

Wooster Growth Chamber Information

| Wooster Growth Chamber Information | | | | | |
|--|--------|-----------------|--|-------------------|-------------------|
| Chambers 101-109 all have: | | | | | |
| Manufactured by Conviron | | | | | |
| Downward airflow | | | | | |
| HID lighting (Sodium and Metal Halide) with clear Plexiglass barrier | | | | | |
| Temperature Range of 10 C° to 40 C° with lights on & 4 C° to 40 C° with lights off. | | | | | |
| Humidification | | | | | |
| Stainless steel walls | | | | | |
| Lockable | | | | | |
| Chamber 110 has non-barriered lighting (fluorescent and incandescent), temperature range of 10 C° to 45 C° with lights on & 4 C° to 45 C° with lights off. | | | | | |
| Chamber | Type | Characteristics | Light Intensity (micromoles/m ² /s) | Size, In. (WxDxH) | Cost per day |
| 101 | BDW-80 | Walk in | 1110 | 93x125x95 | \$3.00 |
| 102-107 | BDR-16 | Reach in | 800 | 73x32x65 | \$2.50 |
| 108-109 | BDW-40 | Walk in | 1100 | 93x62x95 | \$2.75 |
| 110 | PGW-36 | Walk in | 900 | 98x54x80 | \$3.00 |

Alarm Capability of the Growth Chambers

1. The growth chambers use tracking alarms, that is, relative to set point.
2. The chamber alarms if temperature deviates more than 2 C° from set point.
3. The alarm triggers a dialer on the Central Control Computer.
4. The dialer calls the cell phones of greenhouse personnel with the alarm message.
5. Greenhouse personnel are able to call the Central Control Computer from home to determine the cause of the alarm and sometimes fix the problem remotely.
Otherwise, someone drives in and fixes the problem on site.
6. The alarm system is tested weekly for proper function.

Data Collection in the Growth Chambers

1. Temperature and humidity are logged every 2 minutes to a Central Control Computer.
2. Data is archived - daily summaries are available.
3. Printouts of programs are kept in a notebook for later reference.

4. A light meter is available for light measurements before, during, and after an experiment.
5. We also have a Licor LI-1800 spectroradiometer to measure light intensity at different wavelengths.

[Information on the LI-250 A Light Meter](#)

[Information on the LI-190SA Quantum Sensor](#)

Growth Chamber Sanitation Practices

1. Chambers are swept and vacuumed to remove soil, dirt, plant debris, etc.
2. Chambers are washed out with RO water to remove any remaining soil or debris.
3. Chambers are "cooked" at 45 C° (113 F°) for a minimum of 60 hours to kill insects and pathogens.
4. Chamber walls are cleaned and polished to remove water spots and provide maximum light reflectance from chamber walls.

Plant Growth Requirements