

POTATO RESEARCH CENTER



BUILDING:	Potato Research Center
OWNER:	Agriculture and Agrifood Canada Fredericton, NB, Canada
CLIENT:	Mr. Edmond Koch Architecture 2000 Inc. Moncton, NB, Canada
AREA:	8,640 sq. ft
COMPLETION:	2003

This 2-phase renovation project is located at the Potato Research Center in Fredericton (Canada Atlantic Region). The 1.6 million dollar greenhouse complex is entirely dedicated to potato research, specifically new cultivars, improved germplasm, production, handling & management of potatoes and protecting natural resources. The new complex is divided into 3 aisles: it includes 17 independent compartments and 3 corridors.

Agritechnove first programmed the facility and followed with the complete design, drawing and specification of the facility, bid documents, and non-resident construction supervision.

SPECIAL FEATURES - Natural ventilation is used in conjunction with automatic shading and fog system to minimize the use of forced air system. Fresh air is introduced through corridors and from there to each greenhouse compartment, as needed. Other features are: Special insect screening in natural ventilation openings and on positive pressure fans, vertically moving sash panels allowing fresh air in the greenhouse without obstructing corridors (now a standard for the manufacturer who built the greenhouse). Snow melt function with heat generated close to the roof to ensure structural integrity and snow melting to avoid long periods of time with light obstructed by snow on the roof.

TECHNICAL SYSTEMS - Commercial curved roof glass structural system with over 450 points distributed DDC control system with greenhouse designed software tied to a weather station. All greenhouse functions are tied to this system: HID lighting, automatic irrigation, high pressure fog system, 2-step modulating hot-water heating system with fin tube radiators, 2 speed forced ventilation systems, HAF recirculation fans, shade/energy curtains, electrical outlets in some zones. Rolling benches and manual water outlets. Shade studies conducted to verify shaded parts of the greenhouse during the year. , Electrical main power, electrical distribution and emergency power that feeds the horizontal shading, positive pressure ventilation and heating systems.