

**Enabling Agricultural Research and Innovation**

**C1819-0242-Y3**

**NB Field Crop Germplasm Evaluation**

**Interim Report  
2019-2020**

New Brunswick Soil & Crop Improvement Association  
259 Brunswick Street, Suite 302  
Fredericton, NB  
E3B 1G8

**Project Lead:**

Peter K Scott  
Crop Specialist – Cereals and Oilseeds  
New Brunswick Department of Agriculture, Aquaculture and Fisheries  
P O Box 6000  
Fredericton, NB  
E3B 5H1

## **ABSTRACT/RÉSUMÉ:**

*The New Brunswick Crop Germplasm Evaluation project (C1819-0242-Y3) intends to identify new cultivars that will be viable for New Brunswick and be competitive in Eastern North America. This project provided agronomic data collection on five field crop species during the third year of this five-year project. A total of 962 small plot evaluations were conducted on 14 separate replicated tests that included 264 different varieties. These included two row barley (28), six row barley (12), malt barley (26), milling oats (19), oats (18), spring wheat (21), silage corn (21), grain corn (26) and soybean (77). Corn tests were conducted at two locations, Sussex and Williamstown, on both silage and grain varieties. A winter wheat test was also established in the fall of 2020. Results collected as part of this project are reported in several Maritime reports, cultivar recommendation guides or performance trial reports that are accessible either in print form or on the websites of the New Brunswick Department of Agriculture, Aquaculture and Fisheries or the Atlantic Grains Council.*

*Le projet d'évaluation du germoplasme des cultures du Nouveau-Brunswick (C1819-0242-Y3) vise à identifier de nouveaux cultivars qui seront viables pour le Nouveau-Brunswick et concurrentiels dans l'est de l'Amérique du Nord. Des données agronomiques ont été recueillies sur cinq espèces de grandes cultures au cours de la troisième année de ce projet quinquennal. Au total, 962 évaluations de petites parcelles ont été effectuées sur 14 essais répétés distincts comprenant 264 variétés différentes. Il s'agissait d'orge à deux rangs (28), d'orge à six rangs (12), d'orge de brasserie (26), d'avoine de mouture (19), d'avoine (18), de blé de printemps (21), de maïs à ensilage (21), de maïs-grain (26) et de soja (77). Des tests ont été menés à deux endroits, Sussex et Williamstown, sur des variétés de maïs à ensilage et à grain. Un essai de blé d'hiver a également été réalisé à l'automne 2020. Les résultats recueillis dans le cadre de ce projet sont présentés dans plusieurs rapports des Maritimes, guides de recommandation de cultivars ou rapports d'essais de rendement, lesquels sont accessibles soit sous forme imprimée, soit sur les sites Web du ministère de l'Agriculture, de l'Aquaculture et des Pêches du Nouveau-Brunswick ou du Conseil des grains de l'Atlantique.*

### **Summary**

The ***New Brunswick Crop Germplasm Evaluation project (C1819-0242-Y3)*** provided for agronomic data collection on five field crop species during the third year of this five-year project. A total of 962 small plot evaluations were conducted on 14 separate replicated tests that included 264 different varieties. These included two row barley (28), six row barley (12), malt barley (26), milling oats (19), oats (18), spring wheat (21), silage corn (21), grain corn (26) and soybean (77). Corn

tests were conducted at two locations, Sussex and Williamstown, on both silage and grain varieties. A winter wheat test was also established in the fall of 2020.

### **Project Objective**

The primary objective of this project is to identify potential new crops with the most agronomically suited new cultivars/hybrids for production in New Brunswick by the evaluation of new germplasm. This will generate valuable data to be utilized by seed growers, seed suppliers, field crop producers, livestock producers and other end users throughout the value chain. This information is also essential for NB entrepreneurs in developing innovative approaches that allow NB to be competitive within Eastern North America. Determining agronomic production protocols is essential to the introduction and development of new crops, and to provide for best management practices that allow for the highest yield and profitability.

The secondary objective is to compile the required data on crop cultivars to keep variety publications current and valued by all agricultural clients.

### **Project Deliverables**

- 2021 Maritime Cereal Cultivar Performance Trial report (NBDAAF)
  - Completed and posted on NBDAAF & AGC websites
- 2021 Corn Guide to Hybrid Selection (NBDAAF)(AFACT)
  - Completed and posted on NBDAAF & AGC websites
- 2020 Maritime Corn Hybrid Testing Report (AFACT)
  - Completed
- 2020 Maritime Soybean Variety Evaluation Summary Report
  - (Atlantic AgriTech)
  - Completed
- 2020 Maritime Cereal Variety Performance Trial Report (AAFC)
  - Complete and posted to AGC website
- Eastern US Spring Malt Barley Test Report (NBDAAF)
  - Multi-Site Summary not yet received

## **Material and Methods**

Testing methods utilized in the conduct of these trials are based upon the Atlantic Crop Development Committee Testing Procedures for Cultivar Evaluation as part of the Atlantic Cereal Crop Recommending Committee.

## **Results and Discussion**

Results collected as part of this project are reported in several Maritime reports, cultivar recommending guides or performance trial reports that are accessible either in print form or on the websites of the New Brunswick Department of Agriculture, Aquaculture and Fisheries or Atlantic Grains Council.

## **Conclusions**

Cultivar testing remains a priority of producers to allow them to be competitive with access to the best genetics available. The conduct of these trials, the recommendations generated from it, and the trial performance data collected, producers are able to seek out the best performing cultivars for their farms. In addition, specific agronomic practices need to be investigated to capture the genetic capacity of new cultivars but due to budget constraints cannot be part of this initiative.

## **Communication**

The greatest communication of the data from this project is via the publications and factsheets that are made available through web based formats. Typically, presentations are made throughout the season on the trial data and a field day is held each summer. This was not possible this year due to COVID-19. Web based presentations are planned to provide cultivar performance information that will provide the best exposure to the new cultivars prior to their release, registration and availability under the existing pandemic.