

## **Activity 20**

### **Grower Outreach and Technology Transfer**

#### **Overall Objective**

The objectives of this activity are to:

1. Advise growers, agronomists and other stakeholders of the actual research that is underway;
2. Provide updates to growers, agronomists and other stakeholders on a regular basis;
3. Enhance the on-farm adoption of key findings arising from the research conducted from 2013-2018; and
4. Build a strong network of researchers, agronomists and producer organizations involved in the canola and IP soybean sectors in eastern Canada.

The following details outline specific events that worked on grower outreach and technology transfer.

#### **April 1, 2013 to March 31, 2014**

##### ***Activity 9***

A presentation was made to approximately 400 people at the following information event:

- **Ruan Q, Dr. Smith DL, Teshler I 2013.** The Effect of Lipo-Chitooligosaccharide on Canola Growth. International Conference on Biotic Plant Interactions (3rd), Shaanxi, China, August 18-22.

##### ***Activity 10***

##### ***Activity 11***

##### ***Activity 12***

The work was presented to approximately 250 people in July 2013 at the Journee Phytoprotection du CRAAQ.

##### ***Activity 13***

Two informational items resulted from this activity:

1. Hallett, R.H., and J. Williams. 2014. What we've learned about swede midge management and control. *Ontario Canola Growers Association Newsletter*, January 2014, pp. 4-7.
2. Hallett, R.H. 2013. "Limiting swede midge impact" (article) and "Swede midge identification & damage" (photo compilation). *Ontario Canola Growers Association Newsletter*, April 2013, special 2 page colour insert.

Fifteen information events were presented at, including research conferences, extension conferences, extension presentations and training sessions, with presentations made to over 750 people:

1. Hallett, R.H., Sears, M.K. and J. Williams. 2013. Plant stage-related effects of the swede midge, *Contarinia nasturtii*, in canola. Entomological Society of America Annual Meeting, 10-13 Nov, Austin, TX. (*Invited speaker*, Symposium on 'Insect Pests of Canola (*Brassica* spp.) and Their Management' organized by G.V.P. Reddy and H.A. Cárcamo). (approximately 20 attendees)

2. Williams, J.L., Heal, J., Earl, H.J. and R.H. Hallett. 2013. Insecticide application timing for control of swede midge in canola. Ontario Pest Management Conference, 7 Nov 2013, Guelph, ON. (Poster). (approximately 80 attendees)
3. Williams, J.L., Heal, J., Earl, H.J. and R.H. Hallett. 2013. Control of swede midge, *Contarinia nasturtii*, in canola using plant growth stage to optimize insecticide application timing. Entomological Society of Canada Annual Meeting, 20-23 Oct, Guelph, ON. (Poster). (approximately 300 attendees)
4. Hallett, R.H. 2014. Swede midge – what have we learned? Ontario Canola Growers Annual Meeting, 22 Jan, Alliston, ON. (Invited presentation, 30 minutes). (approximately 100 attendees)
5. Hallett, R.H., and J. Soroka. 2013. Swede Midge – Ontario situation and Saskatchewan potential. Canola Industry Meeting, 4 Dec, Saskatoon, SK. (Invited presentation, 30 minutes). (approximately 200 attendees)
6. Heal, J.D., J. Williams, and R.H. Hallett. 2014. Swede Midge Training Session. School of Environmental Sciences, University of Guelph, 24 April 2014 (2 hr, lab and demonstration session for OMAF and OCGA summer employees). (4 attendees)
7. Williams, J. and R.H. Hallett. 2014. Swede Midge Trials and Swede Midge Identification. Ontario Canola Growers Association Agronomy Meeting, Grey Ag Services Centre, Markdale, ON, 27 March 2014. (approximately 18 attendees)
8. Williams, J. and R.H. Hallett. 2013. Swede midge trial findings. Ontario Canola Harvest Review Meeting, Guelph, ON, November 15, 2013. (45 min, invited talk). (approximately 16 attendees)
9. Hallett, R.H. 2013. Developing IPM practices for swede midge on canola. OCGA Crop Production Centre Tour, New Liskeard, ON, 25 July 2013. (30 min presentation). (approximately 175 attendees)
10. Hallett, R.H., and J. Williams. 2013. Swede Midge Trial Summary, OCGA Crop Production Centre Tour, New Liskeard, ON, 25 July 2013. (approximately 175 attendees)
11. Hallett, R.H. 2013. Developing IPM practices for swede midge on canola. OCGA Crop Production Centre Tour, Holmes Agro, Orangeville, ON, 9 July 2013. (30 min presentation). (approximately 100 attendees)
12. Hallett, R.H., and J. Williams. 2013. Swede Midge Trial Summary, OCGA Crop Production Centre Tour, Holmes Agro, Orangeville, ON, 9 July 2013. (approximately 100 attendees)
13. Hallett, R.H. 2013. Canola Training and Crop Scouting Event for Growmark Inc., held at Longfield Farms, Hopeville, ON, 8 July, 2013 (1 hr presentation on swede midge). (approximately 15 attendees)
14. Hallett, R.H., and J. Williams. 2013. Swede midge information session for visiting agronomists from Canola Council of Canada, held at School of Environmental Sciences, University of Guelph, June 11, 2013 (2 hr, overview of research program). (6 attendees)
15. Hallett, R.H., Heal, J.D., Evans, B. and J. Williams. 2013. Swede Midge Training Session, School of Environmental Sciences, University of Guelph, April 5, 2013 (2 hr, lecture and lab sessions for canola agronomists and producers). (15 attendees)

#### **Activity 14**

Eight events were attended where presentations were made:

1. Whalen, J., K. Winans, M. Leila, and B.L. Ma. 2013. Environmental impacts of second-generation biofuels in Canada: A review. A poster presentation at the BioFuel Network Annual General Meeting. Montreal, QC, Jun 19-21. (approximately 100 attendees)
2. Ruan Q, Dr. Smith DL, Teshler I 2013. The effect of lipo-chitooligosaccharide on canola growth. International Conference on Biotic Plant Interactions (3rd), Shaanxi, China, August 18-22. (approximately 400 attendees)
3. Vanasse, A. 2014. Les impacts de la rotation, des engrais verts et du chaulage sur les propriétés du sol. Colloque Céréales à paille et canola...Amener la rentabilité à la ferme. Rivière-du-Loup, QC. 9 janvier 2014. (approximately 100 attendees)
4. Vanasse, A. 2014. Rotations et qualité des sols: quels impacts sur les cultures? Colloque INPACQ Grandes cultures et conservation des sols. Drummondville, QC. 13 février 2014. (approximately 80 attendees)
5. Ma, B.L. 2013. Canopy reflectance signatures: Developing a crop need-based indicator for sidedress application of N fertilizer to canola. Oral presentation at the Nitrogen Use Efficiency workshop (Sensor-Based Nutrient Management Community of ASA). Des Moines, IA, Aug. 5-7. (approximately 90 attendees)
6. Shang, J., X. Jiao, H. McNarin, J. Kovacs, D. Walters, B.L. Ma, and X. Geng. 2013. Tracking crop phenological development using synthetic aperture radar (SAR). Oral presentation at the 2nd International Agro-Geoinformatics Conference. Johnson Center, George Mason University, Fairfax, VA, USA, Aug. 12-16. (approximately 25 attendees)
7. Ma, B.L. 2013. Recent progress in phenotyping for crop nitrogen economy. Invited and all expenses-paid oral presentation at the Combined China-EU-Australia Workshop on Phenotyping for Abiotic Stress Tolerance and Water Use Efficiency in Crop Breeding. Yangling, Shanxi, China. May 10-13. (approximately 1,000 attendees)
8. Ma, B.L. 2013. Optimizing agronomic measures for profitable production of canola crop in eastern Canada. Invited field presentation to students and professors from ITA St-Hyacinthe, QC. Oct. 3. (approximately 14 attendees)

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**April 1, 2014 to March 31, 2015**

**Activity 9**

During this period there were 3 peer reviewed publications:

1. **Schwinghamer T, Souleimanov A, Dutilleul P, Smith DL 2014.** The plant growth regulator lipo-chitooligosaccharide (LCO) can enhance the germination of canola (*Brassica napus* [L.]). J Plant Growth Regulation DOI 10.1007/s00344-014-9456-7

2. **Schwinghamer T, Souleimanov A, Dutilleul P, Smith DL 2015.** The response of canola (*Brassica napus* [L.]) cultivars to the *Bradyrhizobium japonicum* 532C signal molecule lipo-chitooligosaccharide (Nod Bj V [C18:1, MeFuc]) and a *Bacillus thuringiensis* endophytic bacterium bacteriocin (thuricin 17). *Plant Growth Regulation* (accepted)
3. **Schwinghamer T, Souleimanov A, Dutilleul P, Smith DL 2015.** Supplementation with solutions of lipo-chitooligosaccharide Nod Bj V (C18:1, MeFuc) and thuricin 17 regulates leaf arrangement, biomass, and root development of canola (*Brassica napus* [L.]). *Plant Growth Regulation* (under revision)

#### **Activity 10**

#### **Activity 11**

#### **Activity 12**

Three informative events were held, as follows:

1. Labrie, G. 2014. Les ravageurs dans la culture du canola. Journée de sensibilisation sur les insectes bénéfiques dans la culture du canola. Alma, 21 janvier 2014. (50 attendees)
2. Labrie, G. 2015. Les projets entomologiques du CÉROM dans le canola. AGA Fédération des producteurs de cultures commerciales du Québec, Drummondville, 25 mars 2015. (400 attendees)
3. Pageau, D., Labrie, G. et Vanasse, A. 2014. Le canola et ses ennemis. Conférence présentée à la Journée d'information de la Financière Agricole du Saguenay-Lac-St-Jean. Alma, QC, 27 mars 2014. (20 attendees)

#### **Activity 13**

Two informational items were developed:

1. Williams, J., and R.H. Hallett. 2015. What we've learned about swede midge management and control. *Ontario Canola Growers Association Newsletter*, January 2015.
2. Hallett, R.H. 2014. "Swede Midge Interim Best Management Practices – 2014" (article) and "Swede midge identification & damage" (photo compilation). *Ontario Canola Growers Association Newsletter*, April 2014, special 2 page colour insert.

Throughout this activity, two media reports were given:

1. "Swede Midge Moves In", by Taryn Dickson, *Canola Digest*, November issue, pp. 40-41.
2. "Swede midge is a serious pest of canola across Ontario, but so far not an economic problem in the canola growing areas of the prairies." by Donna Fleury, *Top Crop Manager – Western edition*, Nov 2014.

During the year six presentations were given at research conferences, extension conferences and training sessions:

1. Williams, J.L., Hall, B. and R.H. Hallett. 2014. Evaluation of insecticide application timing for control of swede midge, *Contarinia nasturtii*, in canola. Ontario Pest Management Conference, 13 Nov 2014, Guelph, ON. (Poster). (approximately 80 attendees)
2. Williams, J.L., Earl, H.J. and R.H. Hallett. 2014. Laboratory investigations of swede midge, *Contarinia nasturtii*, oviposition and damage symptoms on canola. Entomological Society of Canada Annual Meeting, 28 Sep-1 Oct 2014, Saskatoon, SK. Honorary Mention, President's Prize, Pest Management section. (approximately 50 attendees)
3. Williams, J., and R.H. Hallett. 2015. The swede midge in canola: 2014 insecticide timing trial. Ontario Canola Growers Annual Meeting, 21 Jan, Alliston, ON. (approximately 100 attendees)
4. Hallett, R.H. 2014. The swede midge in canola: Risks & research. Canola Discovery Forum, Saskatoon, SK. 23 Oct. (approximately 100 attendees)
5. Hallett, R.H., and J. Williams. 2014. The swede midge in canola: Insecticide timing & action thresholds. Ontario Canola Growers Association Northern Crop Production Tour, New Liskeard, 24 July. (approximately 60 attendees)
6. Williams, J., and R.H. Hallett. 2014. The swede midge in canola: 2014 Insecticide timing trial. Ontario Canola Growers Stakeholders Meeting, 10 Dec. (approximately 25 attendees)

#### **Activity 14**

This activity resulted in two peer reviewed publications:

1. Gao, Y., and B.L. Ma\*. 2015. Nitrogen, phosphorus, and zinc supply on yield and metal accumulation in canola grain. *J. Plant Nutr.* 38: 473-483.
2. Wu, W., and B.L. Ma\*. 2015. Integrated nutrient management (INM) for sustaining crop productivity and reducing environmental impact: A review. *Science of the Total Environment* 512:415-427.

During this activity, research was presented at five events:

1. Ma, B.L. 2014. Technologies to reduce abiotic crop production risk: Developing a crop need-based indicator for corn and canola production. Invited (by Michele Marcotte) oral presentation to the Hebei delegation. Salon C, KWN Building, AAFC –ECORC, Ottawa, ON April 1. (10+ attendees)
2. Ma, B.L., J. Kovacs\*, J. Shang, and D. Walters. 2014. Invited oral presentation titled “Fertilizer technology for successfully growing Canola in Ontario”, at the North Bay Field Crop Research Day. Nipissing University, North Bay, ON. April 11. (60+ attendees)
3. Ma, B.L., D.L. Smith, J.L. Shang, J. Whalen, C. Caldwell, H. Earl, A. Vanasse, and P. Scott. 2014. Improving nutrient use efficiency and yield of canola in eastern Canada. Poster presentation at the 20th World Congress of Soil Science. Jujo, Korea. June 9-13. (1,000+ attendees)

4. Ma, B.L. 2014. Research update at ECORC on the profitable production of canola crop in eastern Canada. Invited field presentation to students and professors from Institut de technologie agroalimentaire (ITA), campus de Saint-Hyacinthe, QC. Oct. 1. (12 attendees)
5. Seminar of Mathieu Vaillancourt: presentation of master's research project: effect of green manure and nitrogen fertilization on yield and fertilization of canola. December 2014, Laval University, Québec, QC. (30 attendees)

#### **Activity 15**

One presentation was given on this activity, with approximately 80 attendees:

- Canola industry Meetings, Saskatoon SK. December 3, 2014. Presenter: Hugh Earl. Title: Ontario Canola Report, 2014.

#### **Activity 16**

One media report was performed during this activity:

1. Brassicas in potato rotations. Carolyn King, Apr 2015 Top Crop Manager

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### **April 1, 2015 to March 31, 2016**

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#### **Activity 12**

Two media reports occurred in relation to this activity:

1. King, C.2016. Canola IPM Quebec research evaluates integrated pest management options. Top Crop Manager, April 2016
2. King, C. 2016. The little beetle that could... become a serious problem for Prairie canola growers. Top Crop Manager, June 2016

One event was held with 225 attendees:

1. Journée phytoprotection du CRAAQ, July 17, 2015. Labrie, G., Froment, D. et Gagnon, M.-È. Les insectes dans la culture du canola : diagnostic et méthodes de lutte. Journée Phytoprotection du CRAAQ, 17 juillet 2015, CÉROM, St-Mathieu-de-Beloeil.

#### **Activity 13**

Four informational items were developed:

1. Hallett, R.H. 2016. "Northern Swede Midge Populations and Ontario Swede Midge Research." Ontario Canola Growers Association, January 2016 Newsletter, p. 10.
2. Hallett, R.H. 2016. "Swede Midge – A Highly Successful Invasive Species." Ontario Canola Growers Association, January 2016 Newsletter, p. 11.
3. Canola Council of Canada. 2015. Seed early to reduce swede midge damage. Integrated Pest Management Research Summary 3.10. Canola Digest Science Edition, p. 24-25.
4. Canola Council of Canada. 2015. Development of pest management decision-making protocols for the swede midge in canola. Research Briefs: Growing Forward 2 Projects. *Canola Digest Science Edition*, p. 42.

During the year six presentations were given at research conferences, extension conferences and invited seminars:

1. Hallett, R.H. 2015. "Ecology and management of the swede midge, an invasive pest of Brassica crops". Department of Plant and Soil Science, University of Vermont, 6 November 2015.
2. Hodgdon, E., Chen, Y. and R.H. Hallett. 2015. Why "when" and "where" matters: characterizing mating behavior of swede midge, *Contarinia nasturtii* (Diptera: Cecidomyiidae). Entomological Society of America Annual Meeting, 15-18 Nov, Minneapolis, MN. (Paper). (approximately 30 attendees)
3. Hallett, R.H. 2015. Challenges presented by the swede midge, an invasive pest of crucifers. Entomological Society of Canada Annual Meeting, 8-11 Nov 2015, Montreal, QC. (*Invited speaker*, Symposium on "The impact of invasive species on the Canadian landscape", organized by B. Mori). (approximately 30 attendees)
4. Hallett, R.H. and J. Williams. 2016. The Swede Midge: *It's got a lot of gall!* Ontario Canola Growers Annual Meeting, 27 Jan, Alliston, ON. (Invited presentation, 30 minutes). (approximately 100 attendees)
5. Williams, J. and R.H. Hallett. 2015. The swede midge in canola: Insecticide application timing. Eastern Canada Oilseeds Development Alliance Canola Workshop, 29 April, 2015, Montreal, ON. (approximately 20 attendees)
6. Hallett, R.H., and J. Williams. 2015. Swede Midge Research Update. Canola Industry Meeting, December 1, 2015, Markdale, ON. (approximately 25 attendees)

#### **Activity 14**

During this period, seven peer-reviewed publications were developed:

1. Vaillancourt, M., A. Vanasse, M. Chantigny, D. Pageau et D. Angers. 2015. Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake. Soils interfaces for sustainable development. Joint meeting of CSSS, AQSSS and ISMOM. Montréal, Qc. 5-10 juillet 2015.

2. Shang, J., J. Liu, B.L. Ma, T. Zhao, X. Jiao, X. Geng, T. Huffman J. Kovacs, D. Walters. 2015. Mapping spatial variability of crop growth using RapidEye data in northern Ontario, Canada. *Remote Sensing of Environment* 168:113-125.
3. Wu, W., and B.L. Ma. 2015. Integrated nutrient management (INM) for sustaining crop productivity and reducing environmental impact: A review. *Science of the Total Environment* 512:415-427.
4. Ma, B.L., and A.W. Herath. 2016. Nitrogen fertilizer application timing and rates on canola seed quality and nitrogen use efficiency. *Crop Pasture Sci.* 67:167-180.
5. Ma, B.L., D.K. Biswas, A.W. Herath, J.K. Whalen, S.Q. Ruan, C. Caldwell, H. Earl, A. Vanasse, P. Scott, and D.L. Smith. 2015. Growth, yield and yield components of canola as affected by nitrogen, sulphur and boron fertilization. *J. Plant Nutr. Soil Sci.* 178:658-670.
6. Qi, J., J. Shang, B. Qian, G. Hoogenboom, T. Huffman, J. Liu, B.L. Ma, X. Geng, X. Jiao, J. Kovacs, and D. Walters. 2016. Evaluation of the DSSAT-CROPGRO model for simulating canola growth and yield at West Nipissing in eastern Canada. *Agron. J.* 108:1–10.

Ma, B.L., and Z.M. Zheng. 2016. Relationship between plant nitrogen and phosphorus accumulations in a canola crop as affected by nitrogen management under ample phosphorus supply conditions. *Can. J. Plant Sci.* (*in press*).

Thirteen events were attended in which presentations were given on the results of this activity:

1. Vaillancourt, M. A. Vanasse, M. Chantigny, D. Pageau et D. Angers. 2015. Effets des engrais verts et de la fertilisation minérale et organique sur le prélèvement de l'azote et le rendement du canola. Colloque de la Faculté d'agriculture et de l'alimentation. Université Laval. Québec, Qc. 20 mai 2015. Gagnant du 2<sup>ème</sup> prix pour la présentation orale. (150 attendees)
2. Vaillancourt, M. A. Vanasse, M. Chantigny, D. Pageau et D. Angers. 2015. Impact of cover crops and organic and mineral fertilization on canola yields and nitrogen uptake. Soils interfaces for sustainable development. Joint meeting of CSSS, AQSSS and ISMOM. Montréal, Qc. 5-10 juillet 2015. Gagnant de la bourse AQSSS et du 2<sup>ème</sup> prix pour la présentation orale. (250 attendants)
3. Vaillancourt, M., D. Pageau, M. Chantigny et A. Vanasse. 2016. Engrais verts: impact du trèfle sur les rendements et la fertilisation azotée du canola. Journée grandes cultures. St-Bruno, Qc. 8 mars 2015. (70 attendants)
4. Vaillancourt, M. 2016. Effets d'un engrais vert de trèfle et d'une fertilisation minérale ou organique sur le rendement et la prise d'azote et du canola. Ma thèse en 180 secondes. Concours de la Faculté d'agriculture et de l'alimentation. Université Laval. Québec, Qc, 11 mars 2016. Gagnant du 2<sup>ème</sup> prix pour la présentation orale. (40 attendants)
5. Vaillancourt, M. 2016. Effets d'un engrais vert de trèfle et d'une fertilisation minérale ou organique sur le rendement et la prise d'azote et du canola. Colloque annuel de l'Institut Hydro-Québec en environnement, développement et société. Université Laval. Québec, Qc. 23-24 mars 2106. Gagnant du prix du grans public au Concours VIE (Vulgariser, Inspirer, Éduquer). (100 attendants)
6. Ma, B.L. 2015. Improving tolerance of crop plants to abiotic stresses for efficient crop production and sustaining the environment. Invited oral presentation at the 1st Qinghai-Tibetan Forum: Grassland Management and Ecological Safety. Institute of Qinghai-Tibetan Plateau, Southwest University for Nationalities. Chengdu, Sichuan, Aug. 21-22. (150 attendants)



7. Ma, B.L. 2015. Sensing root electrical capacitance for delineating canola genotypic differences in response to heat and drought stresses. Oral presentation at the 8th Annual International Symposium on Agriculture, Athens, Greece, 13-16 July. (450 attendants)
8. Makhani, M.M., J. K. Whalen, and B.L. Ma. 2015. In situ quantification of canola root biomass in relation to canola growth and tolerance to climate stress in Québec. Poster presentation at the Soil Interfaces for Sustainable Development - ISMOM 2015 conference Joint meeting: Commission 2.5 of the International Union of Soil Science and Canadian Society of Soil Science. Montréal, Québec, Canada. July 5-10. (150 attendants)
9. Ma, B.L., W. Wu, S. Yao, D. Biswas. 2015. Developing a non-destructive method for assessing canola genotypic differences in tolerance to heat and drought stresses. Oral presentation at the 14th International Rapeseed Congress, Saskatoon, Saskatchewan, Canada, July 5-9. (150 attendants)
10. Herath, A.W., and B.L. Ma. 2015. Impact of rate and timing of nitrogen application on seed yield, quality and nitrogen economy of canola in Eastern Canada. Poster presentation at the Western Society of Crop Science Annual Meeting. Logan, UT, June 16-17. (120 attendants)
11. Ma, B.L. 2015. Developing precision nutrient management strategies for improving crop production efficiency and sustaining the environment. Oral presentation at the ECORC/ACGEO Science Day – Agri-Environmental Science. K.W. Neatby Bldg., Ottawa, ON. February 10-11. (40 attendants).
12. Ma, B.L. 2016. Coping with soil salinity and crop nutrient balance. Invited oral presentation at the Third Science Workshop of the AAFC-Yangzhou University Joint Laboratory in Agricultural Sciences, Lecture Hall, Yangzhou University, Yangzhou, China. March 24 as part of the AAFC Genetics and Genomics Mission to China led by Dr. Denis Petitclerc, Director General, Ontario and Quebec Region. March 21-31, 2016. (110 attendants)
13. Ma, B.L. 2016. Improving Tolerance of crop plants to abiotic stresses for efficient crop production and sustaining the environment. Invited oral presentation at the International Academic Exchange Center, Huazhong Agricultural University, Wuhan, China. March 22 as part of the AAFC Genetics and Genomics Mission to China led by Dr. Denis Petitclerc, Director General, Ontario and Quebec Region. March 21-31, 2016. (70 attendants).

This activity resulted in two media reports:

1. Top Crops Manager “Canola Making Strides in Eastern Canada”. Eastern Edition. November 2015.
2. Top Crops Manager “Cashing in on Canola”. Eastern Edition. December 2015.

In addition, the researcher was also interviewed by Top Crops Manager East about canola nutrient management and agronomy.

### **Activity 15**

During the activity, four presentations/information items were completed:

1. MSc Thesis, K. Meghan Griffiths. *Agronomic Practices to Reduce the Effects of Environmental Stresses on Spring Canola (Brassica napus L.) Establishment and Yield in Ontario*, August 2014
2. Poster 2015 ASA Meetings. *Exploring the Yield Potential of Spring Canola: Border Effects in a Controlled Environment Study*. Hugh J. Earl, K. Meghan Griffiths and Joshua Burrows

3. Presentation at the Canola Industry Meetings, Dec. 3 2014, Saskatoon. H.J. Earl and B. Hall. *Ontario Canola Report, 2014.*
4. Presentation to the Ontario Soybean and Canola Committee Research Meetings, Jan. 22 2015, London ON. *Seeding Rates, Stress Tolerance and Yield Potential of Spring Canola.* Hugh J. Earl.

#### **Activity 16**

Two media reports were given during the year:

1. Potato Alternatives; An article published in Spudsmart magazine. This is a technical publication sponsored by the potato industry in Canada.; 2016/01/01 - 2016/03/31 (Invited)
2. East Coast researchers test canola in potato rotations; An article in Canola Digest, a technical publication put out by the Canola Council of Canada.; 2016/01/01 - 2016/03/31 (Invited)

#### **Activity 17**

#### **Activity 18**

Gilles Leroux presented the results of Volunteer Canola Control at the ECODA Canola workshop in Montreal on April 29, 2015 to approximately 20 attendees.

#### **Activity 19**

#### **Other**

Canola: date et dose de semis pour. Mars 21, 2017. Le Bulletin des agriculteurs (Dr. Bao-Luo Ma)  
<http://www.lebulletin.com/cultures/canola-date-et-dose-de-semis-pour-reussir-84805>