

BIOPHARMA BL2 CONTAINMENT FACILITY



BUILDING: BSL-2 Containment Greenhouse Complex

OWNER: Medicago
Québec City, QC, Canada

CLIENT: Genivar Construction
Québec City, QC, Canada
Mr. Jean Gariépy

AREA: 14,200 SF

COMPLETION: 2005

This biopharma BSL-2 containment facility used for genetically modified alfalfa is located in the beautiful city of Québec. The insect proof complex includes 11,200 SF of an exceptional 6 feet wide laminated curved roof glass greenhouse and 3,000 SF of service building area with an airlock, a state-of-the-art potting room, a cold room, an autoclave and a primary recovery/purification laboratory for treatment and purification biomass.

Agritechnove provided the engineering services related to the greenhouse, the building structural, the mechanical and electrical systems (design, drawings and, specifications, production of performance bid documents, shop drawing review, answer to contractors RFIs, non-resident construction supervision).

SPECIAL FEATURES – Biosafety Level 2 for Plants facility with high level of security, glass corridor walls on grids and perimeter purlins at eave height to allow “visibility” of structural elements from any compartment: this allows the addition of any equipment suspended from structure without perforating glass. 14' clearance under the trusses to allow longer plants growth and provide more flexibility. Fresh air is taken into the greenhouses through the corridor roof vents. There are 2 independent insect screen barriers before air reaches the greenhouse.



TECHNICAL SYSTEMS – Curved roof laminated glass structural system, vertically moving sash panels allowing fresh air in the greenhouse without obstructing corridors, insect screening for thrips exclusion, high pressure fog system fed from a reverse osmosis water treatment unit, roll-top, fixed and propagation benching, HID lighting system, interior horizontal automatic shading system, exhaust fans, automatic irrigation/fertilization systems in each compartment, gaz fired unit heaters, CO₂ enrichment system, computer control system tied to a weather station for all functions (over 180 points of control).

The air conditioned building includes pharmaceutical grade sterilizing system within the contained zone, custom potting room, stainless steel sink & counter, custom soil media mixing rolling table, fume hood, compensation ventilation system, air curtain system at the sas entrance, insect eliminator, pesticide and explosion proof ventilated cabinet.