

Agriculture Research and Development Cranberry Varietal Trial



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Project Objective

The objective of this research is to conduct crop performance trials on new varieties of cranberries.

The Department of Fisheries and Land Resources began cranberry research in 1996 and as a result created a cranberry industry in Newfoundland and Labrador.

Following eight years of production data on seven varieties including Pilgrim, Stevens, Ben Lear, WSU-61, Bergman, Franklin and Wilcox at the Deadman's Bay cranberry research site, it was determined that Pilgrim ultimately outperformed all other varieties and currently makes up about 90 per cent of the cranberries grown in the province.

To date there are approximately 350 acres of cranberry land under development in the province. As the acreage of cranberry land continues to increase, varietal research is imperative as more productive varieties are being created. Vine material of Crimson Queen, Demoranville and Mullica Queen out of Rutgers University New Jersey were acquired in 2014 and are currently being investigated in field trials at the Western Agriculture Center: Agriculture Research Station in Pynn's Brook.

There is tremendous opportunity for growth in the cranberry industry. Newfoundland and Labrador has a vast amount of natural bog that can be developed and production numbers have occasionally exceeded 25,000 pounds per acre. Good crop management, maximizing yields in combination with a competitive market price, would give these farms better financial stability and the opportunity to expand. With the support of the provincial/federal governments, it is anticipated that the cranberry industry will continue to grow and remain a key component of the agriculture industry in the years to come.



Technical Details

In 2013 the longstanding cranberry research site at the Western Agriculture Center: Agriculture Research Station in Pynn's Brook was renovated. In 2014 the department partnered with Rutgers University in New Jersey to acquire three new cranberry varieties – Crimson Queen, Mullica Queen and Demoranville – for evaluation in the Newfoundland and Labrador climate.

These new varieties and Pilgrim as the control were planted in June 2014 at a rate of one per square foot. All plots measured 14 - 24 feet. Two replicate plots were planted of each of the new varieties and one plot of the Pilgrim variety as the control.

In year one (2015), nitrogen in the form of a granular ammonium nitrate fertilizer was applied in split applications for a total rate of 50 pounds of nitrogen per acre. In years two and three (2016 and 2017) the nitrogen rate was decreased to 40 pounds per acre. Applications were made weekly between fruit set and petal fall. To control weeds, Callisto was applied once each year in early summer.

Data collection will begin in 2018 and will include weather, growth stages, yield, insect and disease management. Assessment will continue for multiple years before recommendations can be made.



Preliminary Results

For the first three years after planting, flower buds were pinched to allow plants to focus energy into root development and new vine growth. In November 2017, 20 vines of each variety were measured to determine differences in growth rates. The average of these measurements is found in Table 1 below. There was no significant difference observed.

In 2018 fruit will be encouraged to develop and yield will be collected when fruit is mature in October or November.

Table 1: Cranberry variety 2017 average vine length (inches)

Variety	Length (inches)
Mullica Queen	18.7
Crimson Queen	19.7
Demoranville	23.6
Pilgrim (control)	22.9

Agriculture Industry Benefit

Cranberry varietal research is essential to ensuring that the new varieties being developed will exhibit the desired traits when grown in Newfoundland and Labrador. Government-led performance trials remove risk from producers and permit research and extension specialists to make knowledge-based recommendations that ensure the industry remains competitive and profitable.

For more info please contact:

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