

Bylaws of the UTIA Greenhouse Committee

The UTIA Greenhouse Committee, hereafter referred to as GH Committee, is a user-driven committee that operates to ensure fair and equitable distribution of space to faculty to accomplish the missions of research, teaching, Extension, and outreach. The GH Committee, acting through the UTIA Space Committee, also has the responsibility to ensure that assigned greenhouse space is fully and completely utilized for the purpose for which it was assigned.

I. Membership

The GH Committee is composed of seven tenured faculty members representing four departments; three represent Plant Sciences, two represent Entomology and Plant Pathology, one represents Forestry, Wildlife, & Fisheries, and one represents Biosystems Engineering and Soil Science. Departmental representation to the GH Committee is approximately proportional to the number of faculty users of the greenhouse facilities. Faculty members are nominated by their respective department heads and selected by the UTIA Chancellor to serve three (3) year terms. The terms of committee members will be staggered with two (2) persons being replaced each year. Faculty may be re-nominated for service on the committee by their respective department heads. If a departmental representative fails to attend three consecutive meetings, the department head will be requested to find a suitable replacement. The Chair of the Committee is the Assistant Dean for Research, who will serve in an *ex officio* (non-voting) capacity. The UTIA Director of Services, the Greenhouse Manager, and Directors of the East Tennessee and Plateau Research and Education Centers will serve as *ex officio* (non-voting) members of the committee also.

II. Responsibilities

a. Chair

The Chair will serve as a liaison between the GH Committee and Space Committee, and be responsible for all reports and meeting minutes submitted to the Space Committee. The Chair will coordinate with the UTIA Director of Services and the Greenhouse Manager to address issues related to maintenance and repairs by Facilities Services and outside contractors.

b. Recommendations for Greenhouse Space Assignments

All UTIA faculty requesting greenhouse resources, including greenhouse space located at the East Tennessee and Plateau Research and Education Centers, must submit an application requesting greenhouse space. The GH Committee will make recommendations for use of specific greenhouse resources located on the UTIA campus. Currently these facilities include: North, Central, and South Greenhouses. The GH Committee will coordinate with Directors of the East Tennessee and Plateau Research and Education Centers to facilitate placement of projects that do not require the features provided by Central, South, and North Greenhouse. In an effort to maintain full use of greenhouse resources, the GH Committee will solicit applications for space usage every six months. However, PIs may submit applications based on specific need at any time. Applications will be reviewed every six months, or whenever space becomes available. Department heads should inform new faculty members of the greenhouse application and review process during their orientation. Recommendations for space will be made for academic needs and activities (research, teaching, Extension, outreach) best fitting the mission and objectives of the UTIA. It is recognized that certain types of

projects are time sensitive; therefore, plans should be made to submit an application to the GH Committee to secure greenhouse space well in advance of project needs.

Applications for greenhouse space must be responsive to the criteria outlined in the request for applications. Only UTIA personnel with regular faculty status, as defined in the UT Faculty Handbook, may submit applications requesting greenhouse space. All applications must be approved and endorsed (signature) by the applicant's department head. Applications should be submitted electronically to the Chair of the GH Committee. The application form is available online [URL]. In order to avoid conflicts of interest, members of the GH Committee will not participate in the discussion or the vote on their own applications for use of greenhouse space. All applications will be reviewed by the GH Committee and recommendations for use of specific greenhouse resources located on the UTIA campus including the North, Central, and South Greenhouses will be forwarded to the Space Committee, which will make the final assignment. The Space Committee will notify the Chair of the GH Committee, who will be responsible for notifying applicants of approval or denial of their space request.

Recommendations for greenhouse space assignment will be made pending availability of space. Assignments will be recommended for up to a maximum of two years. Assigned space must be in active use during the time of assignment. If seasonal assignment is needed, the request for space should be made specifically for that period. If assigned space will not be used for any period during the assignment, the reason (cleaning, other) and unused time period must be clearly stated. Use of greenhouse space will be monitored by the GH and Space Committees, and assigned space not in use is subject to be returned to the GH Committee for re-assignment.

Due to the high demand for space, sharing of bays is strongly encouraged, especially among collaborators. There will be no permanent assignment of space. However, users may reapply for space when their current assignment ends. Users should consider this before making modifications (irrigation, lighting, etc.) in the assigned space. Since funds for modifications are awarded to the university and are not personal funds, recommendation for current and ongoing needs for space are based on demonstrated need and productivity, rather than equipment modifications. When space is no longer assigned to a PI, plans must be made to return the bay to original condition; this may include off-site storage of removable equipment. Alternatively, equipment could be made available to colleagues who can make good use of it. All proposed modifications to the physical structure, modifications that impact the functionality of the space, and those that cannot easily be removed at the end of the assigned period, must be submitted by the assigned user, with department head approval, and reviewed by the GH Committee, which will forward its recommendation to the Space Committee for final approval.

c. Review of Greenhouse Space Usage

Extended periods of disuse, inconsistent with the application request, suggest that the space has been underutilized, which will trigger a mid-cycle review by the GH Committee to ensure that these resources are appropriately utilized. Misassigned space will be returned to the GH Committee for reassignment. All users must demonstrate flexibility by working with colleagues to make efficient use of this valuable resource. ALL space assignments, including greenhouse space located at the East Tennessee and Plateau Research and Education Centers, regardless of duration, must be made by request to the GH Committee. Short-term informal arrangements that are not collaborative with the assigned PI must be approved by the GH Committee. Informal arrangements without notification to the GH Committee lead to conflicts, increased insect pests and disease problems, and do not allot the space on a priority basis. The Greenhouse Manager is expected to monitor space use (see section IV) and report problems to the GH Committee. The GH Committee will report problems and make recommendations to the department heads, who are responsible for ensuring that greenhouse space is used by the PIs they supervise according to assignment. If problems that have been identified cannot be resolved by consultation with the appropriate department head, the GH Committee will report problems and make recommendations to the Space Committee for resolution.

Space that is not being used, due to a faculty member leaving the University or being reassigned within the University, may be utilized by the department head for up to six (6) months. After that time, the space will be returned to the resource pool for reassignment. Department heads should notify the GH Committee of these arrangements prior to initiating the arrangement to verify that there are no conflicts or detrimental effects on other assigned users. In the event that all space assignments have been made and accommodations are needed on a short-term basis [six (6) months or less] for new faculty or visiting scientists, department heads should canvass their own faculty and make recommendations among department users for these short-term accommodations. Department heads should also notify the GH Committee of these arrangements prior to initiation.

d. Committee Meetings and Reports to UTIA Space Committee

The GH Committee will meet monthly unless no items for action are received or a quorum of four (4) voting members is not available, in which case the meeting can be canceled at the discretion of the Chair. A quorum of voting members is required to conduct committee business. In the case of tie votes, motions will be tabled for discussion at the next meeting. Minutes of meetings will be submitted to the Space Committee by the Chair or a designee. Reports on assignment recommendations, mid-cycle review of space usage, and facility issues will be submitted by the Chair to the Space Committee as needed.

III. Priorities for Space Assignment

Central, South and North Greenhouses have different features that make them amenable to a range of research, teaching, Extension, and outreach activities (see Appendices 1 and 2). Central Greenhouse has the most sophisticated features and is best suited for greenhouse crop research. South Greenhouse is best suited for teaching activities, maintenance of plant teaching collections, and research on non-greenhouse crops. North Greenhouse is best suited for plant research involving plant pathogens and insect pests. Other facilities are available for production of plant material that does not require containment or a highly controlled environment. Within all priority categories, preference will be given to tenure-track faculty who do not have assigned space. Based on justification provided in the application for space, the priorities for available greenhouse space assignment are the following:

- a. **Priority 1a** - Greenhouse crop research that requires a multi-level controlled environment.
Priority 1b - Research on non-greenhouse crop systems that requires a multi-level controlled environment.
- b. **Priority 2** - Two bays in South Greenhouse will be designated for teaching collections and laboratory classes. Users will apply to the UTIA GH Committee for use of teaching space. After assignments are approved by the Space Committee, specific space assignments within the teaching bays will be coordinated by the Greenhouse Manager. Unused space in these bays will be returned to the pool of available resources for research or other mission-related activities.
- c. **Priority 3** - Extension and outreach activities that have a minor research component
- d. **Priority 4** - Activities that do not have a research component.

The GH Committee will coordinate with Directors of the East Tennessee and Plateau Research and Education Centers to facilitate placement of projects that do not require the features provided by Central, South, and North Greenhouse. While the GH Committee will diligently seek to assign space to as many projects as possible, faculty are strongly encouraged to indicate the specific need, type of space needed, and duration of need for greenhouse space at the time of proposal or project submission to allow sufficient time for planning by the GH Committee.

IV. Greenhouse Manager

The Greenhouse Manager will report to the Chair of the GH Committee. Duties of the Greenhouse Manager will be as specified in the UTIA Greenhouse Committee Bylaws. The Greenhouse Manager will be the first point of contact for facility problems for faculty with assigned greenhouse space. The Greenhouse Manager will seek resolution of the problem and if needed will confer with the Chair of the GH Committee on these issues. The Chair will resolve facility issues and/or seek assistance from the Director of Services as needed.

a. Specific duties of the Greenhouse Manager are as follows:

1. Monitor greenhouses daily for proper functioning, including but not limited to application of algaecide to cooling pads, water to humidity sensors, etc.;
2. Maintain and operate data loggers;
3. Program, monitor, and troubleshoot Priva automated, computer-controlled environmental systems through onsite and remote access with University-provided hardware;
4. Troubleshoot and resolve day-to-day problems, and report persistent issues that have not been resolved to the GH Committee;
5. Be the first point of contact on evenings and weekends to ensure that greenhouse problems are handled promptly, to prevent loss of research/plant material;
6. Communicate problems in greenhouse functioning that may affect plant and research material to assigned bay users in a timely manner;
7. Coordinate with Facilities Services for routine repair of items in the greenhouses;
8. Manage a budget for greenhouse supplies;
9. Maintain current pesticide handlers certification;
10. Monitor greenhouses for pests, and alert assigned bay users if problems are observed;
11. Provide information to assigned bay users on identification and control of pests and plant pathogens as needed;
12. Coordinate purchase of parasitoids for pest management among bay users to minimize shipment charges to assigned bay users;
13. Provide information to assigned bay users on irrigation systems, and assist with installation if requested;
14. Provide advice as requested to assigned bay users on plant maintenance procedures, including watering, and fertilization if requested;
15. Archive Priva environmental data for all greenhouses for use by assigned bay users;
16. Interact with assigned bay users to communicate and implement greenhouse policies and procedures as established by the GH Committee;
17. Participate in strategic planning to improve greenhouse operations, facilities, and equipment;
18. Interact with assigned bay users to determine project needs;
19. Coordinate allocation of shared space for teaching in the bays designated specifically for that purpose;
20. Serve as a liaison with the UT Biosafety Office to assist in assuring compliance in regard to research with transgenic plants;
21. Serve as an *ex officio* member of the GH Committee;
22. Assist the GH Committee with monitoring and periodic assessments of assigned space usage;
23. Manage storage areas and monitor proper usage;
24. Coordinate, purchase, and manage bulk quantities of centralized supplies, which will be available to greenhouse bay users for re-purchase;
25. Serve as liaison between the University and greenhouse contractors, including communication of needed warranty-related repairs to both the contractor and University personnel, coordination of repair logistics, and verification that repairs have been completed.

V. Amendments to Bylaws

a. Origin of Amendments

Amendments to the bylaws will originate from members of the GH Committee. Proposed amendments will be presented in writing to members for consideration at any regular meeting or at any special meeting called for that purpose.

b. Notice

Proposed amendments will be distributed at least one working day prior to the meeting at which they are to be discussed. Consideration of the amendments for voting will occur at a subsequent meeting when the matter will have been included again in the agenda.

c. Voting for Adoption

A majority affirmative vote of all members will be required for adoption of amendments to the bylaws. Amendments to bylaws must be approved by the UTIA Space Committee.

Appendix 1. Glasshouse Space Inventory

Building	Bay	Area	Benches	Lights	Special Features and Notes
North Greenhouse					
	1	630 sq ft	None	3	Bays 9 and 10 have greater separation from the other bays as they were designed for containment of foliar pests and pathogens, viruses or non-biotrophic fungal or bacterial pathogens
	2	630 sq ft	None	3	
	3	630 sq ft	None	3	
	4	630 sq ft	None	3	
	5	630 sq ft	None	3	
	6	630 sq ft	None	3	
	7	630 sq ft	None	3	
	8	630 sq ft	None	3	
	9	630 sq ft	None	3	
	10	630 sq ft	None	3	
Central Greenhouse					
	1	945 sq ft	One 3' x 6' plastic, Four 4' x 20' metal	18	
	2	945 sq ft	Seven 2' x 5.5' plastic, Twelve 2' x 8' plastic, One 4' x 20' metal	18	
	3	945 sq ft	One 2' x 8' plastic, One 2' x 6' plastic, Five 4' x 20' metal	18	
	4	945 sq ft	Seven 2' x 5.5' plastic, Twelve 2' x 7' plastic, One 4' x 20' metal	18	
	5	945 sq ft	Two 2' x 5.5' plastic, Four 4' x 20' metal	18	Blackout curtains
	6	945 sq ft	Nine 2' x 5.5' plastic, Eight 2' x 8' plastic, Two 4' x 20' metal	18	
South Greenhouse					
	1	1,500 sq ft	Fourteen 3' x 10' metal	6	Receives less sun than other bays
	2	1,500 sq ft	Sixteen 3' x 8' plastic	6	
	3	945 sq ft	Three 3' x 8' plastic, Ten 3' x 10' metal	11	
	4	945 sq ft	Four 3' x 8' plastic, Eight 3' x 10' metal	5	
	5	630 sq ft	Six 3' x 10' metal	3	
	6	630 sq ft	Four 3' x 8' plastic, Six 3' x 10' metal	3	
	7	945 sq ft	Twelve 3' x 10' metal	5	
	8	945 sq ft	Two 3' x 8' plastic Eight 3' x 10' metal	5	
	9	630 sq ft	Two 3' x 8' plastic, Six 3' x 10' metal	3	Tends to be warmer due to sun direction
	10	630 sq ft	One 3' x 8' plastic, Six 3' x 10' metal	3	Tends to be warmer due to sun direction

Appendix 2. Headhouse Space Inventory

Building	Special Features	Notes
North Greenhouse		
	Chemical fume hood	<i>Greenhouse is under construction</i>
	One storage room per two bays	
	Laboratory with Biosafety cabinet in headhouse	
	Deionized water in headhouse	
	Soil sink for root washing	
Central Greenhouse		
	Deionized water	
	One storage room per bay; additional storage rooms available	
South Greenhouse		
	Large teaching classroom	Smartboard, Proxima projector, microscopes
	Small conference room/ teaching classroom	
	One storage room per bay	

Appendix 3. Greenhouse Resources at the East Tennessee Research and Education Center

Building	Area	Features**
GH#1		
	30 ft × 96 ft (2,880 sq ft) polyhouse	
GH#2		
	30 ft × 96 ft (2,880 sq ft) polyhouse	Dosatrons
GH#3		
	16 ft × 36 ft (576 sq ft) polyhouse	Four metal benches Four grow lights
GH#4		
	16 ft × 36 ft (576 sq ft) polyhouse	Four metal benches Four grow lights
GH#5		
	16 ft × 36 ft (576 sq ft) polyhouse	Three metal benches Four grow lights
GH#6		
	16 ft × 36 ft (576 sq ft) polyhouse	Four plastic benches Four grow lights
GH#7		
	16 ft × 36 ft (576 sq ft) polyhouse	Three plastic benches Two grow lights
GH#8		
	16 ft × 36 ft (576 sq ft) polyhouse	Four plastic benches Four grow lights
**Most items listed were purchased by PIs or departments. All houses have irrigation capabilities; some have dripper tubes; some have sprinklers; and some have controller/timers.		

Appendix 4. Greenhouse Resources at the Plateau Research and Education Center

Building	Area	Features
Q1		
	32 ft × 96 ft (3,072 sq ft) polyhouse	Double wall polyhouse with polycarbonate end walls, gravel floor, wall height is 10' with straight sidewalls, equipped with Micro-Grow environmental control with 4-stage cooling (with cooling pads) and 2-stage heating, drip irrigation with a series of three Dosmatic fertilizer injectors, no headhouse but shares a 20' x 40' grading shed with Q1, Q2, and GC, natural gas heat, municipal water.
Q2		
	32 ft × 96 ft (3,072 sq ft) polyhouse	Double wall polyhouse with polycarbonate end walls, gravel floor, wall height is 10' with straight sidewalls, equipped with Micro-Grow environmental control with 4-stage cooling (with cooling pads) and 2-stage heating, drip irrigation with a series of three Dosmatic fertilizer injectors, no headhouse but does share a 20' x 40' grading shed with Q1, Q2, and GC, natural gas heat, municipal water.
GC		
	48 ft × 96 ft (4,608 sq ft) polyhouse	Double wall polyhouse with polycarbonate end walls, gravel floor with landscape fabric covering, wall height is 10' with straight sidewalls, equipped with Micro-Grow environmental control with 4-stage cooling (with cooling pads) and 2-stage heating, drip irrigation with a series of three Dosmatic fertilizer injectors, no headhouse but shares a 20' x 40' grading shed with Q1, Q2, and GC, natural gas heat, municipal water.
GH#1		
	20 ft × 48 ft (960 sq ft) polyhouse	Double wall polyhouse with polycarbonate end walls, ground to ground Quonset style house, landscape fabric floor, Dosmatic used for fertilization, temperature controlled with thermostats, equipped with one natural gas heater and one exhaust fan, municipal water.
GH#2		
	20 ft × 48 ft (960 sq ft) polyhouse	Double wall polyhouse with polycarbonate end walls, ground to ground Quonset style house, landscape fabric floor, Dosmatic used for fertilization, temperature controlled with thermostats, equipped with one natural gas heater and one exhaust fan, municipal water.