

## Roses

Roses and rose hips (the fruit of the rose) have been used for centuries. Today scientists are looking for new ways to use them and their bioactive compounds (substances that have an effect on living organisms).

### Traditional Use of Roses

- Roses are the world's most popular cut flower.
- Roses have been and still are used in perfumery.
- Rose hips were traditionally and are still used as a food source (jams, jellies, syrups and soups).
- Roses are used in food flavoring (e.g. Turkish Delight).
- Rose hips are a known source of Vitamin C and were traditionally and are still used as a nutritional supplement.



### Targeted Potential Uses

- Nutraceuticals (a food or part of a food that provides health benefits)
- Cosmeceuticals (cosmetics used in skin care)
- Functional foods
  - nutritive teas (petals, leaves, hips)
  - health (sport) drinks, wines, liqueurs
  - animal feeds



## Why Native Roses?

Products containing rose hip extract are well accepted and recognized by the public. The native wild roses of Atlantic Canada are an untapped resource. Since native species are adapted to marginal (non-agricultural) sites, Atlantic Canada roses are ideal for cultivation in native soils.



## Wild Roses and MUNBG

As part of this project, MUN Botanical Garden is studying the native roses of Newfoundland (*Rosa virginiana* and *Rosa nitida*). Over the course of this project, natural rose populations will be surveyed and mapped; roses will be propagated under different growing conditions; pests and diseases will be identified and pollination research will be carried out. Similar studies will be undertaken by researchers at UPEI on native rose species of Prince Edward Island (*Rosa virginiana* and *Rosa carolina*). Other researchers from the rose hip team will be examining chemical profiling and health effects of a rose hip diet on metabolite levels in rats.



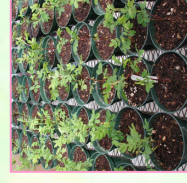
## From Wild Species to New Crop

### Questions needing answers

- What are the health effects and benefits of rose hip products?
- Are there any risks?
- Which rose species have the highest levels of beneficial compounds?
- Do these levels differ from population to population?



- Do the levels vary with cultivation methods?
- How do we field grow and cultivate wild roses?
- How do we harvest wild roses efficiently?
- If we select the best rose, how do we propagate more?



- How do we get the largest fruit?
- How do we mechanically separate the sweet flesh from the bitter seeds?
- What pests and diseases can a farmer expect in a field of roses?

### Atlantic Canada Network on Bioactive Compounds

The Atlantic Canada Network on Bioactive Compounds (ACNBC) is focused on research and development of bioactive compounds in wild roses and blueberries. This Project is funded by the Atlantic Canada Opportunities Agency's (ACOA) Atlantic Innovation Fund (AIF) as well as private and public sources.

### ACNBC and MUNBG

Memorial University of Newfoundland Botanical Garden (MUNBG) is a member of the rose hip team led by Dr. James Kemp of the University of Prince Edward Island. Other members of the team include Agriculture and Agri-Food Canada (Charlottetown), PEI Food Technology Centre and NRC-Institute of Marine Biology (Halifax). The objective of this research project is to investigate the potential for commercial production of rose hips and develop production related to the health and disease prevention properties of rose hips.