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OREGON STATE SENATE
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Senate Committee on Environment and Natural Resources
Oregon State Capitol
900 Court Street NE
Salem, OR 97301

April 12, 2017

RE: Support for SB 1037

Dear Chair Dembrow and Members of the Committee:

I often find that there is a basic scientific fact at the base of some decisions we make. Scientific decisions and social decisions. That is especially true when it comes to farming.

This bill attempts to solve several issues based around a relatively simple scientific fact: genes jump. They transfer within organisms that are related. They jump when we want them to. And they jump when we do not want them to. Place pollen with common ancestry and a particular trait on flowers with common ancestry and you can get a hybrid. We have been relying on this idea for centuries. It is called hybridization. It has helped us create food like corn, rice, beans, cauliflower, carrots, and wheat. They all are the result of sometimes hundreds of plants with common ancestry carefully bred and combined to create the plants we now recognize.

Corn is a grass. In 2009 it took four years to map the corn genome. Corn actually has 12,000 more genes than humans do.

Broccoli is related to mustard, cauliflower, cabbage, choy sum, rutabaga, turnip.

You can't find wild corn or wild broccoli. But you can find their wild relatives: grass and cabbages.

Farmers have known this for centuries. They work out basic social contracts. Farmer A lets Farmer B know that she's planting cauliflower in the field next to B's property so that the pollen doesn't contaminate the crop of broccoli B planned to grow. It means both can take their crops to market. The community accepts this approach as basic courtesy.

But what happens when something changes.

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Several things have changed.

As humans, we can now add genes from far outside the plant genome to plants and animals that are not related. The most common gene allows plants to resist exposure to the RoundUp herbicide. The idea is to not have to physically weed a crop and instead use a chemical to kill the unwanted plants around the plants you want to go to market.

That technique is a much more technological manipulation than hybridization. Not just Genetic modification. It is Genetic engineering. Or GE crops.

If that GE trait pollen blows over into a non-GE field and contaminates the crop, it compromises the Organic market for the non-GE plants.

Contamination is difficult, if not impossible, to reverse.

Oregon is well known for its organic products, especially, organic seeds. Contamination of the seed industry has the potential to devastate the organic side of that multi-billion dollar segment of our economy.

The other concern surrounds the wild plants. As I said before, there are relatives of our famous food crops out there. Many are not obvious. Wild grasses are part of the historic development of corn or rice for example. But they are able to easily absorb or transfer the genetic structure of close or distant relatives. Transposons are one possible vehicle to do that.

GE traits can also be transferred. Wild grasses, those weeds that are the target of the GE trait, now take up the ability to survive the herbicide. That trait is now available for other wild plants with common background. Again, likely irreversible.

The broken social contract prompted a local vote in Jackson and Josephine Counties on GE crops. The bent grass issues in Eastern and Central Oregon confirm many of the fears of people in the organic agriculture industry. All are based on the concerns surrounding the ability of GE genes to contaminate other crops and the natural environment. This bill attempts to provide a remedy. SB 1037 continues an earlier social contract asking that neighbors, fellow farmers, local communities be allowed to decide how to best deal with the potential problems associated with GE crops.

Sincerely,

Senator Lew Frederick
Senate District 22