

Canadian Agri-Science Cluster for Horticulture 3



Update to Industry

2020-21 – Semi-Annual

Activity title:

Activity 4 - The Canadian Berry Trial Network

Name of Lead Researcher: Beatrice Amyotte, Agriculture and Agri-Food Canada

Names of Collaborators and Institutions:

Jennifer Crawford	Association des producteurs de fraises et framboises du Québec	
Beatrice Amyotte	Agriculture and Agri-Food Canada	Nova Scotia Trials
Eric Gerbrandt	Sky Blue Horticulture Ltd.	British Columbia Trials
Pierre Lafontaine	Carrefour industriel et expérimental de Lanaudière	Quebec Trials
John Zandstra	University of Guelph	Ontario Trials

British Columbia

Michael Dossett	BC Blueberry Council
	BC Raspberry Industry Development Council
	BC Strawberry Growers Association
Anju Gill	BC Blueberry Council
Lisa Craig	BC Raspberry Industry Development Council
	BC Strawberry Growers Association
Carolyn Teasdale	BC Ministry of Agriculture

Ontario

Adam Dale	University of Guelph
Kevin Schooley	Ontario Berry Growers
Erica Pate	Ontario Ministry of Food, Agriculture and Rural Affairs

Québec

Roxane Pusnel	Carrefour industriel et expérimental de Lanaudière
David Lemire	Association des producteurs de fraises et framboises du Québec Patrice
Thibault	Réseau de lutte intégrée Orléans
Stéphanie Tellier	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec
Christian Lacroix	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec
Guy-Anne Landry	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec

Nova Scotia

Marlene Huntley	Horticulture Nova Scotia
Jennifer Haverstock	Perennia Food and Agriculture

Activity Objectives (as per approved workplan):

The Canadian Berry Trial Network (CBTN) project involves testing new varieties and selections of strawberry, raspberry and blueberry in four provinces across Canada: British Columbia (BC), Ontario (ON), Quebec (QC) and Nova Scotia (NS).

- The objective for Phase I (2018-2019) was to initiate the project through an in-person meeting and the development of an experimental design. Phase I also included plant propagation, field preparation and the acquisition of research materials and supplies.

- The objective for Phase II (2019-2023) is to establish and evaluate standard varieties, new varieties and advanced selections of raspberry, blueberry and strawberry in the four provinces.
- The objective for Phase III (2020-2023) is to share the results of the trials with our industry partners and to discuss commercial opportunities for some of the new trial varieties and selections.

Research Progress to Date (use plain language, not to exceed 500 words):

Berry Trials

In 2020, the CBTN evaluated strawberry trials planted in 2019, conducted early observations of raspberry trials planted in 2019, planted new strawberry trials, and secured blueberry varieties to plant in 2021.

Day Neutral Strawberry

The 2019 trial varieties included ALBION, AAC DYNAMIK, BC 10-2-1, CABRILLO and SEASCAPE. Each trial faced some challenges due to delayed planting in 2019 and weather stress in 2020. Early results suggest that new Quebec cultivar AAC DYNAMIK had competitive yields in QC and NS, advanced British Columbia selection BC 10-2-1 out-yielded standard cultivars in BC, and ALBION was the strongest performer in ON. Data analysis is in progress to confirm these early observations. In 2020, new trials were planted including two new observational varieties from California, ROYAL ROYCE and VALIENT. The plan for 2021 includes re-planting all of the varieties above, as well as new selections from Ontario and Nova Scotia.

June Bearing Strawberry

The 2019 trial varieties included AAC LILA, AAC AUDREY, AAC EVELYN, AAC KATE, CAVENDISH, DARSELECT, JEWEL, K04-12, K04-21, K09-4, K12-12, K14-4, SUMMER DAISY, SUMMER EVENING, SUMMER FLAVOUR, and VALLEY SUNSET. Each trial faced some challenges due to delayed planting in 2019 and weather stress in 2020. Early results are still being analyzed to determine which varieties performed best in each environment. In 2020, new trials were planted including new cultivars ARCHER from New York State and KEEPSAKE from Maryland. VICTOR and WARRIOR from California were included as observational varieties. The plan for 2021 includes re-planting most of the varieties above, new cultivars from Europe and North America, as well as new selections from Nova Scotia.

Raspberry

The 2019 floricane trial varieties included AAC EDEN, BC10-84-9, CHEMAINUS, K14-03, K14-04, KILLARNEY, MEEKER, NOVA and TULAMEEN. The primocane varieties included HERITAGE, K14-09, K14-13, K14-14, K14-19 and POLKA. Early observations from summer 2020 suggest that most of the varieties established well and showed variable winter hardiness, seasonality, productivity and fruit quality attributes. These observations will be confirmed over the next two years, and detailed data collection will be started in 2021. The next trial will be planted in either 2021 or 2022, depending on the number of new varieties available from Canadian and international breeding programs.

Blueberry

The first blueberry trials will be planted in spring 2021. The trials will include up to 23 varieties, featuring new selections and cultivars from British Columbia, Oregon and Michigan, as well as industry standard cultivars. The replicated trials will be focused on varieties with large scale commercial potential. Other varieties that may be of interest to niche market growers, such as mini-fruited varieties and potentially cold sensitive varieties, will be planted in a separate observational trial designed for continuous planting. The plan for 2021 is to collect early plant establishment data, and to secure new observational varieties to plant in 2022.

British Columbia On-Farm Trials

A summary of strawberry, raspberry and blueberry trials conducted by Dr. Eric Gerbrandt on commercial berry farms in British Columbia will be provided in the 2020-2021 annual report.

Extension Activities (presentations to growers, articles, poster presentations, etc.):

Due to COVID-19 related restrictions, the CBTN team did not have many opportunities to engage with members of the berry industry. We will provide a list of presentations and other extensions activities in the 2020-2021 annual report.

The two following events are planned for a virtual audience in the coming months: A virtual Field Day with the BC Blueberry Council on December 9th, and a virtual Short Course by the Lower Mainland Horticultural Improvement Association in late January. Please contact Dr. Eric Gerbrandt if you are interested to learn more about these events.

COVID-19 Related Challenges:

COVID-19 affected this activity in the following ways: the project team did not travel to any external events or meetings, we did not host any in-person meetings or stakeholder events, and only Quebec was able to conduct post-harvest evaluations of fruits harvested from replicated trials during the 2020 growing season. However, the activity is progressing well and we were able to plant new strawberry trials, evaluate existing strawberry and raspberry trials, conduct on-farm evaluations in BC, and secure blueberry plants for the 2021 trials. One notable success was that post-harvest evaluations of on-farm blueberry trials in BC were extensive, having a focus on firmness during cooler storage. The goals for the remainder of 2020-2021 are to complete data analyses, purchase materials and finalize the trial plans for 2021, and to provide online reports for our stakeholders.

Key Message(s):

The Canadian Berry Trial Network experienced minor setbacks due to COVID-19, but otherwise progressed well during 2020. The project team was able to successfully plant new strawberry trials, evaluate existing strawberry and raspberry trials, conduct on-farm evaluations in BC, and secure blueberry plants for the 2021 trials. Data analysis from the 2020 season is ongoing, and details on plant and fruit performance will be provided in the 2020-2021 annual report. We look forward to sharing updates with our stakeholders, and are exploring options for online events this winter.

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