

Statement from Steve Strauss, Distinguished Professor, OSU / HB 2739

Distinguished committee members and guests:

I write to testify against this bill from the viewpoint of a working biotechnology researcher and teacher. I speak as an individual scientist and citizen; I do not speak for OSU or as an employee of OSU.

At OSU, I have conducted biotechnology research on tree crops, and taught undergraduate and graduate classes on biotechnology and society, for two decades. I was director of the OSU Outreach in Biotechnology project within the College of Agricultural Sciences for 8 years, and have been invited to take part in numerous local, state, federal, and international conferences on tree and crop biotechnology, including to be a member of the State of Oregon Governor's Task Force in from 2012 to 2014. I am here because I believe that I know this area rather well, from the science to the social dimensions.

I have several concerns about this bill:

1. **Most precise breeding methods are penalized.** Because of the very broad definition of what genetic engineering (GE) is, its provisions would also penalize the most precise and novel method of modification of native DNA, commonly called "gene editing." In my laboratory at OSU we use this method routinely, where changes to native crop DNA are directed with a precision and efficiency never before possible. This technique has been the subject of extensive news coverage, including a feature on the cover of Time magazine. USDA has already ruled that many forms of gene editing are essentially just new and more targeted forms of conventional breeding, and has thus chosen not to regulate them at all. There are many new applications of these methods relevant to important Oregon crops—including wheat, grapes, potatoes, and corn—that have been demonstrated in research. And they include many traits of obvious benefit to us all, including pest resistance, productivity enhancement, and improved nutrition. I know that many farmers, organic and otherwise, are interested in taking advantage of this new and revolutionary method. Unfortunately, this distinction is not considered by HB 2739; it treats all forms of advanced biotechnology as one thing. Why should there be legal prejudice against the most advanced and precise methods for modifying the native DNA of crops, especially as the bill allows all other forms of breeding, including it appears random mutagenesis with chemicals and radiation (which are generally considered part of "conventional breeding")? As a scientist, it just makes no sense.
2. **Patents undefined.** The term patent is not defined, yet there are different kinds of patents relevant to plants that have distinct legal provisions (e.g., plant patents and utility patents). This could cause a legal quagmire.
3. **Faults patent holders not users.** The bill would fault patent holders for what GE crops do, yet those patent holders are often distant, including many outside the USA, and have no knowledge of particular applications. Patent holders often include non-profit

companies and universities like OSU that created technologies for public good.

Moreover, often there must be licenses from many patent holders to market a GE crop, all of whom could be held liable. This would create a legal nightmare and makes no sense, especially as farmers have used patented seed for years in different farming systems with little conflict.

4. **Herbicide tolerant crops.** There have been legitimate concerns over herbicide resistant GE crops, and based on testimony I have seen these are a major justification for this bill. Though these crops have had large environmental and economic benefits, I also share many of the concerns about how we have managed those kinds of crops, and believe that improvements are needed. However, those are best dealt with by improvements to the trait-focused regulatory system managed by USDA and EPA, not by a system that indiscriminately penalizes all kinds of GE methods, including those with long records of economic and environmental benefits (such as virus- and insect-resistant crops). *It makes no sense to “throw out the baby with the bathwater,” as there are so many valuable applications of GE in place and in the science pipeline.*
5. **Rights to sue for public lands.** The bill provides the right for any citizen to bring legal action when GE crops are found on public lands. This appears to me an infringement of democratic principles. Such actions should be reserved for land management agencies, who can be held accountable to the public for their actions.
6. **Coexistence.** Different kinds of agricultural crops and farming systems have coexisted in Oregon and elsewhere for many decades. Mainly due to efforts by growers and processors, production systems that include workable thresholds for purity of different kinds of crops and products are largely in place. Unfortunately, due to the unscientific fears about food safety stoked in consumers about GMO foods—fears that have not been supported by science—there is often a zero tolerance for GE products in non-GMO certified foods. The burden for meeting this extraordinary standard should be placed on those who seek these high standards of “purity” and the price premiums they might earn, it should not dictate the farming options for Oregon agriculture.

Thanks much for considering my views.