Written testimony for HB 4059
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Chair Helm, Vice Chairs Owens and Hartman and Members of the Committee:

My name is Jim Myers and I hold the Baggett-Frazier Endowed Professorship of Vegetable Breeding and Genetics in the Department of Horticulture at Oregon State University. I have more than 25 years' experience in growing and breeding Brassica vegetable crops in the Willamette Valley. I became involved with the canola issue in 2006 when I published a white paper on growing canola in the Willamette Valley (Myers, 2006). I also have substantial expertise on genetic engineering of crop plants initiated as a postdoctoral scholar in a laboratory conducting some of the original research on soybean transformation. I have also been a member of ODA's working group on SB789 over the past year. My testimony represents my personal views and is not necessarily the opinion of Oregon State University.

I generally support HB 4059-7 and oppose amendment -8. *My comments are directed towards the issues of isolation distances and genetically engineered (GE) canola. I also address some of the comments I heard during the public hearing on Feb. 13.*

First, *I support the isolation distances in -7 of 3 miles for conventional canola and 6-miles between GE canola and specialty brassica seed crops.* Along with Carol Mallory-Smith, I examined the Willamette Valley Specialty Seed Association (WVSSA) isolation distances and attempted to integrate canola into these to develop a comprehensive plan, but the effort was very detailed and complex. Feedback I received from the specialty seed group indicated to me that it was better to keep the rule simple and flexible. *A 3 mile distance with isolation distance exception agreements allows individual parties to work out variances to the rule when both sides agree, and provides flexibility to accommodate grower needs.*

It is important *to retain the regulations concerning GMO canola in HB 4059-7*. Most importantly, *I support the 6-mile isolation distance*. Because of their high value per acre and relatively small footprint, loss of a specialty seed crop due to a seed contamination issue can be financially devastating. Specialty crop Brassica seed is often tested for GMO adventitious presence. Seed lots may be tested by the contracting seed company as well as by buyers in organic and overseas markets, who reject seed lots that show contaminants. Setting isolation distances is a combination of understanding the reproductive biology of various crops along with determining what is an acceptable level of risk. By choosing larger isolation distances, risk is reduced. In addition to reproductive biology of the crops, other factors such as pests and diseases may be important in setting isolation distances.

GMO issues spill over into non-GE canola. Only 5% of canola grown in the US today is non-GE (FDA, 2022). In Canada in the early 2000s, 33% of conventional seed lots in one study (Friesen et al., 2003), and 18% in another study (Downey and Beckie, 2002) had the GE contaminants at levels above off-type threshold of 0.25%. *There are no recent studies to determine what levels of GE off-types are present in contemporary US seed lots of conventional canola.* Until we know this, *I would recommend testing conventional canola seed lots for GE presence (specifically herbicide resistance transgenes) prior to planting unless they come with a seed certification tag that attests to GE contaminants being below the threshold allowed for off-types and other varieties.* The current standard in Oregon in canola is 1.5 other

varieties or off-types in 10,000 (Oregon Seed Certification Service, 2024). Tests should be performed by an accredited seed laboratory using an appropriate PCR test.

As an example of the potential for harm to specialty seeds from GE canola, Dr. Michael Quinn crossed GE canola (*Brassica napus*) and *B. rapa* vegetable varieties by hand as reported in his Ph.D. dissertation (2010) at OSU. These crosses produced some viable hybrid seed, but the majority of seeds were shriveled and inviable. Most concerning, he was able detect the glyphosate transgene even in the shriveled and non-viable seed. If this happened in a commercial field, a Brassica vegetable seed lot could be rejected for GE adventitious presence even though no viable GE offspring would be found. In an analogous situation, a wheat shipment to Thailand was rejected for GE adventitious presence (Anon. 1999) even though no commercial GE wheat varieties were available at that time. It is thought that residue from a previous lot of GE corn in the same shipping container was the source of contamination.

A question asked by a member of the House Committee was about canola becoming feral or free-living as a weed in fields or a volunteer along roadsides. The Brassica genus is notorious for species that can escape cultivation. Dr. Mallory-Smith et al. (2017) found little evidence of weedy persistence of canola, but others have found a high degree of weediness (Munier et al., 2012). It is essential that canola production be monitored to prevent volunteers in fields and along roadways. Equipment moving between fields needs to be thoroughly cleaned. *Roundup resistant GE canola was documented growing along roadways in California where university trial equipment was transferred between research locations and where the highway department sprayed roadsides with Roundup herbicide* (Munier et al., 2012).

GE plants are biological organisms that "want" to live and will find unanticipated ways to reproduce. Many inadvertent releases around the globe have been documented (Price & Cotter, 2014) and Oregon has seen its share, from GE wheat found in fields in Eastern Oregon, to the escape of GE bent grass in the Warm Springs area, to the mixing of GE sugar beet stecklings in compost that was distributed in the Willamette Valley. GE canola is no different biologically from other GE crops and may present greater risk because of its ability to go feral and to outcross with other feral Brassica species populations.

GMOs are revolutionizing the way that we breed plants. But they are controversial because of their potential to impact and alter societies. Controversies have included issues such as food safety, ecological risks, seed consolidation and ownership and philosophical values. For the most part, I would agree with those who say GMOs are safe and may increase productivity for growers. Depending on the trait and how they are deployed, they can carry ecological risks. Who owns seed and the consolidation of seed companies has largely been driven by the use of intellectual property protection for the investments made by seed companies, but this has led to increased genetic vulnerability of our agricultural systems. *An important piece that is often left out of the GMO debate but is relevant to canola, is that of values.* There are groups who reject GMOs because they do not fit within their philosophical paradigm. As a case in point, organic agriculture is one of the few agricultural systems that has philosophical underpinnings, and it has a set of values that considers GE to be incompatible with organic agriculture. *The values that underpin organic production and demand are no less important than those expressed by other members of the agricultural community*.

At the Feb. 13 hearing, Vice-chair Hartman asked that those addressing the committee provide the whole truth. Unfortunately, the public hearing format does not facilitate presenting all sides of an issue by an individual because those testifying are limited in time and can only present their major bullet points. In my case, I would acknowledge that I have biases, but my opinions on GMOs, organic farming

systems, and how field and vegetable crops fit into regional agricultural production systems are informed by more than a quarter century working in this area. In my testimony, I have attempted to present the whole truth as informed by my knowledge and experience.

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