

Oregon State University: Brassica Research Project – HB 2427

Carol Mallory-Smith

Weed Science

Department of Crop and Soil Science

Oregon State University

Board of Agriculture
November 29, 2017





Background

- House Bill 2427 passed in 2013
 - Prohibited the production of canola in the Willamette Valley Protected District
 - Law in effect until January 2, 2019
 - Directed OSU to conduct research on canola



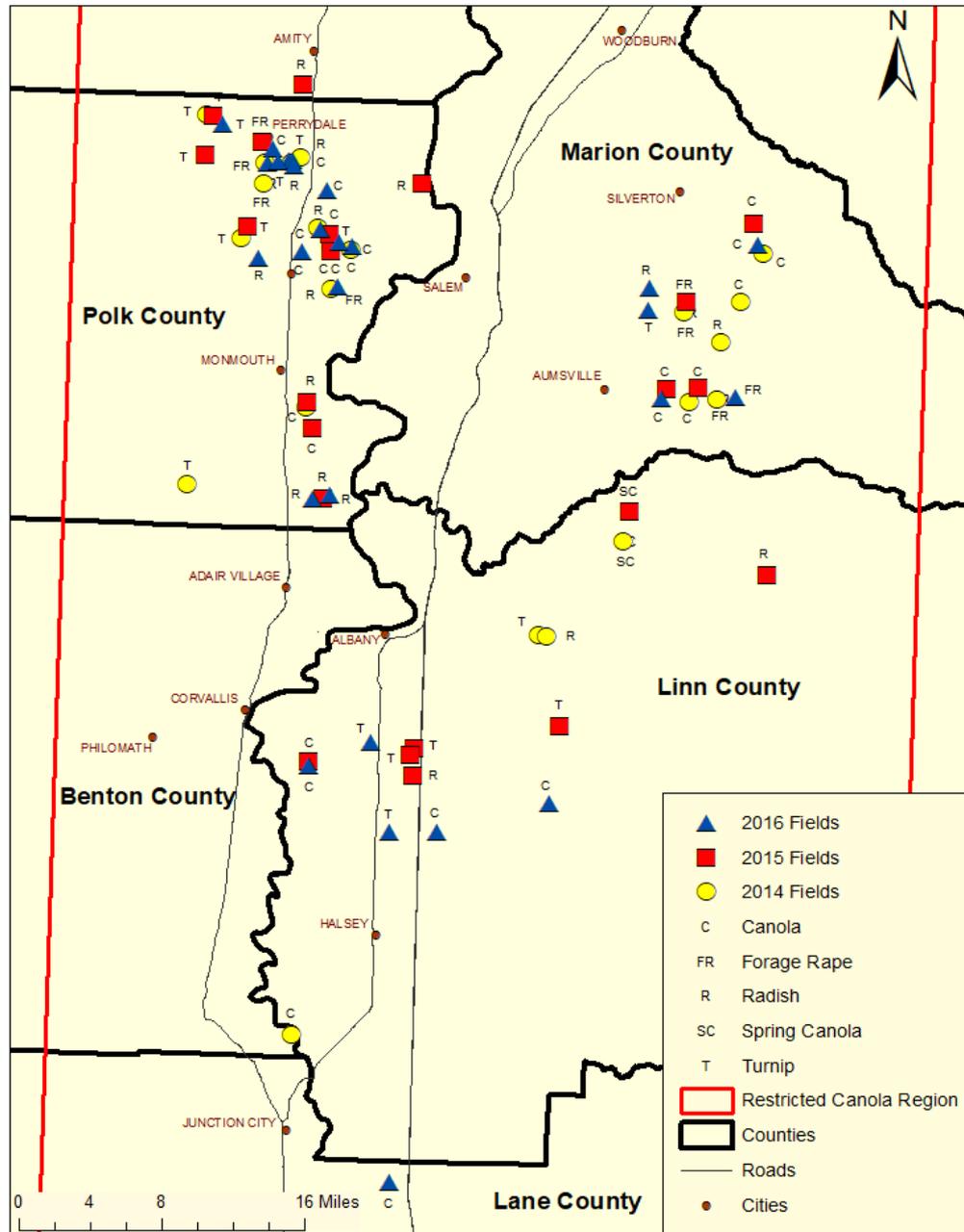
Research

- Field Monitoring
 - Comparison of compatibility of canola with the growing of other crops to the compatibility of other *Brassica* seed with the growing of other crops.
- Recommendations
 - Develop information and recommendations regarding whether and under what conditions, canola is compatible with other crops.

Field Monitoring



2014 - 2016 Brassicaceae Seed Crop Monitoring





Field monitoring

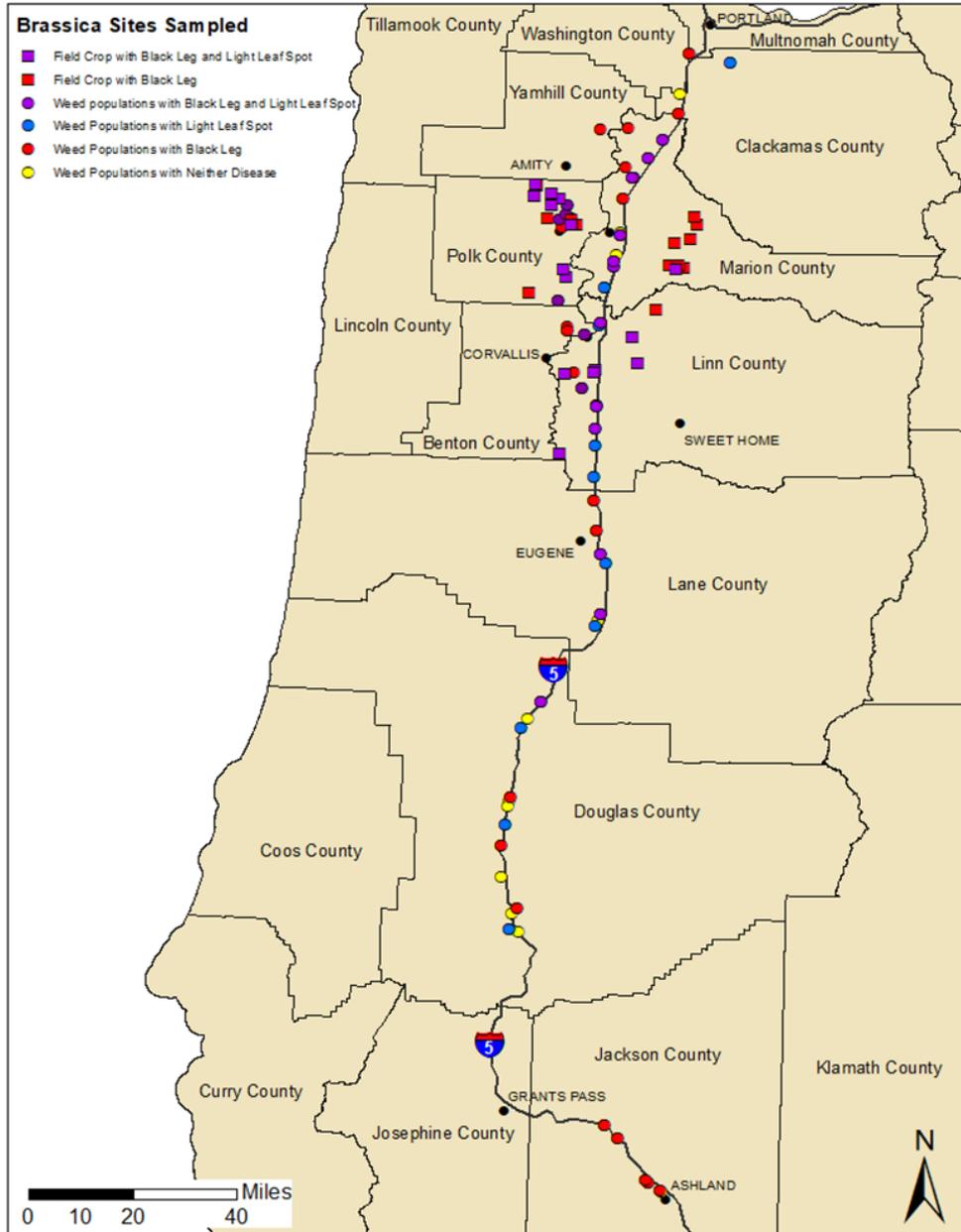
- Monitored canola, forage rape, turnip and radish fields
 - diseases
 - insects
 - volunteers – control and spread



Diseases

- Biggest issue identified but not specific to canola.
 - blackleg
 - light leafspot – new ID in US
 - white leafspot
- Weeds identified as disease hosts.

Survey for Diseases in Crops and Weeds



Map Creator: Paule Barry and Shana Claxson
 Map Created on: 9/20/16
 Datum: North American 1983
 Projection: Lambert Conformal Conic

Data Source: Department of Administrative Services Geospatial Enterprise Office, Oregon GIS Library. GIS data obtained by Shana Claxson and Paule Barry

Insects

- More flea beetles in radish
- More pollen beetles in radish and turnip



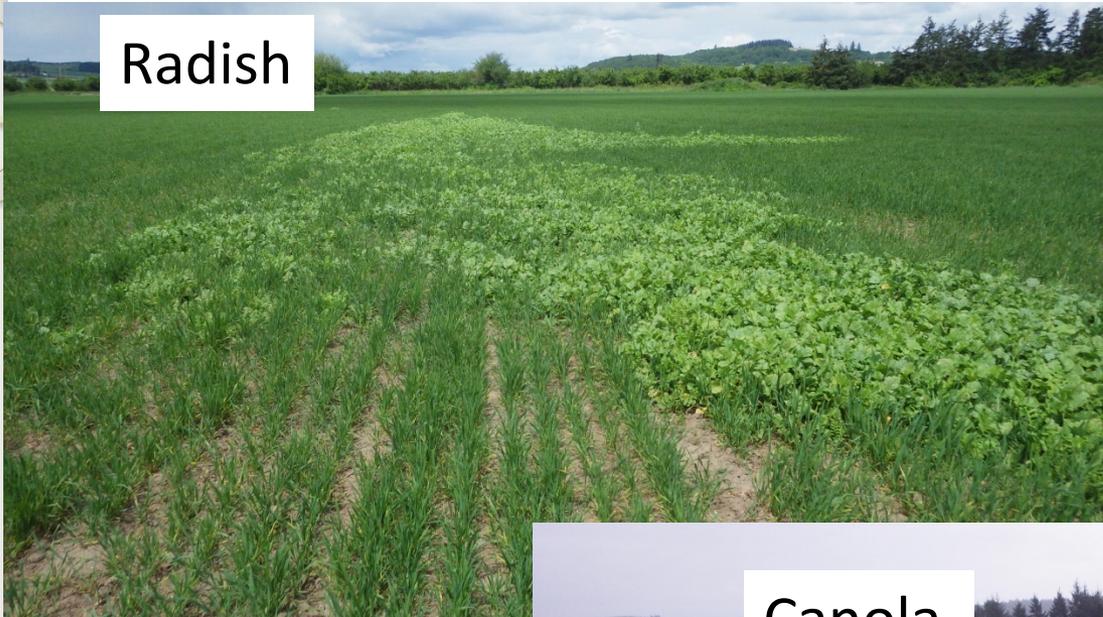


Volunteers

- More volunteer radish than canola and turnip.
- Under seeding of radish fields usually with clover made control more difficult.
- Did not observe spread from fields.

Volunteers

Radish



Canola





Results – Field Monitoring

- No parameter measured was uniquely different for canola versus the other species monitored for diseases, insects or volunteers.
- These results led to the conclusion that the prohibition of the production of canola is unwarranted when other crops are not.
- However, caution against extrapolating results too far because of time of study and acres monitored.



Recommendations

- Evaluated
 - canola production in other areas
 - various isolation schemes used for the production of *Brassica* crops
 - *Brassica* production in the Willamette Valley



Protected Districts

- Canola production districts vary by state and country.
- Oregon and Idaho have Protected Districts where canola is prohibited.
- Washington does not prohibit canola production but does require that it be pinned.
- France, New Zealand, and the UK do not prohibit the production of canola or restrict its production to certain areas.



Isolation Schemes

- Isolation distances are generally set by consensus within the industry and are not the same from place to place.
- Oregon, Idaho, New Zealand - pinning *Brassica* crops is voluntary.
- Washington - pinning *Brassica* crops required by state law.
- Europe, mapping is required; inspections ensure isolation.
- Pinning systems including private, public, and combinations of the two.



Mapping

- Data from Willamette Valley Specialty Seed Association were required in order to construct maps that would show areas of *Brassica* specialty seed production by species.
- Not all species require the same isolation distance but not possible to determine species from the images that were provided.
- Because data were not provided, a map to determine areas that might be designated canola exclusion zones could not be produced.



Acreage Estimates

- Data from the USDA Farm Service Agency and the National Agricultural Statistics Service were used to estimate the acreage of *Brassica* seed production in the Willamette Valley.
- These data include not only *Brassica* vegetable seed data but also other *Brassica* crops.

Estimated *Brassica* Acreage

Year	WVSSA Brassica Fields	Predicted Brassica Acreage	WVSSA Brassica Fields Minus Canola Fields	WVSSA Brassica Acreage Minus Canola Acres
2012	225	3,375	-	-
2013	156	2,340	-	-
2014	173	2,595	165	2,095
2015	175	2,625	166	2,125
2016	178	2,670	167	2,170
2017	168	2,520	156	2,020
Average	179	2,688	164	2,103

Neither number of fields nor acreage has increased since 2012.

Grass and Wheat Acreage

Year	WV Wheat Acreage	WV Grass Acreage	Total grass/cereal Acreage
2012	88,400	387,270	475,670
2013	62,600	391,690	454,290
2014	44,800	392,350	437,150
2015	37,300	379,190	416,490
2016	33,200	372,320	405,520
Average	53,260	384,564	437,824



Canola Production

- Likely that canola would be planted on acres where either wheat or grass seed are grown.
- Within the > 400,000 acres where these crops are grown, possible to find acreage where canola could be grown without negatively impacting *Brassica* specialty seed production.



Options Considered

1. Limiting canola production on a set number of acres to be determined
 2. Defining canola exclusion zones.
 3. Allowing unlimited canola production.
- Recommended Option 1.
 - Recommended that all *Brassica* crops be pinned.
 - May require legislation.



Recommendations

- Recommendations were based on monitoring results, *Brassica* production in the Willamette Valley, and evaluation of other systems.
- Canola should be treated as other *Brassica* crops in the pinning system.
- No genetic or biological reason to treat canola differently than other *Brassica* crops.



Outcomes

- Provided a report containing information and recommendations to the Legislative Assembly on November 1, 2017.
- Oregon Department of Agriculture will provide final recommendation by September 2018.