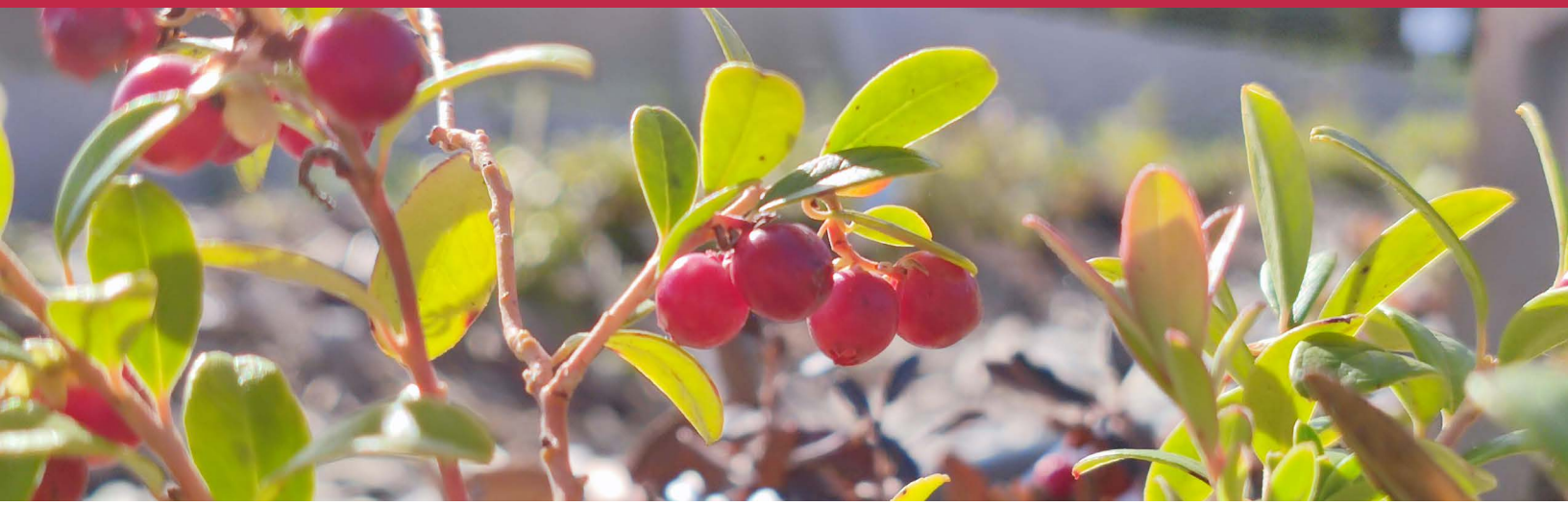

Northern Lingonberry: Propagating This Shrub for Cultivation

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Lingonberry, a shrub native to northern regions, produces berries and leaves known for their anti-inflammatory, anti-bacterial, and anti-infectious health benefit properties. A close relative of the blueberry and cranberry, but richer in antioxidants, it is native to the northern regions of British Columbia, Saskatchewan, Manitoba, Quebec, and the Atlantic provinces. In fact, recent research by Agriculture and Agri-Food Canada (AAFC) and their partners shows how eating lingonberries can protect against kidney, liver, and cardiovascular diseases. However, although demand for these beneficial berries is increasing, Canadian production remains limited as the wild plants multiply very slowly and grow on non-arable lands. That is why, for the past 20 years, AAFC scientists in Newfoundland and Labrador have been searching for methods to increase production of lingonberry suitable for northern agricultural systems.

Wild plants throughout Atlantic Canada, Quebec, the USA, and Europe were collected by the team to create the North American Wild Lingonberry Germplasm Repository. The scientists were then able to use antioxidant-rich plant germplasm (hereditary genetic material) to multiply lingonberries year-round, with the new propagation methods they have developed. They produced new plants through micropropagation (multiplying plants in vitro, i.e., in glass or plastic containers) that uses bioreactor technology, an automated method of effective and rapid propagation of plants. In vitro, protected from pathogens, leaves and stems taken from native lingonberry plants grow numerous shoots that, once transplanted, become new lingonberry shrubs. This technology can produce thousands of plants from a single sample of the mother plant.

A big advantage of micropropagation is that it ensures the genetic quality of all new plants. This is because new plants produced in this way are genetically identical (perfect clones) to the mother plant, unlike wild lingonberry plants.

Scientists have also developed hybrid plants that combine the very high antioxidant levels of Canadian varieties with the high yields of European varieties. These hybrids can also be grown in slightly warmer areas – more suitable for agricultural production systems and are being studied in fields in northern Newfoundland and Labrador, Manitoba, and Quebec.

As consumer demand for lingonberry-based products increases, this research is paving the way to cultivate plants of high genetic quality, that yield fruits and leaves of high nutritional and medicinal value, in northern agricultural systems. As research on new propagation methods advance, lingonberry could possibly one day become a crop with as much importance in Canada as blueberry and cranberry.

AAFC scientists from Morden Research and Development Centre, working in partnership with the Canadian Centre for Agri-Food Research in Health and Medicine in Manitoba, are pursuing research to validate health claims associated with lingonberry.

St. John's Research and Development Centre: Dr. Samir C. Debnath (Lead Scientist), Boyd Penney (retired), Darryl Martin, Sarah Leonard-Evans, Glen Chubbs (retired), Shawn Foley, Poorva Vyas (graduated PhD), Usha Arigundam, Arindam Sikdar, Umanath Sharma, Rajesh Barua, Sayani Kundu.

Morden Research and Development Centre: Dr. Chris Siow, Dr. Oscar Molina, Dr. Daniel Brown (retired), Suvira Prashar, Jay Petkau, Meagan Gould, Layton Dyck, Katherine Ward, Cara Isaak (graduated PhD), Aakangchhya Bhusal.

Collaborators:

Memorial University of Newfoundland: Dr. Andrei Igamberdiev, Sweety Majumder, Dr. Dawn Marshall

University of Victoria: Dr. Gregory Owens, Kaede Hirabayashi

Les Airelles des frères, 144, 14e Rang Lac-Etchemin, Quebec: Philippe Roy, Éric Roy

Written by Science and Technology Branch Internal Communications team at Agriculture and Agri-Food Canada.

For more information:

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Guide: **Growing Guide for Lingonberries**

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