

Feb. 9, 2016

Before the House Committee On Consumer Protection and Government Effectiveness HB4122

My name is Dr. Ray Seidler, I have a Ph.D in Microbiology and I am here testifying on my own behalf in support of HB 4122.

I studied the risks of genetically engineered plants as a Chief Scientist in charge of the Biosafety of terrestrial genetically engineered microbes and plants at the US EPA. I have written documents that recommended the research that EPA needed to evaluate the safety of these novel organisms.

I have spent about 30 years studying these issues, and I have remained active at the national and international levels.

Definitions: GE, GMO, and genetically engineered organism all the same thing.

GE crops are made by humans in a laboratory using biolistics or an explosive device or a bacterial vector to deliver genes into the chromosomes of individual vegetative cells (as in a leaf) as the target. These plant products are never found naturally because the donor genes come from very different species. Natural pollination involves transfers of 1,000s of genes between closely related or identical plant species. This sexual reproduction has evolved naturally over the millennia and involves special differentiated plant cells made in specialized structures (stigma ad stamen).

I support HB 4122 for several reasons:

First, there can not be any credible scientific debate that genetically engineered crops present a substantial risk of contaminating traditional or organic non-GMO crops due to pollen drift, the inadvertent mixing of seeds, and other natural causes. This is how it happens:

- For example, pollen drift from wind blowing across genetically engineered sugar beets can cross-pollinate a table beet or Swiss chard crop as far as 4 miles away. In southern Oregon this led farmers growing beets and Swiss chard for seeds to have to tear up crops when genetically engineered sugar beets were discovered planted nearby.
- Creeping Bentgrass pollen and seeds traveled 12 miles off an approved test plot and plants have become established as part of the flora in portions of Eastern Oregon irrigation ditches, the National Grasslands Ecosystem, and perhaps in lawns.
- Pollen from genetically engineered corn can cross pollinate traditional corn for up to 1.3 miles away.
- Honey bees that pollinate genetically engineered plants, such as alfalfa, will carry transgenic pollen and herbicides on their bodies to bee hives and non-GE alfalfa as far as 3-5 miles away.

Second, Genetically engineered seed produced as a result of cross pollination is considered legally protected under US patent law. Unless a farmer has purchased that seed he/she cannot sell it, cannot plant it and the only thing they can really do with it is destroy it.

Third, we have already seen a number of dramatic contamination events that have resulted in significant financial and legal impacts to non-GE crops.

I have provided you a written summary and articles on several of the higher visibility examples in the Appendix of this presentation.

Fourth, there is no scientifically credible argument that these problems can be avoided through voluntary measures.

My Fifth and final reason for supporting HB 4122 is that the number of new genetically engineered crops is expanding and this is a good reason to allow local solutions to address new threats and new conflicts where GE crops are planted. I have concerns because some new GE crops resist both 2,-4D and glyphosate and spraying can have serious impacts on other high-value agriculture such as vineyards.

Local governments are best able to base their protections on local growing and local climatic conditions then a State bureaucracy in Salem. One prescription will not work for the entire agriculturally diverse state of Oregon.

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APPENDIX, Seidler Testimony, Feb. 9, 2016

- In 2001 Bayer Crop Sciences \$ 750 million in damages to US rice growers as a result of contamination from its genetically engineered rice coming from a test plot. A
- Chinese ban on all U.S. GE corn imports caused more than \$ 6 billion in damage to North American corn prices, loss of sales, and increased shipping costs.
 - China is restricting some U.S. imports of alfalfa because of contamination with genetically engineered alfalfa components.
- Oregon State University and others have plainly recognized the serious threat that canola cross-pollination poses to specialty seed growers of crops (Swiss chard, Brussels sprouts, mustard, turnip, radish, cabbage, Rutabaga) in the Willamette Valley; HB 2427 was passed by the Oregon Legislature to study the spread of RR canola pollen in the Willamette Valley.
- In 2013 the appearance of genetically engineered wheat resulted in import bans in Asia (Japan and Korea) and damage to Oregon farmers that don't even grow GE wheat.
 - Interstate spread of Roundup resistant Bentgrass between Oregon and Idaho contaminated irrigation ditches, lawns, National Grassland, and the Snake River. Seed producer (Scotts) fined the maximum allowed, \$500,000 and is required to control Roundup resistant plants off the test plot.
 - Widespread transgenic contamination has happened from the world's first genetically engineered tree, the papaya, on Oahu, the Big Island, and Kauai. Contamination was also found in the seed stock of "non-GE engineered" seeds being sold commercially to farmers by the University of Hawaii.