



AgrInnovation Program Stream B

Final Performance Report

This template is aimed to provide a summary of the performance results achieved against the targets identified in the work plans for the Contribution Agreement (CA) and the Collaborative Research and Development Agreement (CRDA) during the entire life of the activity/project.

Please write for a general audience using plain language. Do not include sensitive or confidential information.

Name of Recipient: Canola Council of Canada	
Project Title: Agri Innovation Program Steam B	
Project Number: AIP-P353	Period Covered by Report: 2015-04-01 to 2018-03-31
Activity #: 3 – 2015.12 Name of Activity: Understanding the mechanisms for race-specific and non-specific resistance for effective use of cultivar resistance against blackleg of canola in Western Canada	Principal Investigator: Dr. Gary Peng, AAFC Saskatoon
Start Date (YYYY-MM-DD): 2015-04-1	End Date (YYYY-MM-DD): 2018-03-31

1. Summary of Performance Results for the entire life of the activity/project

Targets: Should be the sum of the targets that were set out in the work plan of the CA and in the Performance Measures Table for projects with a CRDA.

Results Achieved: Should be the sum of the results reported in all your Annual Performance Reports (APRs) including results achieved under the activities both in the CA and the CRDA.

Explain any variance: If the targets and the results achieved are different, provide a brief explanation using plain language. If there is no difference between the targets and the results achieved, leave it blank. Do not list each item of the results achieved here as they were already reported in the APRs. If a result was finalized but not included in any of the APRs, it can be reported here; however, you need to provide a brief description about the result and a brief explanation about why it was not reported in an APR.

Performance Measures	Targets	Results Achieved	Explain any variance between targets and results achieved. Use plain language.
# of Intellectual property items flowing from the project	0		
# of new/improved products	0		
# of new/improved processes or systems	0		
# of new/improved practices	0		



# of new varieties	0		
# of new/improved genetic materials	0		
# of new/ improved gene sequences	0		
# of improved knowledge	4	4	<ol style="list-style-type: none"> 1. Better understanding of race non-specific resistance to blackleg in Canadian canola cultivars 2. No effect of elevated temperature on the performance of nonspecific resistance to blackleg during plant flowering stages 3. The mode of action associated with one of the cultivars with nonspecific resistance is related to programmed cell death, which can generate reactive oxygen species. 4. Major-gene resistance, as shown by <i>Rlm1</i>, have different molecular mechanisms of defense response, including up-regulation of genes involved in jasmonic acid and salicylic acid pathways of canola plants.

2. New/Improved Products: Of the new/improved products developed and reported above during the project, which products have commercial potential? Which have been commercialized? And which have been used/adopted by the sector? Explain what stage each product is at and the impact on the sector.

The study dealt with multiple commercial canola varieties to reveal the mechanism of blackleg resistance, with the emphasis on information, instead of products. The information from the study can be shared with all stakeholders, including growers, breeding companies and agronomists, to show to value of race nonspecific resistance against blackleg in western Canada.

3. What is your target audience for sharing information about the results of your project? Describe your strategy and success in reaching this target audience.

Pathologists and breeders with life-science companies, extension agronomists and producers. Based on the study, presentations are made at scientific conferences and several papers may be published for information to researchers.