



Supporting the ethical development and stewardship of seed

**Position Statement:
Risks and Recommendations - Canola Biofuel Seed Crops
in Regions of Vegetable Crucifer Seed Production**

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Federal and state governments are increasing their investment in biofuel research and production in the hopes of increasing energy security, developing more sustainable alternatives to oil, and providing new economic opportunities to rural communities. While Organic Seed Alliance strongly supports these intentions, we have concerns regarding the risk of biofuel crop production and fear that these risks are not receiving adequate attention in frantic rush for a silver bullet to our energy needs. We believe that lawmakers, farmers, investors, and end users of biofuels need to be aware of risks from canola to others in the farming community, particularly to producers of vegetable crucifer seed crops.

Cauliflower, cabbage, Chinese mustards, collards, Brussels sprouts, kales, radishes, and other crucifer vegetable seed crops require very specific environmental conditions to produce quality seed crops. Western Oregon and Washington environments have many of these traits, and as such this region is the largest producer of vegetable crucifer seed crops in the world. Conventional and organic seed companies from Europe, Asia, South and North America rely on the Willamette Valley, Skagit Valley, and much of the northern Puget Sound region for crucifer vegetable seed production. Washington State University statistics indicate that the state produces over 75% of the US production and over 50% of the world's production of cabbage seed alone, with well over 10 million dollars of farmgate value in Skagit county alone. These are high value crops, at times grossing over \$10,000 acre, and the farmers who grow them have developed a set of special skills and personal relationships that have allowed them to succeed. Many of these seed producers are multi-generational seed farmers, and rely on it as their primary farm income. Seed is at the cultural and agricultural center of these rural communities.

Insects are the primary vehicle of pollination in crucifer crops, with wind as a secondary source. Research has shown that canola (*Brassica napus* and *B. rapa*) outcrosses readily with other *Brassica napus* and *B. rapa* crops, and that crosses can occur, albeit more rarely, across a wide range of wild and cultivated species including *B. oleracea*, *B. nigra*, and *R. sativus*. The risk is not simply generational, but is extended in that as the oil seed inevitably becomes dispersed (via equipment, trucking, birds, rodents, etc.) the canola will become a weed, and pollen from single rogue plants have the potential for damaging acres of fields. Seed loss during harvest in canola fields has been reported to be 3 - 10%, which is 9 to 56 times the normal seeding rate. As such, there could be 2.7 million seeds per hectare returned to the field. Canola seed easily overwinters and will remain in the seed bank for at least four years if not longer. It is also important to note that high risk of contamination is not limited to genetic modified canola, but applies to all oil seed canola crops. Seed growers of vegetable *B. rapa* crops in Oregon presently rogue all weedy *B. rapa* plants within a 2 mile radius of their fields to prevent contamination. If a seed lot has greater than three off-types in 1,000 seeds, it is rejected. The tolerance for GMO contamination is zero. For the specialty seed industry any seed crop contamination equals devastating loss.

In addition to risk of outcross, canola production in these regions carries with it increased risk to specialty seed crops from disease and pests for which canola acts as a vector. This has already been seen in Europe, where regions of traditional vegetable seed production have been negatively impacted by thrips that move from canola to consume pollen from males in hybrid cabbage production, reducing seed set, yield and quality. Additionally canola is a susceptible host for Sclerotinia, a disease that is particularly problematic during the reproductive phase of *Brassicas* again leading to decreased yield and quality of seed. Sclerotinia is a problem for many other vegetable crops grown in the Pacific Northwest, and large acreages of canola will increase the risk of yield loss from this disease.

Given the high risk of outcross and the wide negative impact which would result from outcrossing, Organic Seed Alliance believes that oil seed canola should not be grown in regions of high density specialty seed production. To do otherwise is to endanger the value of these seed crops to regional economies, to the thousands of farmers around the world who rely on this seed to plant their fields, and to the public at large that consumes these finished crops. Canola can be more readily and profitably produced in other regions, and oil seed research in specialty seed regions should focus on crops that are not a danger to established farming systems. Any such risk undermines rural communities by potentially pitting neighbor against neighbor in legal entanglements, and by risking the loss of high value seed crops to genetic contamination.

Organic Seed Alliance firmly believes that the assessment of risk is an essential community function, a responsibility that belongs to the farming community as a whole and the institutions that support it (federal, state, university, business, and NGO). As a community we must first aim to not bring harm to our existing economic and cultural systems, and that when change is implemented, it must be done so in a manner that recognizes positive and negative "neighborhood effects". In the instance of canola oil seed crops in western Oregon and Washington, the potential negative effects far outweigh short term potential (and as yet uncertain) gains. What is certain is that the international seed industry has made a historic longterm investment in this region, and that current plans and practices endanger this investment and as such endanger our rural communities.

Oregon presently has a prohibition on growing canola other than for seed production in the Willamette Valley. This restriction is under review with a decision to be made in late 2007 as to whether it will be modified or removed. We strongly believe that this restriction should be kept in place. Additionally, in other regions where *Brassica* vegetable seed production is important, we strongly believe that state agencies should create zones where canola planting is prohibited based upon an assessment of the aforementioned risks.

References:

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