

Plant Growth Chamber Use Guidelines and Policy

College of Agricultural Sciences
The Pennsylvania State University

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Overview of College plant growth chamber facility

The College growth chamber facility includes eight Conviron Model PGR15 reach-in style growth chambers located in the Agricultural Sciences and Industries Building Headhouse. Chambers feature 16 ft² of horizontal growing space, 57" of vertical growing space and a maximum light intensity of 875 μmol PAR supplied by T5 fluorescent and halogen incandescent sources. Chambers feature temperature control of ± 0.5 C within the range of 10-45 C and humidification/ dehumidification control.

Growth chamber availability

Growth chambers are available on a fee basis (\$2.00/day) to members of the College of Agricultural Sciences. Units outside the College may have access to growth chamber space only under special circumstances determined by the Greenhouse and Growth Chamber Committee. Growth chambers are available on a first come, first served basis. When all chambers are occupied a prospective user may request to be placed on a waiting list.

Growth chamber space requests

Prospective growth chamber users should contact the greenhouse manager to determine availability of chamber space and for an initial discussion of the prospective user's needs. Consultation well in advance of the anticipated start date is encouraged. After initial consultation, a justification must be submitted to the greenhouse manager indicating why the proposed work must be carried out under growth chamber conditions and cannot be carried out under either greenhouse or laboratory conditions. Justifications are evaluated by the Greenhouse and Growth Chamber Committee and permission to use a growth chamber may be granted or denied.

Establishing a rental timetable and term limit

Prior to beginning work, growth chamber users must establish a timetable for chamber work with the greenhouse manager. If the chamber user cannot complete the work within the pre-established timetable, the user may submit a request with the

Greenhouse and Growth Chamber Committee to extend the rental period. Depending upon circumstances and the current chamber waiting list, the request may be granted or denied. There will be a maximum growth chamber term limit of two years. If a user wishes to continue using growth chamber space beyond the two year term limit, an extension request may be submitted to the Greenhouse and Growth Chamber Committee and the request may be granted or denied.

Appropriate use of growth chamber space

Growth chambers may only be used for work which requires such a controlled environment. The greenhouse manager regularly reviews growth chamber activities in order to determine if the work does indeed require a growth chamber. If the Greenhouse Manager, in consultation with the Greenhouse and Growth Chamber Committee, determines the work can be carried out under greenhouse or laboratory conditions the Committee reserves the right to relocate the work. Users must make use of growth chambers continuously with minimal downtime between experiments. It is unacceptable to rent, but not efficiently use a growth chamber or to “hold” a growth chamber using plants uninvolved in experimental work.

Growth chamber user responsibilities and restrictions

Prior to beginning work in chambers, all users and their assistants must meet with the greenhouse manager to receive growth chamber use training. Chamber users will work with the greenhouse manager to determine an appropriate chamber climate program and the greenhouse manager will carry out all chamber climate programming. Chamber users are not permitted to operate chamber controls or make program changes without authorization by the greenhouse manager. Chamber users are required to maintain chambers in a clean and sanitary condition at all times. Growing media, water spills and dead or decaying plant material must be promptly cleaned by the chamber user. Only materials required for plant growth or experimentation are permitted within chambers. There is a restriction on the number of growing containers/trays held within a growth chamber in order to permit sufficient air circulation to maintain temperature and humidity set points and users should consult with the greenhouse manager regarding number and placement of growing containers/trays. The user is responsible for pest monitoring activities and must coordinate any pest control activity with the greenhouse manager. Pesticide applications are not permitted by chamber users and are carried out

exclusively by the greenhouse manager or greenhouse staff. Growth chambers must remain locked when unattended.