383 million lbs. over what would otherwise have been used in the 13 years from 1996 to 2008.<sup>vii</sup> Resistant weeds also trigger greater use of soil-eroding tillage, and in some cases manual hoeing to remove weeds, as well as higher production costs.<sup>viii</sup>

“Significantly, glyphosate-resistant weeds are becoming so prevalent as to undermine the efficacy of glyphosate itself in ever more areas of the country.<sup>ix</sup> In response, companies are introducing crops resistant to non-glyphosate and multiple herbicides – an ultimately futile approach that will simply deepen the pesticide dependence of the American farmer.<sup>x</sup>

“In short, the biotech industry’s flagship product is proving to be inherently unsustainable, digging its own grave after just a decade and a half of use, and driving development of still other short-term fixes that will in turn rapidly become obsolescent.

“Center for Food Safety is not certain what ‘sustainability’ means to the NRC. In our view, it should mean farm technologies and practices that remain effective and enhance productivity over many generations, not flash-in-the-pan innovations (like Roundup Ready technology) that drive their own obsolescence in just a decade or two.

“Unfortunately, the rapid takeover of the seed supply by pesticide-biotechnology companies means that farmers have ever fewer conventional seed options. Monsanto is the world’s largest seed company, followed by DuPont (#2) and Swiss-based Syngenta (#3). Other pesticide manufacturers with a large stake in the seed industry include Dow Agrosciences, and German-based Bayer CropSciences and BASF Plant Science.<sup>xi</sup> It should not be surprising that these pesticide companies are developing new GE seeds for use in tandem with weed-killing pesticides they also sell.<sup>xii</sup>

“Farmers are increasingly turning away from Monsanto’s Roundup Ready seeds to conventional seeds due to astronomical GE seed prices, resistant weeds, and the ability to legally save and replant conventional seeds. (Seed-saving, a traditional practice in the U.S. and around the world, has been made illegal with patented Roundup Ready seeds.) Demand for conventional soybean seeds has outstripped supply in at least five states, which means that some farmers who want to “go conventional” are unable to do so thanks to shortage of conventional seeds.<sup>xiii</sup>

“The declining availability of conventional seeds – due in part to atrophy of public sector breeding programs – is hopefully one topic the Department of Justice and state attorneys general will explore in their ongoing investigation of anticompetitive effects of seed industry concentration. Other issues include anti-farmer seed patents, the astronomical cost of GE seeds, and a number of anticompetitive practices used by Monsanto.<sup>xiv</sup> Monsanto has used its seed patents to wring anywhere from \$85 to \$160 million from U.S. farmers for allegedly saving and replanting the company’s patented seeds.<sup>xv</sup>

“Monsanto’s latest quarterly financial report shows a massive 19% drop in earnings, which directly reflects the farmer revolt against overpriced and increasingly ineffective Roundup Ready technology.<sup>xvi</sup> The result would have been still worse for the company if farmers had had an adequate supply of viable conventional seed alternatives to draw on.

“In the end, the NRC makes too much of short-term benefits of certain GE crops, and fails to appreciate the inherent unsustainability of the pesticide-promoting technologies being offered by the industry. In addition, there is too little concern for the many adverse impacts of seed industry concentration and seed patents on farmers’ welfare.

“CFS calls for a moratorium on approvals of all new pesticide-promoting GE crops; an end to utility patents on seeds such that farmers can again save and replant seeds from their harvest; and serious antitrust remedies to break up the ongoing takeover of the seed supply by pesticide companies. The Federal government should commit significant new funds for independent, public-sector breeding programs. Without strong, decisive action of this sort, the pesticide-seed-biotechnology conglomerates will continue to saddle farmers with increasingly expensive, pesticide-promoting seeds that represent the complete opposite of sustainability.”

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*The Center for Food Safety is a national, non-profit, membership organization founded in 1997 to protect human health and the environment by curbing the use of harmful food production technologies and by promoting organic and other forms of sustainable agriculture. CFS currently represents over 68,000 members across the nation. On the web at: <http://www.centerforfoodsafety.org>*

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<sup>i</sup> FoEI-CFS (2008). “Who Benefits from GM Crops: The Rise in Pesticide Use,” Friends of the Earth International & Center for Food Safety, January 2008, Chapter 2. [http://www.centerforfoodsafety.org/WhoBenefitsPR2\\_13\\_08.cfm](http://www.centerforfoodsafety.org/WhoBenefitsPR2_13_08.cfm). See also the 2009 edition of Who Benefits from GM Crops? at [http://www.centerforfoodsafety.org/WhoBenefitsPR2\\_11\\_09.cfm](http://www.centerforfoodsafety.org/WhoBenefitsPR2_11_09.cfm).

<sup>ii</sup> Benbrook, C (2009). “Impact of Genetically Engineered Crops on Pesticide Use: The First Thirteen Years,” The Organic Center, November 2009, Table 3.1. [http://www.organic-center.org/science.pest.php?action=view&report\\_id=159](http://www.organic-center.org/science.pest.php?action=view&report_id=159)

<sup>iii</sup> Gurian-Sherman, D. (2009). “Failure to Yield,” Union of Concerned Scientists, April 2009. [http://www.ucsusa.org/food\\_and\\_agriculture/science\\_and\\_impacts/science/failure-to-yield.html](http://www.ucsusa.org/food_and_agriculture/science_and_impacts/science/failure-to-yield.html). UCS finds that neither Roundup Ready nor insect-resistant Bt crops increase the yield potential of crops, which is accomplished through conventional breeding and other means.

<sup>iv</sup> Service, R.F. (2007). “A growing threat down on the farm,” *Science* 316: 1114-1117. According to leading weed scientist Stephen Powles: “There is going to be an epidemic of glyphosate-resistant weeds,” Powles says. “In 3 to 4 years, it will be a major problem.” The future is now.

<sup>v</sup> A growing body evidence shows clearly that Roundup is toxic to frogs at very low doses, and along with other factors may be implicated in the global decline of amphibians. See: Howe, C. M., et al (2004). “Toxicity of glyphosate-cased pesticides to four North American frog species,” *Environ Toxicol Chem* 23: 1928-1938; Relyea, R.A. & D.K. Jones (2009). “The toxicity of Roundup Original MAX to 13 species of larval amphibians,” *Environ. Toxicol. Chem* 28: 2004-2008. Relyea, R.A. (2005a). “The lethal impact of Roundup on aquatic and terrestrial amphibians,” *Ecological Applications* 15(4): 1118-1124.

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<sup>vi</sup> On studies linking Roundup use to increased rates of the immune system cancer non-Hodgkin's lymphoma in pesticide applicators, see: Hardell, L., & Eriksson, M. (1999). "A Case-Controlled Study of Non-Hodgkin's Lymphoma and Exposure to Pesticides," *Cancer*, 85(6), 1353–1360; De Roos, et al. (2003). "Integrative assessment of multiple pesticides as risk factors for non-Hodgkin's lymphoma among men," *Occup Environ Med*, 60(9).

<sup>vii</sup> See Benbrook, C. (2009), op. cit.

<sup>viii</sup> Benbrook, C (2009), op. cit., see especially Chapter 4. On resistant weeds driving farmers back to the preindustrial practice of manually hoeing seeds, see: Charlier, T. (2009). "The perfect weed: An old botanical nemesis refuses to be rounded up," *Memphis Commercial Appeal*, August 9, 2009. <http://www.commercialappeal.com/news/2009/aug/09/the-perfect-weed/>.

<sup>ix</sup> Powles, S.B. (2009). "Gene amplification delivers glyphosate-resistant weed evolution," Commentary, *Proceedings of the National Academy of Sciences* 107: 955-956. Powles warns that glyphosate-resistant weeds pose a "looming threat to global cropping and food production."

<sup>x</sup> Benbrook, C (2009), op. cit., Chapter 7.

<sup>xi</sup> ETC (2008). "Who Owns Nature?" ETC Group, 2008, pp. 11 and 15 for leading seed and pesticide manufacturers, mostly the same firms.

[http://www.etcgroup.org/upload/publication/707/01/etc\\_won\\_report\\_final\\_color.pdf](http://www.etcgroup.org/upload/publication/707/01/etc_won_report_final_color.pdf)

<sup>xii</sup> USDA is presently considering commercial approval of eight pesticide-promoting, herbicide-tolerant GE crops, by far the most common category of GE crops. See

[http://www.aphis.usda.gov/brs/not\\_reg.html](http://www.aphis.usda.gov/brs/not_reg.html). Though hidden from public view, these crops include corn and soybeans from Dow resistant to 2,4-D (part of Vietnam War defoliant Agent Orange).

<sup>xiii</sup> Jones, T. (2008). "Conventional soybeans offer high yields at lower cost," University of Missouri, Sept. 8, 2008. [http://agebb.missouri.edu/news/ext/showall.asp?story\\_num=4547&iln=49](http://agebb.missouri.edu/news/ext/showall.asp?story_num=4547&iln=49); Medders, H. (2009). Soybean demand may rise in conventional state markets," University of Arkansas, Division of Agriculture, March 20, 2009,

<http://www.stuttgartdailyleader.com/homepage/x599206227/Soybean-demand-may-rise-in-conventional-state-markets>; Bennett, D. (2009). "More conventional soybean acres?" Delta Farm Press, Feb. 10, 2009, <http://deltafarmpress.com/soybeans/conventional-acres-0210/>;

Bennett, D. (2009). "Conventional soybeans draw interest," Delta Farm Press, April 3, 2009, <http://deltafarmpress.com/soybeans/conventional-soybeans-0403/>;

Roseboro, K. (2008). "Finding non-GMO soybean seed becoming more difficult: Fewer breeding programs for non-GMO soybeans are reducing supplies despite strong demand," The Organic and Non-GMO Report, July 2008. <http://www.non-gmoreport.com/articles/jul08/non-gmo-soybean-seed.php>;

Pollack, C. (2009). "Interest in Non-Genetically Modified Soybeans Growing," Ohio State University Extension, April 3, 2009, <http://extension.osu.edu/~news/story.php?id=5099>

<sup>xiv</sup> For example, see: Neuman, W. "Rapid rise in seed prices draws U.S. scrutiny," New York Times, March 11, 2010, <http://www.nytimes.com/2010/03/12/business/12seed.html>; Fitzgerald, A. (2010). "Monsanto 7-state probe threatens profit from 93% soybean share," Bloomberg, March 10, 2010.

<http://www.businessweek.com/news/2010-03-10/monsanto-7-state-probe-threatens-profit-from-93-soybean-share.html>.

<sup>xv</sup> CFS (2005). "Monsanto vs. U.S. Farmers," Center for Food Safety, 2005 and 2007 update, at: <http://www.centerforfoodsafety.org/Monsantovsusfarmersreport.cfm>. The 2007 update has the figures on sums paid by farmers to Monsanto, based on Monsanto Company documents.

<sup>xvi</sup> Kilman, S. (2010). "Monsanto to cut prices as it meets resistance," Wall Street Journal, April 8, 2010. [http://online.wsj.com/article\\_email/SB20001424052702303720604575169613112710470-1MyQjAyMTAwMDAwOTEwNDkyWj.html](http://online.wsj.com/article_email/SB20001424052702303720604575169613112710470-1MyQjAyMTAwMDAwOTEwNDkyWj.html)