

Meeting of WSDA Representatives with Seed Growers and Seed Company Field Representatives to Discuss Potential Conflicts in Production of Crucifer Oilseed Crops in Regions of Crucifer Vegetable Seed Production in Central Washington.

Conference call coordinated from WSU NWREC, 21st March 2006

SUMMARY

To bring together central Washington vegetable seed industry players to discuss issues and ongoing discussions in northwestern Washington related to biodiesel/oilseed crops and crucifer vegetable seed crops, a conference call was arranged for Tuesday, 21st March, starting at 2 pm.

Attendees included:

- Bob Gore, Bill Brookreson, Danny McQueen, and Mary Toohey from the WSDA in Olympia;
- Lindsey du Toit, Vegetable Seed Pathologist, and Tim Miller, Weed Scientist, at the WSU Mount Vernon NWREC;
- Andy McGuire, Extension Specialist at WSU Ephrata Extension;
- Rick Ames, Chair of the Columbia Basin Vegetable Seed Field Reps Association (CBVFRA);
- Milo Lyons and Philip Brown, Alf Christianson Seed Co.;
- Tim Waters, WSU Franklin Co. Extension Educator;
- Curtis Hennings, canola grower/dealer; and
- Dan Cohen, crucifer breeder in California.

Those who couldn't attend but expressed interest in the discussions for central WA include:

- Pat Stevens, President of the Columbia Basin Vegetable Seed Association (CBVSA);
- Mark Trent, WSU Grant/Adams Area Extension Educator;
- Dana Herron, canola grower;
- Bill Wirth, Precision Seed Production;
- Tony Herrmann, Monsanto; and
- Tim Woodward, WSU Extension Specialist.

To summarize the issues discussed at the previous meeting of northwestern WA seed growers/field reps and WSDA personnel on 8th March 2006 at the WSU Mount Vernon NWREC: As a result of increasing interest in the planting of biodiesel (oil) crops in WA to address recent legislations that promote the production and use of biodiesel, potential conflicts with the vegetable seed industry have been identified that need to be resolved. There is interest among crucifer vegetable seed producers in northwestern WA at limiting production of canola, rapeseed, and/or mustard crops grown for biodiesel (oil) production or as cover crops in regions of the state where the crucifer vegetable seed industry has been established as a successful high-value agricultural industry for many years. Concerns include:

- 1) Crucifer vegetable seed production fields must be isolated from these crucifer oilseed crops to avoid potential cross-pollination (five miles distance between fields was discussed for western WA);

- 2) There is great risk of an increase in inoculum of crucifer diseases, particularly two diseases of phytosanitary significance: black leg (caused by *Phoma lingam*) and black rot (caused by *Xanthomonas campestris* pv. *campestris*);
- 3) There is potential for volunteers/crucifer weeds from these oilseed crops to persist in fields and along roadsides, which will impact crucifer vegetable seed crops (as weeds, sources of inoculum, or as pollen sources); and
- 4) There is potential for transformed canola (Roundup Ready) to be grown in the region, which could contaminate crucifer vegetable seed crops via pollen from the canola crop itself or from volunteer plants that become weeds in the region as a result of seed shattered during harvest and/or during transport of the seed.

For these reasons, production of canola may result in vegetable seed companies opting not to produce crucifer vegetable seed in Washington, which in turn jeopardizes the Washington State small-seeded vegetable seed industry as a whole. If quality crucifer vegetable seed production cannot be guaranteed in this state, there are other places in the world where the seed can be produced without these risks. Should crucifer vegetable seed acreage be removed from the mix, then production of other vegetable seed crops (e.g., carrot, spinach, beet, onion, etc.) may not be attractive, and seed companies could pull vegetable seed contracts from this region. Loss of the vegetable seed industry, particularly crucifer seed, will have substantial impact on the viability of agriculture in western Washington, where there are more limited economical crop rotation choices than in central WA. The Oregon Department of Agriculture implemented rule-making in 2005-06 (OAR 603-052-0850, ORS 570.450) in an effort to resolve similar issues in that state. The western WA group concurred that the ODA rules serve as a model on which to base development of similar rules for the western part of WA. To this end, cabbage seed growers and seed company representatives in northwestern WA are interested in bringing a bill to the state legislature during 2007 to enact zones where canola/rapeseed/mustard may not be grown for biodiesel (oil) production or cover crops, except under special exemptions. Counties being discussed include all of Island County, and portions of Skagit, Whatcom, Clallam, and Snohomish Counties. Details are being developed in spring 2006 in coordination with WSDA personnel, county legislators, growers, and seed industry representatives.

During the conference call for the central WA area on 21st March, there was consensus that the central WA area may need different rules than northwestern WA. The following issues were raised:

- 1) Based on information provided by various bee specialists, honey bees can apparently fly up to 5 miles in search of pollen/nectar, potentially causing cross pollination of crucifer crops within this distance. This appears to be the basis for the 5-mile isolation of canola crops from crucifer vegetable seed crops requested by the vegetable seed industry in WA.
- 2) Canola stock seed is already being produced in Grant and Adams Counties, so both canola stock seed and crucifer vegetable seed crops in this area need protection.
- 3) Similarly, crucifer cover crops are already an integral part of the cropping systems in the irrigated district of central WA, so ODA-type rules developed for WA would need to be adjusted for these cover crops. Mustard seed crops for producing cover crop seed are also

grown in the Columbia Basin area.

- 4) Curtis Hennings suggested the Canadian and E.U. isolation systems be used as models on which to develop a similar system for central Washington.
- 5) Discussion took place on what constitutes 'canola' biologically. There are now officially three (3) types of approved canolas (low uricic acid crucifers used for production of vegetable oil), including cultivars of *Brassica rapa*, *B. napus*, and *B. juncea* – the latter can cross with mustards, which is a concern for mustard vegetable seed production. Also, there are now five (5) types of genetic modification available for herbicide resistance in canola crops, and about 90% of the acreage planted to canola crops in the US/Canada is planted with GMO cultivars.
- 6) Some of the vegetable seed company reps indicated they would like to see a pinning and isolation system that includes canola crops, and particular concern was raised over GMO canola crops in areas of crucifer vegetable seed crops.
- 7) Concern was also raised over the issue of volunteers, although some indicated this is not an issue if growers/companies keep on top of the problem. Some seed field reps noted they have had to ask for plow-down in several fields in which volunteers have developed, so this problem could increase and needs to be addressed.
- 8) Disease concerns were discussed, particularly for seedborne black rot and black leg. The ODA rules do not mention black rot. Canola growers/dealers attending the meeting indicated they would like to see phytosanitary certification requirements for black leg and black rot for all crucifer seed planted in the Columbia Basin. Although both diseases are a major concern for crucifers in western WA, black leg is the main threat to canola production. **NOTE:** Lindsey du Toit subsequently (3/24/06) enquired with Roger Rimmer, canola pathologist in Canada, regarding diseases issues in canola production. Apparently there is currently no phytosanitary certification requirement for canola production in Canada for any diseases, even black leg. In areas of Canada where black leg is now endemic, the primary source of inoculum is not infected seed but airborne ascospores of the fungus produced in the spring from infested canola residues. Canola crop rotations have been reduced to 2 to 4 years in Canada, which has exacerbated the problem of increasing inoculum pressure from infested residues. Fungicide seed treatments and black leg resistant cultivars have become very important to help manage black leg in canola crops in Canada. Roger Rimmer indicated there are currently no major black rot issues with canola production in Canada. However, he also noted that black rot is a significant threat to the crucifer vegetable industry. Therefore, both diseases would need to be accommodated in WA (particularly western WA).
- 9) An important issue to be resolved is to balance the regulation of a significant area of the Columbia Basin for production of relatively small acreage of very high value crucifer vegetable seed crops (which ranged from approximately 1,500 to 3,500 acres annually in the past 10 years, according to the WSU Grant/Adams Area Extension publication "Ten

Year History of Columbia Basin Vegetable Seed Acreage”) with acreage needed for production of crucifer cover crops and oilseed crops. The need for fairly extensive crop rotations, combined with pollen isolation requirements for high quality seed production, complicates a resolution to the issue of the size of the area that should/could be dedicated to crucifer vegetable seed production.

10) Those attending the conference call were asked to send their comments and suggestions to Lindsey du Toit, to forward a summary of the comments to Bob Gore and Bill Brookreson at the WSDA. Shown below in blue font are the comments received as of 3/27/06 (cut and paste from the email correspondence received by Lindsey):

- a. A 5-mile isolation would restrict production on 78.54 sections or 50,265.6 acres. Pretty hefty burden for one to try to impose upon his neighbors.
- b. The risk of crosses between *Brassica* species is dependent on the species being grown - they do not all cross-pollinate readily. There are less than 500 acres in any given year in the Central Washington seed growing region that would be affected by cross pollination from *B. napus* or *B. juncea* oilseed production. Uncontrolled *B. rapa* oilseed production would affect much more acreage because it could cross with radish, *R. sativus*, and with *B. oleracea*.
- c. Brassicas planted in August or later for cover crops are not a direct threat to seed production in Central Washington, but farmers using these crops must control escapes to prevent flowering the following year. This is generally not a problem as in most winters these crops will winterkill. Spring planted Brassica cover crops, which are not generally used, would pose more of a threat to some seed crops, but again, the acreage threatened is not great unless oilseed crops are being grown in the same area for seed (see ‘e’ below).
- d. *Sinapis alba* (white or yellow mustard) could be used for oilseed production in vegetable seed production areas without causing any cross pollination problems.
- e. Those on the call thought that production of seed for oilseed crops would not grow to be a large acreage if this purpose was protected in Central Washington. If a goal of protecting a region for seed production of *B. napus* were pursued, then a system to insure isolation of seed fields would have to be implemented, both for seed fields and those being grown for oil production, or laws could prohibit oilseed production in the region.
- f. Risks of bringing in diseases with an increase of oilseed acreage are separate from cross pollination problems and can be solved in different ways. A requirement for seed produced outside the state to be certified free of black leg and black rot could spur production in disease free areas within the state, but these regions would have to be protected (see ‘e’ above).
- g. Citizen initiatives in California to outlaw the growing on GMO crops in certain

counties have failed. Therefore, other manners of restricting GMO oilseed crops should probably be investigated.

- h. Zero tolerance for black rot and black leg on incoming seed seems very important.
- i. Protect the vegetable seed industry since it is already established and who knows if the oilseed thing will be long lived.
- j. Is canola the best crop to be grown for oilseed production? There are likely better alternatives that may not raise the same concern. Safflower projections look promising.
- k. I wonder if we are being a little too proactive, as if there is such a thing? Maybe it would be better to take a 'wait and see' approach.
- l. I would tend to lean toward a program similar to the one adopted in Oregon with perhaps a control board for western WA and central WA made up of a diverse group of individuals. I like the idea of protected or dedicated areas (i.e., counties or districts) for vegetable (or compatible) crucifer seed production and maybe there needs to be other dedicated areas (e.g., GMO's, canola production, canola seed production) with a method of appeal allowing some very limited flexibility.
- m. I cannot stress the disease issues enough. Black rot (Xcc) and black leg (Lm) are big problems to the vegetable seed industry and although black rot does not seem to be a big concern for the canola industry it is a huge concern to the vegetable seed industry. Bacterial leaf spot (*Xanthomonas campestris* pv. *armoraciae* = Xcz) is also a concern to the vegetable seed industry, but to a lesser extent. Indications are that canola seed is not routinely tested for Xcc or Xca but, as far as I know canola seed can be a source of inoculum for both pathogens as well as Lm. There was an outbreak of bacterial leaf spot on canola in Argentina in 2003. With increased acreage of canola, mustard seed, and other Brassicaceae members being grown in WA state is there an increased risk of contaminated seed being transported into the state? How big of a risk is this to the vegetable seed industry?
- n. The volunteers issue needs to be fully addressed from the stand point of pollen contamination and disease. I like the discussion in the Oregon rule stating that transported seed needs to be in enclosed or covered containers to prevent seed loss. Should there be some sort of contingency plan(s) in place to deal with potential spills? Recommend methods of clean up and monitoring to avoid problems later? Dealing with volunteers and the risk of disease? Recommendations to growers for reducing and dealing with volunteers?