



March 5, 2015

Oregon State Legislature
House Committee on Rural Communities, Land Use, and Water

Testimony Regarding HR 2674 and 2675

Members of the House Committee on Rural Communities, Land Use, and Water:

Please accept these comments on behalf of the Center for Food Safety (CFS), a nationwide nonprofit, public interest organization that represents over 700,000 members across the country including thousands of members in Oregon. CFS is dedicated to protecting farmers, public health, and the environment by addressing the adverse impacts of industrial agriculture and promoting and protecting more sustainable forms of agriculture. As part of its mission, CFS advocates for the federal, state, and local regulation of genetically engineered crops in a way that addresses their economic and environmental impacts, such as contamination of conventional or organic crops or the environment, the increased use of pesticides, and the evolution of resistant weeds. CFS has worked on the issue of genetically engineered crop oversight for nearly two decades, at all levels of governance. For example and to that end, we have worked with dozens of states in crafting bills pertaining to genetically engineered crops and foods, and their oversight. Thank you for the opportunity to provide testimony on HB 2674 and HB 2675.

CFS applauds the intent behind both of these bills in recognizing the significant harms posed to farms by the unregulated cultivation of GE crops. Further, CFS strongly supports utilizing the Oregon Department of Agriculture (ODA)'s existing authority to protect farmers, the public, and the environment from these harms. There is a strong need for states and local governments to fill the gap, where there is a failure to lead at the federal level, as there is on this issue; state leadership in a void is one of the most veritable traditions of our nation's federalism. Finally, CFS also urges the Committee to consider refining the bills in accordance with the suggestions below.

CFS Applauds the Intent Behind HB 2674 and HB 2675

Oregon has perhaps the most diverse agriculture of any state in the nation, and a rich history of protecting the state's interests. HB 2674 and HB 2675 continue this strong tradition by protecting the state's substantial interests in its agricultural economy. CFS applauds the legislature's recognition of the significant harms posed to these interests by GE crops, and its decision to fill the gap left by inadequate federal regulation.

GE crops have significant impacts on our agricultural economy, public health, and the environment, which the safeguards provided by HB 2674 and HB 2675 can help prevent. First

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and foremost of these is Transgenic Contamination: Gene flow from GE crops to conventional, organic, and wild plants can result from pollen drift, seed mixing, flooding, seeds in machinery, seed spillage, and a variety of natural events and human errors that occur at each stage of the crop production process.¹ Government audits, farmers, and scientific researchers have repeatedly documented transgenic contamination in a variety of crops including but not limited to alfalfa, canola, corn, rice, and sugar beets. Unlike chemical pollution that dissipates over time, transgenic contamination is a living form of biological pollution that can instead spread over time and space. And once contamination occurs, evidence shows this contamination can persist for many years.²

GE contamination has significant economic effects. A single incident of GE contamination can—and has—cost farmers hundreds of millions of dollars.³ Contamination episodes over the past decade have cost U.S. farmers literally billions of dollars, and continue: there is currently a 4 billion dollar lawsuit over contamination of U.S. corn exports stemming from a new genetically engineered corn produced by Syngenta.⁴ Contamination can cause organic growers to lose their customers and markets, since organic consumers demand their products be free of transgenic content; as polls show, it is one of the major reasons they buy organic, to avoid GE foods. In addition to their reputation and markets, organic growers can also lose their organic certification, since United States Department of Agriculture (USDA) organic standards prohibit genetic engineering and require that all inputs in organic production must be 100% organic.

Oregon is no stranger to these harmful economic effects. In 2013, the discovery of experimental, unapproved GE wheat in an eastern Oregon field cost Oregon farmers access to vital export markets and caused untold financial losses. In 2010, USDA re-discovered that GE bentgrass that escaped from field trials conducted near Madras seven or eight years prior, and had established itself in the wilds of eastern Oregon, at the Crooked River National Grassland.⁵ This GE bentgrass was never commercially approved, but was tested here despite the protests of

¹ See, e.g., *Geertson Seed Farms v. Johanns*, No. C 06–01075 CRB, 2007 WL 518624, at *4 (N.D. Cal. Feb. 13, 2007) (“[C]ontamination can occur through pollination of non-genetically engineered plants by genetically engineered plants or by the mixing of genetically engineered seed with natural, or non-genetically engineered seed.”).

² G. Squire et al., *The Potential for Oilseed Rape Feral (Volunteer) Weeds to Cause Impurities in Later Oilseed Rape Crops*, Dep’t for Env’t, Food and Rural Affairs (August 2003) (documenting canola contamination lasting 16 years).

³ See, e.g., *In re Genetically Modified Rice Litig.*, 666 F. Supp. 2d 1004 (E.D. Mo. 2009); *In re Genetically Modified Rice Litig.*, No. 4:06-MD-1811 CDP, 2009 WL 4801399 (E.D. Mo. Dec. 9, 2009).

⁴ See, e.g., Cottingham, *Syngenta Corn Case Draws Comparison to Riceland Lawsuit*, Arkansas Business, February 23, 2015, at <http://www.arkansasbusiness.com/article/103519/syngenta-corn-case-draws-comparison-to-riceland-lawsuit>

⁵ Jay R. Reichman et al., *Establishment of Transgenic Herbicide-Resistant Creeping Bentgrass (Agrostis solonifera L.) in Nonagronomic Habitats*, 15 Mol. Ecol. 4243, 4245 (2006).

many Oregon grass seed farmers. It has now proven itself to be nearly impossible to eradicate. Further, the *risk* of transgenic contamination alone causes significant economic harm to farmers: lost opportunity costs by forgoing planting otherwise lucrative crops because of contamination risk; DNA testing costs; and precautions, such as buffer zones or other planting efforts to try and minimize contamination likelihood.

As GE crops continue to spread in Oregon, farmers may continue to lose sensitive export and domestic crop markets and other clients due to contamination and the threat of contamination. ODA is already required to consider, among other things, “the danger to the interests sought to be protected” when exercising its authority to establish control areas,⁶ which includes economic and environmental harms. CFS commends the legislature for recognizing the foregoing effects and protecting the corresponding interests of Oregon citizens and farmers. Legislation such as this is especially necessary with regard to GE crops, where USDA’s oversight is woefully inadequate.

Oregon’s own GE bentgrass contamination incidents serve as a telling reminder of how USDA has failed to effectively regulate in this area.⁷ But more generally, USDA’s oversight has been found severely lacking repeatedly by government reports and courts. USDA’s oversight of experimental field trials of GE crops has repeatedly failed, as evinced by the local GE bentgrass and GE wheat examples, among others. For example, 2008 Government Accountability Office (GAO) study analyzed several major transgenic contamination incidences stemming from experimental field trials in from the past decade, noting the billions of dollars in economic damages associated with them.⁸ The GAO concluded that “the ease with which genetic material from crops can be spread makes future releases likely.”⁹ When it comes to commercial GE crops, USDA disavows any oversight whatsoever, refusing to continue to monitor or restrict them in any way to help prevent contamination of traditional farmers.

⁶ Or. Rev. Stat. § 570.405(2).

⁷ See generally Mitch Lies, *Canola Study Validates State’s Prohibitions*, Capital Ag Press (Feb. 4, 2010), <http://www.capitalpress.com/content/ml-canola-research-020510>.

⁸ U.S. GOV’T ACCOUNTABILITY OFFICE, GENETICALLY ENGINEERED CROPS: AGENCIES ARE PROPOSING CHANGES TO IMPROVE OVERSIGHT, BUT COULD TAKE ADDITIONAL STEPS TO ENHANCE COORDINATION AND MONITORING (Nov. 2008) available at <http://www.gao.gov/new.items/d0960.pdf> at 44 (“After two decades of experience with field trials, it is widely acknowledged that unauthorized releases of regulated material from field trial sites are likely to occur in the future”). The GAO Report documented six events of GE crops contaminating the food and feed supply, including the 2000 StarLink Corn incident, causing between \$26 to \$288 million in economic damages; the 2002 Prodigene Corn contamination incident where a variety of GE corn designed to create a pig vaccine protein contaminated non-GE corn; the 2004 Syngenta Bt Corn incident where a pesticidal Bt corn determined not to suitable for commercialization was illegally released onto 37,000 acres; the 2006 Event 32 Corn incident where 72,000 acres were planted to 3 lines of corn contaminated with regulated GE pesticidal corn; and the 2006 Liberty Link Rice incident where GE rice contaminated export rice stocks causing economic damages of over \$1 billion. *Id.* at 3.

⁹ *Id.* at 3.

In addition to transgenic contamination, GE crops have significant other environmental and agronomic impacts. GE crops, which are overwhelmingly engineered to do one thing only—be resistant to herbicides—have also massively increased overall herbicide use in U.S. agriculture, by hundreds of millions of pounds. The vast majority of GE crops are engineered to withstand what would otherwise be fatal applications of the herbicide glyphosate, commonly known as “Roundup.” “Roundup Ready” crop systems have made glyphosate the most heavily-used pesticide in the history of agriculture. In 2007, American farmers applied 180-185 million pounds of the chemical.¹⁰ Overall, glyphosate use in American agriculture jumped tenfold from 1995 to 2007.¹¹ The increased herbicide use associated with GE crops threatens Oregon’s watersheds and creates health risks for farm workers, community members, and wildlife.

GE crops have also reduced biodiversity through the transgenic contamination of local varieties and native flora. They have also spawned an epidemic of herbicide-resistant superweeds that already cover over 60 million acres of U.S. farmland.¹² Increased use of glyphosate will worsen the glyphosate-resistant weed epidemic. The attempted eradication of superweeds will only lead to more herbicide use, causing further damage to our agricultural areas and to our drinking water, and posing health risks to farm workers, wildlife, and consumers.

HB 2674 and HB 2675 Clarify ODA’s *Existing* Authority

CFS supports the mandatory duty that these bills impose on ODA to create GE control districts. However, new legislation is not required to enable ODA to regulate GE crops; the agency has the authority to do so under its existing statutory authority and regulations.

There is no bar to state regulation of GE crops, and ORS 570.405 explicitly provides ODA with the authority to establish “control areas within this state, if after careful investigation it determines that such areas are necessary for the general protection of the horticultural, agricultural or forest industries of the state from diseases, insects, animals or noxious weeds or for the eradication or exclusion from such areas of certain plants or their produce, trees, diseases, animals, insects or noxious weeds that may be a menace to such areas and generally to horticultural, agricultural or forestry industries.” ORS 570.405(1). This statute authorizes ODA to create a control area to protect traditional crops from GE versions. Thus, CFS supports the legislature’s efforts to clarify ODA’s established, existing authority with respect to GE crops

¹⁰ U.S. EPA, Biological and Economic Analysis Div., Office of Pesticide Programs, Pesticide Industry Sales and Usage: 2006 and 2007 Market Estimates, tbl. 3.6 (2011). Total 2007 glyphosate usage in the United States of 198-208 million lbs. is more than twice as high as the second-leading pesticide, and exceeds even the peak U.S. production of DDT. Nat’l Pesticide Info. Ctr., Oregon State Univ., *DDT Technical Fact Sheet*, <http://npic.orst.edu/factsheets/ddttech.pdf>. Peak DDT production in the United States was 188 million lbs. in 1963. *Id.*

¹¹ Robert Service, *A Growing Threat Down on the Farm*, 316 Sci. 1114, 1114-17 (May 25, 2007).

¹² Charles M. Benbrook, *Impacts of Genetically Engineered Crops on Pesticide Use in the U.S.- the First Sixteen Years*, Environmental Sciences Europe (Sept. 28 2012), available at <http://www.enveurope.com/content/24/1/24>.

through HB 2674 and HB 2675, and supports imposing a mandatory duty on ODA to regulate in this area.

Suggested Changes to Strengthen HB 2674

As proposed, HB 2674 defines “genetically engineered” as “genetically modified using a recombinant DNA process.” This definition is too limited, as it excludes many other types of genetic engineering that could be used in Oregon agriculture. Instead, the legislature should define “genetically engineered” comprehensively, as “produced from an organism or organisms in which the genetic material has been changed through the application of (a) *In vitro* nucleic acid techniques which include, but are not limited to, recombinant deoxyribonucleic acid (DNA) or ribonucleic acid (RNA), direct injection of nucleic acid into cells or organelles, encapsulation, gene deletion, and doubling; or (b) Methods of fusing cells beyond the taxonomic family that overcome natural physiological, reproductive, or recombination barriers, and that are not techniques used in traditional breeding and selection such as conjugation, transduction, and hybridization.”

Further, “*in vitro* nucleic acid techniques” should be defined to include, but not be limited to, “recombinant DNA or RNA techniques that use vector systems, and techniques involving the direct introduction into the organisms of hereditary materials prepared outside the organisms such as biolistics, microinjection, macro-injection, chemoporation, electroporation, microencapsulation, and liposome fusion.” These definitional improvements will ensure that any law is effectively applied.

Suggested Changes to Strengthen HB 2675

HB 2675 provides that “any person” may petition the department to designate a control area, and that ODA will issue an order designating, refusing to designate, modifying, or eliminating crop production areas and their conditions. The bill also gives ODA broad authority to modify or eliminate designated crop production areas. However, the law is void of clear standards for either the petitioning procedure or ODA’s decisionmaking process.

The bill should include a clear petitioning procedure or reference to an existing procedure, such as that required by the Oregon Administrative Procedures Act, ORS § 183.390, that ensures meaningful public participation and procedural safeguards. Similarly, the bill should include clear standards to guide ODA’s decisionmaking process. ODA must consider a number of factors relating to both pollen movement and seed dispersal when setting designated crop production and control areas, and the bill should set these out. These factors may include: kinds and numbers of pollinators that are working the fields, influencing how far pollen is likely to be taken; wind conditions and other weather events that affect plant development, movement of airborne pollen, and also insect pollinator behavior; size of pollen sources; proximity to other plants, influencing the amount of pollen that will arrive by insects or wind; characteristics that facilitate a crop’s establishment outside of cultivated fields and its prevalence in feral (wild) populations; whether the flowering periods overlap in time, allowing pollen to encounter receptive stigmas; and specific cultivars of both GE and non-GE seed crops that affect crossing

ability in the field.¹³ Further, the bill should provide for meaningful public participation in and review of ODA's decisions. The bill should require the public to be notified and given an opportunity to comment on proposed decisions. The bill should also require ODA to comply with applicable law when issuing orders, including any requirements for agronomic and environmental impacts analyses.

Conclusion

CFS applauds the Oregon state legislature for recognizing the significant harms posed to the state economy and environment by the cultivation of genetically engineered crops. CFS supports utilizing ODA's existing authority to protect farmers, the public, and the environment from these harms. However, CFS also urges the Committee to consider refining the bills in accordance with the suggestions above.

Thank you for the opportunity to provide testimony on this important issue.

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¹³ E.g., Y. Devos et al., *Quantifying the introgressive hybridization propensity between transgenic oilseed rape and its wild/weedy relatives*, 149 *Envtl. Monitoring & Assessment* 303, 303-322 (2008).