State-of-the-art facility provides high quality phenotyping tools and services to Danforth Center researchers, commercial clients, and academic institutions.

LemnaTec SCANALYZER 3D

Conviron Growth House

**Controlled environment** chamber custom manufactured to house a complex moving-field conveyor belt system for delivery of plants to and from the Scanalyzer 3D imaging chambers. Lighting intensity, temperature and relative humidity are precisely controlled, allowing for flexibility in experimental design.

Daily Imaging

**VIS** (RGB) allows visualization and quantification of plant color and structural morphology. **NIR** (near-infrared) enables visualization and quantification of water-use efficiency in plants.

Precision Watering

**Watering and weighing stations** can be customized to deliver water and nutrients on a specified schedule by volume or weight.

1140 PLANTS  5 WATERING STATIONS  750 SQ.FT. GROWTH HOUSE
PhenoVation CROP-REPORTER

Photosystem II Imaging
Whole plant, LED-induced, direct fluorescence imaging in dark or light adapted conditions, enabling the calculation of $\frac{F_v}{F_m}$ and many other photosynthetic parameters.

Stress Detection
Multi-spectral imaging at 6 bands, enabling detection and quantification of plant health/stress by calculation of Fv/Fm, chlorophyll and anthocyanin content.

Additional equipment available for self-service or full-service use:
- LiCor LI-6400XT portable photosynthesis system
- Ocean Optics FLAME VIS-NIR spectrometer

For more information, contact:
Mindy Darnell
Manager, Bellwether Phenotyping Facility
(314) 587-1617
mdarnell@danforthcenter.org

Information about the facility and services can be found on our website: www.danforthcenter.org