

Controlled Environment Systems Research Facility Guelph BlueBox System G5

The Angstrom/BlueBox model G5 is a complete precision plant growth chamber for the study of *in situ* full canopy photosynthesis. A wide variety of plants can be accommodated in the 1.6 m² growing area. Four units currently reside at Syngenta's Research Triangle Park facility in Raleigh, North Carolina.

Technical Specifications

- Passive pressure compensation
- Removable growing system with trolley for ease of planting and harvest
- Traversing flow NFT system to accommodate most root systems
- Carbon dioxide enrichment from 0 – 5,000 ppm
- Continuous CO₂ (0-6000ppm) and O₂ (0-40%) data recording
- Temperature control range from 15°C - 35°C +/- 0.5°C
- VPD control from 0.2 - 1.5 kPa
- Active venting system to reduce O₂ and ethylene buildup during long term studies
- Integrated Argus Control System - full data graphing and recording of all sensors and actuators
- pH and EC control in the recirculating NFT hydroponics system with redundant sensors
- Dissolved Oxygen sensors (optional)
- 200 litre main hydroponics tank with controlled acid/base and nutrient A/B stock feeds
- Selectable 6000 Watt HPS or MH lighting system (> 1000 $\mu\text{mol m}^{-2} \text{s}^{-1}$)
- Optional multispectrum LED lighting systems available
- Made of primarily non-off gassing materials (stainless steel, glass, Teflon, Viton, Kynar)
- All internal surfaces are passivated 316 stainless steel
- 110 cm growing height can accommodate a variety of crops

