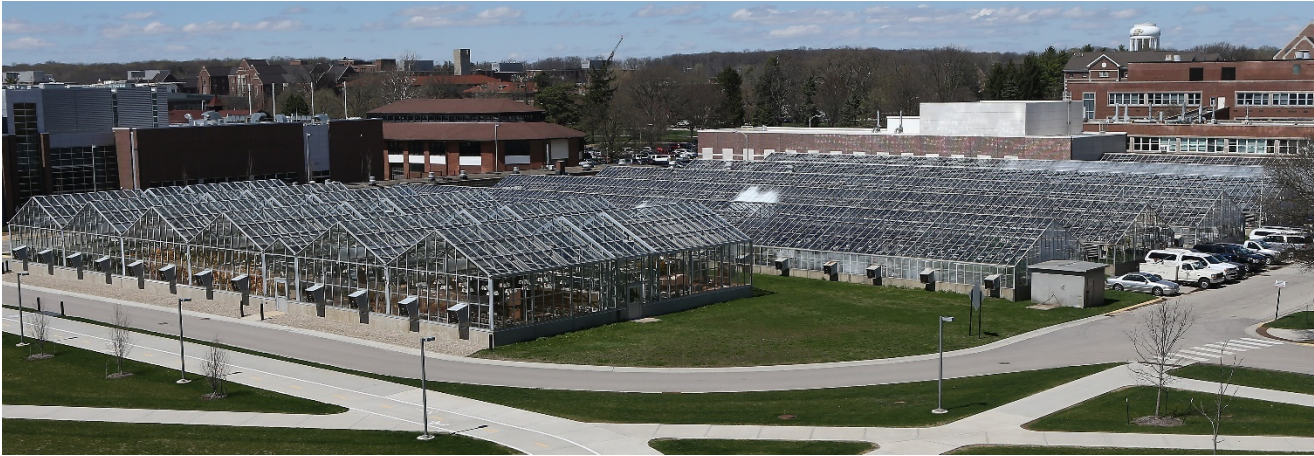


LILLY PLANT GROWTH FACILITIES MANUAL

(Revised 09/10/21)



This document establishes policies, procedures, and guidelines for use of greenhouses and plant growth facilities attached to the Lilly Hall of Life Sciences.

MISSION STATEMENT

The facilities are dedicated to the acquisition and dissemination of knowledge through research, teaching, and outreach activities.

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Lilly Greenhouse Contacts

Dial 911 IN ANY EMERGENCY

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Other Contact Numbers:

Purdue Police (non-emergency): 494-8221

Purdue Fire (non-emergency): 494-6919

Purdue Radiological and Environmental Management (REM): 494-6371

Indiana Poison Control Center: 800-382-9097

Chemtrec: 800-424-9300

Indiana State Chemist: 494-1585

Indiana Dept. of Environmental Management: 317-233-774

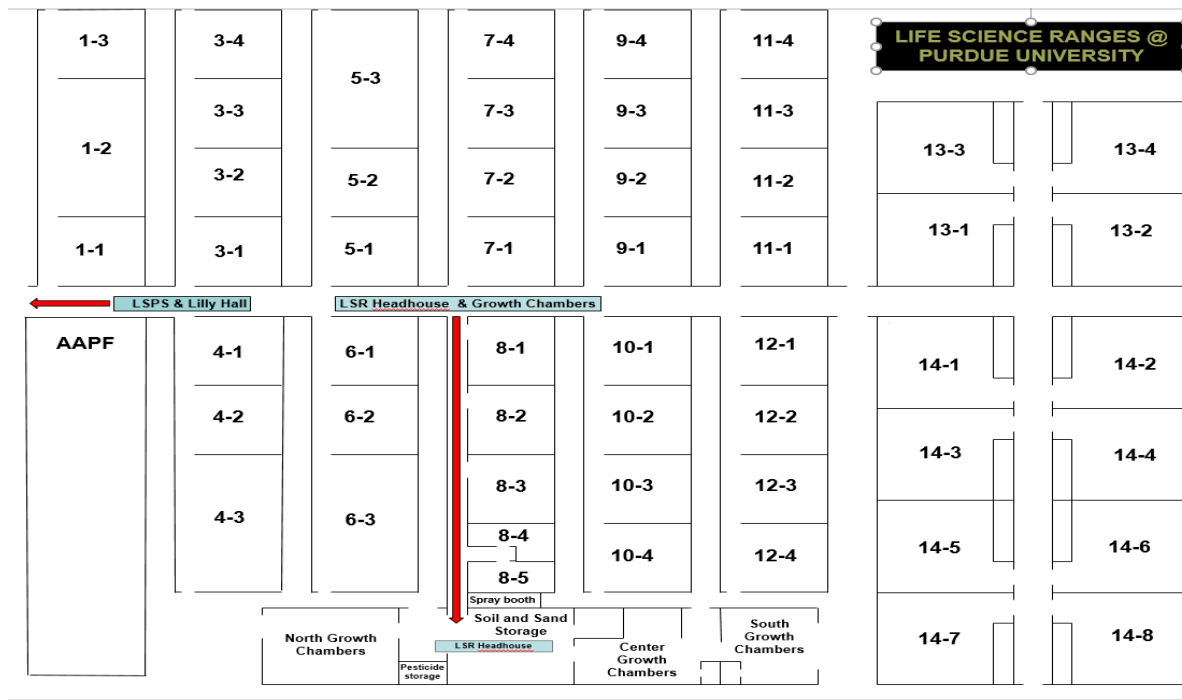
Overview

The Lilly Greenhouse provides space for faculty, staff, and students in the departments of Agriculture & Biological Engineering, Agronomy, Biology, Botany & Plant Pathology, and affiliated USDA-ARS projects. Approximately 40 principal investigators and numerous affiliated post-docs, lab personnel, graduate and undergraduate students use the facility for research and teaching.

The facility consists of approximately 55,000 ft² of glass covered greenhouses comprising 53 individual rooms. The original structure was constructed in the late 1950's with additions in the 1970's and 1990's. It includes the attached headhouse building which contains growth chambers belonging to individual research labs or the College of Agriculture Plant Growth Center (CoA PGC). Growth chambers belonging to the center are available for rent through IILab for registered users at:

https://purdue.ilabsolutions.com/service_center/show_external/4388

Facility Map



Greenhouse Space Request

Space is allocated by the greenhouse manager, in consultation with department heads, annually prior to each academic year. Faculty should request space for all post docs, visiting scientists, graduate and undergraduate student needs during the coming year via the **Space Request** button on the Lilly Greenhouses and Plant Growth Facility website.

<https://ag.purdue.edu/LillyGreenhouse/Pages/home.aspx>

The greenhouse manager will contact users once their space has been allocated. Space requests received outside of the annual allocation period will be reviewed and approved on a case-by case basis when space is available. Greenhouse users that leave their allocated space unutilized for long periods of time will be contacted by the greenhouse manager for an explanation and can have their space re-assigned to other users. Lab members sharing space will be responsible for coordination of their needs so they do not exceed their lab's allocation.

After Hours Access

Once you have been assigned greenhouse space, you may request facility keys for after-hours access. Keys can be at this website:

<https://purdue.ag/Lily-Key-Request>

Greenhouse Services & Supplies

The facility is operated by 4 full-time personnel and which includes the greenhouse manager, a student lab service coordinator and 2 plant growth facilities coordinators. The staff will assist users in their plant growth and research activities wherever possible, but are not responsible for daily care and maintenance of plant material except for the application of pest control products. They will provide the following services and supplies to all users.

- * Programming, monitoring of environment controls and supplemental lighting
- * Pest scouting and control measures
- * General greenhouse maintenance, repairs and routine sanitation of common areas
- * Removal of biohazard bins
- * Topsoil and sand are available free of charge
- * Two commercial bagged soilless media are available for purchase
- * Custom mixes of topsoil, sand and/or soilless media are available with 3 days of advance notice

Topsoil, sand, bagged media and custom mixes can be requested via the Lilly Greenhouse website by clicking on the ***Soil Request Form*** button and entering your information. You will be contacted by the greenhouse staff when your order is ready for pickup. All orders can be picked up in the headhouse on the west side of the greenhouse.

Facility Users' Responsibilities

Greenhouse users have specific responsibilities in regards to production of plant material.

Users and their subordinates will be responsible for monitoring and maintaining crops in assigned rooms, including:

- * Planning space and supply needs in advance
- * Daily irrigation and fertilization of plant material
- * Reporting concerns about insects or disease to the greenhouse staff in a timely manner
- * Space plants sufficiently to ensure proper air movement and allow access for irrigation and pesticide applications
- * Repotting or installation of supports to keep plants upright
- * Report maintenance/repair concerns to the greenhouse manager in a timely manner

Safety

The greenhouse team is responsible for operating the greenhouse in a safe manner at all times. Users are responsible for their personnel safety and keeping the facility safe for other users. Report any hazardous conditions to the greenhouse manager immediately.

Faculty Responsibility

Faculty are responsible for assuring their staff who work in the greenhouse attend all required safety trainings. This includes learning emergency procedures (i.e., fire evacuation, locations of fire extinguishers, safety shower/eyewash stations, and first aid kits). Departmental policies concerning glove contamination and chemical labeling applies in the greenhouse as it does in the laboratory. Direct any questions to the greenhouse manager.

WPS Training

All personnel who work in the greenhouses and are not Indiana licensed pesticide applicators, are required to

attend WPS training **prior** to commencing work in the greenhouse. Training must be **renewed annually** in accordance with federal regulations. The greenhouse manager can provide information about available on-campus training sessions.

WPS Central Notification

The required WPS notification center is located inside the north entrance to the greenhouse corridor. It contains information on application locations, pesticides applied and re-entry information for the previous 30 days as required by federal law. Pesticide Safety Data Sheets (SDS) are available at the central notification site.

Licensed Pesticide applicators

Members of the greenhouse staff are required to be Indiana licensed pesticide applicators and only licensed applicators are allowed to make applications in the facility. Indiana licensed applicators who are not members of the greenhouse staff must provide a copy of their current unexpired license to the greenhouse manager prior to making applications in the facility. Non-staff licensed applicators must inform the greenhouse manager when they intend to make an application and post required information on the central notification board.

Scheduled Pesticide Applications

Pesticides will be applied weekly on a day and time designated by the greenhouse manager. Greenhouse users will be informed 24 hours in advance of upcoming applications via email. Notifications will only be sent to personnel whose rooms will be affected directly or indirectly by the scheduled application. Please provide names and email address of all personnel from your lab who work in the greenhouse to the greenhouse manager so they may receive direct notification.

Restricted Entry Intervals (REI)

EPA approved “**NO ENTRY**” signs will be posted on treated rooms prior to an application and during the REI. Entry to treated rooms is prohibited until warning signs are removed by greenhouse staff. In some instances, spot applications will be made to small areas within a room. In these situations, small 4’ x 4’ EPA approved signs will be posted at each corner of the application area to warn greenhouse users. Do not handle plants in these areas until signs have been removed.

Autoclaves

DO NOT OPERATE autoclaves until you have received instruction from the greenhouse staff. Autoclaves should mainly be used for soil pasteurization prior to planting. Do not use autoclaves for disposal of biohazardous materials unless on-site destruction is required. We contract with an outside vendor who is licensed for off-site autoclaving of biohazardous material. Use the provided red biohazard bins for disposal by the contractor.

Biohazard Bins

Red biohazard bins are provided for users outdoors between rooms 12-1 and 14-1 for disposal of hazardous waste. Biohazard bags must be used inside each bin and full bags must remain inside a bin at all times. **DO NOT fill bins with wet soil; allow the soil to dry down prior to disposal to avoid exceeding the 50lb weight limit.; use additional bins if necessary.** Red biohazard bags are located adjacent to the greenhouse fan just inside the greenhouse from the outdoor storage area. Biohazard bins will be removed from greenhouse rooms weekly by greenhouse staff and placed in the designated area for pickup by an outside vendor. If you need to remove a bin prior to the weekly collection, place it in the designated area with the bag tied tightly and apply the appropriate ID label. ID labels are located in the mailbox adjacent to bin storage area.

Housekeeping – Assigned Greenhouse

Orderliness and cleanliness are REQUIRED of each greenhouse user. Failure to keep a clean assigned area may result in re-allocation of space to other researchers

- * Keep benches clean during experiments and promptly discard dead plant material and soil debris
- * Regularly remove excess soil from the greenhouse floors. A power washer is available if floors need intensive cleaning
- * Remove large weeds growing below your benches. Greenhouse staff will spray small weeds.
- * Empty trash cans on a weekly basis. Dump trash cans into outdoor dumpsters located between ranges 12 & 14, adjacent to the Lilly loading dock or near the southeast corner of the LSR Headhouse. DO NOT empty your trash cans into main hallway trash containers.

Housekeeping – Common Areas

The Lilly Greenhouse is a working research facility with common areas shared by a multitude of users. Orderliness and cleanliness are REQUIRED of all common area users. Failure to keep a sanitary common area may result in re-allocation of space to other researchers.

Users are responsible for cleaning common areas immediately after their work is completed.

- * Remove all soil, plant material and debris from work tables and floors after potting/repotting
- * Remove all plant and soil debris from sinks and place in compost wheelbarrows
- * Clean carts after transporting plants or soil and return them to their designated location
- * Sweep greenhouse corridor floors if soiled during your work.
- * Brooms and dust pans are available in several areas in the main hallway. Return these items to their designated location when finished.
- * Trash cans for garbage, recycling and compost are available in several locations in the main corridor. Observe posted signs and place your waste material in the appropriate container.
- * Be considerate of other users and dump compost cans if you fill them. The compost pile is located outside of greenhouse 14-7.
- * Wheelbarrows are available for disposal of large amounts of compost if necessary. Please contact a staff member to obtain a wheelbarrow. Wheelbarrows are not to be left in the hallway with discarded compost. They must be emptied and returned to the storage area.

Greenhouse Service Requests

Due to the large number of faculty, staff and students making verbal requests for assistance in temperature, lighting, pest control, maintenance and miscellaneous items we ask that you utilize the **Greenhouse Service Request** button on the greenhouse website. This will allow tasks to be assigned to the appropriate greenhouse personnel. **DO NOT** adjust or change greenhouse environmental or lighting controls without consent of the greenhouse manager.

Isolation Rooms

Some rooms will have isolation restrictions due to the presence of pathogen-based research. Do not enter designated rooms without permission of the principal investigator and an understanding of their specific policies. Policies will be posted on the entry door by each investigator and apply to all staff and visitors.

Plant/Cutting Inspection

To ensure the health of all research material, plants or cuttings from outside sources must be inspected by the greenhouse manager prior to placement in the growing areas. Contact the greenhouse manager to schedule an inspection prior to placing any material in the greenhouse. The greenhouse manager will determine if pesticide treatments will be necessary.

Storage - General

Storage space in the greenhouse facility is very limited. Check with the greenhouse manager prior to placing any items in greenhouse rooms. Store only those items vital to your on-going experiments and maintain those

supplies in a neat and organized fashion. Tools and supplies should be stored in a cabinet or water-resistant container. It is the responsibility of the faculty to purchase storage cabinets and containers. Cardboard boxes are not acceptable storage containers for the greenhouse environment. Materials and supplies should not be left on ledges, floors or greenhouse benches. No items may be stored in greenhouse common areas, corridors or plenum space (ranges 13 & 14) without prior approval of the greenhouse manager. Objects approved for storage in the plenum area must not obstruct the ventilation inlet shutters or floor drains.

Storage - Chemicals

Only chemicals manufactured for greenhouse or garden use may be stored in the pesticide storage room. Under no circumstances are concentrated or diluted pesticides to be stored in greenhouse rooms. Original labels must be intact and legible on all chemical containers.

Laboratory chemicals cannot be stored in the greenhouse or pesticide storage room. They should be stored properly in the laboratory, brought to the greenhouse for application and returned promptly after application. Nutrient solutions should be stored in sealed waterproof containers below benches

"Pet Plants"

Space in the facility is reserved for active teaching and research plants only. Personal use "pet plants" or starting plants for personal use is not allowed. Users with suspected personal plants will receive one written notification and failure to remove the plants will result in disposal by greenhouse staff.

Policy Violations

Users of the facility are responsible for adherence to all written and posted policies. The greenhouse manager will communicate policies and remind users when they are in violation. Policies can be modified at any time as deemed necessary by the greenhouse manager and changes will be communicated to all users prior to implementation. Repeated, deliberate violations of these policies may result in greenhouse services being suspended for that user or a reduction in allocated space.

Questions or Comments

Questions or comments about policies, procedures or greenhouse operations should first be directed to the greenhouse manager. Department heads of Agronomy, Biology and Botany & Plant Pathology can be contacted if the greenhouse manager is unable to resolve your concerns with established policies.