

Colorado State University Plant Growth Facilities
FY 2027 Policy
Effective September 1, 2026

Introduction

The intent of this document is to introduce policies of the Plant Growth Facilities. The document is subject to annual review and approval by the Greenhouse Steering Committee and Business Financial Services prior to release.

Plant Growth Facility (PGF)

Website: <https://agsci.colostate.edu/plantgrowthfacilities/>

Main PGF Email: cas_greenhouse@mail.colostate.edu

Hours of Operation: 8:00-4:30 M-F

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Overview

The **Plant Growth Facility (PGF)** is an Institutional Core Facility that supports the strategic goals of Colorado State University's (CSU) research mission. The PGF provides short- and long-term greenhouse space, growth chambers, cold storage, laboratory space, and short-term warehouse storage to support research conducted by faculty, staff, and students across CSU, including researchers in the **College of Agricultural Sciences, Warner College of Natural Resources, and College of Natural Sciences**.

In addition to supporting research, the PGF provides facilities and resources for **teaching, student organizations, and educational programs** in horticulture, biology, natural resources, and related disciplines. The facility currently supports approximately **45 research labs and more than 300 users each semester**.

Acknowledgment Requests

Acknowledgement of PGF contributions is encouraged in publications that include any data generated in the PGF. An example of an appropriate acknowledgement is "*The authors wish to thank the Plant Growth Facilities at Colorado State University for facility access, training and assistance with research*".

Hours and Staff Support

The PGF main office is open during regular business hours:

Academic year: **8:00 a.m.–4:30 p.m., Monday–Friday**

Summer: **8:30 a.m.–4:00 p.m., Monday–Friday**

PGF staff include the **Program Manager/Building Proctor, Greenhouse Foreman, Plant Health Specialist/Conservatory Curator**, and up to three part-time student employees.

Staff are available to assist users during regular business hours but may not always be in the main office. Users should contact PGF staff by email or phone with questions, concerns, or facility-related issues. The PGF staff makes every effort to respond to email inquiries within **one business day**.

Facilities

The PGF encompasses approximately **60,000 ft²** and includes: thirteen research greenhouse bays, a growth chamber hotel, a teaching greenhouse and a public Conservatory. Additionally, PGF staff oversee the management and operations of the **Weed Research Greenhouse**.

Space Availability and Requests

Space allocations are determined by the **PGF Program Manager (tammy.brenner@colostate.edu)** based on facility availability, project requirements, and other operational considerations. New labs and users should contact the PGF Program Manager as early as possible to discuss their space needs and complete the appropriate **Space Request Form**.

As space permits, greenhouse space may be available to **student clubs and external users**. Due to limited availability and high demand, **growth chambers are not available to external users**.

The PGF Program Manager can assist users in determining the appropriate amount of space needed for their project. The minimum greenhouse space allocation is **¼ of a bench (approximately 53 ft²)**. Users are encouraged to request sufficient space to accommodate anticipated project needs; however, requesting additional space does not guarantee that additional space will be available.

Growth Chamber Requests

Growth chamber space is requested and allocated **by individual chamber**. Due to limited availability and high demand, users must actively utilize all PGF-owned growth chambers assigned to their project.

Holding or reserving a growth chamber without active research use is not permitted. If a chamber remains unused or inactive for **three consecutive months**, PGF may terminate the reservation and make the chamber available to another user. Users who anticipate a temporary period of inactivity should communicate with PGF staff in advance to discuss their circumstances and space needs.

Rates and Fees

Facility usage rates and fees are established to support the PGF's operating, repair, and maintenance expenses. Usage rates are reviewed annually and are subject to approval by the **PGF Steering Committee** (see Appendix X) and **CSU Business and Financial Services**.

To help offset inflation, rising operating costs, and anticipated repair and maintenance needs, **users should anticipate a minimum annual rate increase of 3%**. Rates may be adjusted as needed based on changes in facility operating costs and requirements.

Billing and Payment

Greenhouse and growth chamber usage is calculated and billed **monthly through Kuali Financial System**. Users must provide a valid CSU account for billing or, when applicable, may pay by personal check. Users should contact PGF staff if their account information needs to be updated.

P-cards and credit cards are not accepted for PGF facility charges.

Greenhouse Rates

Greenhouse rates are a **flat monthly rate across all greenhouse bays** and are billed based on **¼-bench units**.

- **¼ bench = 1 billing unit**
- **½ bench = 2 billing units**
- **¾ bench = 3 billing units**
- **Full bench = 4 billing units**

For example, leasing **¼ of a bench is billed as 1 unit**, while leasing a **full bench is billed as 4 units**.

Monthly Greenhouse Rate: \$68 per ¼-bench unit

Full bench: \$272 per month

Growth Chamber Rates

Growth chamber rates are based on chamber type and are billed **monthly by individual chamber**. Charges begin on the **reservation start date**, regardless of whether the chamber is occupied or actively in use.

Monthly Growth Chamber Rates:

- **Walk-in Growth Chamber:** \$500/month
- **Reach-in Growth Chamber:** \$280/month

Services and Supplies

As part of the facility usage fee, the PGF provides a variety of services, supplies, and resources to support high-quality research and efficient facility operations. The services below represent the primary services provided by PGF staff. Users should contact PGF staff regarding special requests or services not listed.

Services include, but not limited to:

- Deep cleaning of greenhouse spaces
- Preventive maintenance of autoclaves, RO water systems, and growth chambers
- Troubleshooting, repairs, and routine maintenance of greenhouse and growth chamber systems
- Ordering and stocking of commonly used materials and supplies
- Environmental control adjustments and monitoring in greenhouse spaces
- Worker Protection Standard (WPS) training, facility orientation, and compliance monitoring
- Integrated pest management (IPM), including routine monitoring, scouting, and pesticide applications

Warehouse Supplies

Warehouse supplies are available to **current, fee-paying PGF users** as part of their facility use. Non-fee-paying labs may purchase supplies through the PGF for an additional charge. Non-fee-paying users must select “**Lab Use**” and provide a valid account number when checking out supplies.

Available supplies include:

- **Potting mixes & Soil amendments**
- **Containers** (assorted sizes)
- **Humidity domes**
- **Flats and inserts**
- **Fertilizers**
- **Personal protective equipment (PPE)** — nitrile gloves, dust masks, and disposable lab coats
- **Dosatron fertigation systems** — available by request
- **Carts and wagons** — available for short-term use and must be returned by the end of the business day

Facility Amenities

Depending on availability and project requirements, the PGF provides access to:

- Mist benches
- Warehouse storage for long-term researchers
- Specialized research equipment and facility resources (see Appendix X)
- Fee-for-Service and Additional Supplies

Services or materials that require additional staff time, specialized equipment, or materials beyond standard facility operations are billed to the user's account as applicable.

Other requested services are billed at the applicable hourly rate:

- **Student labor:** \$16.50/hour
- **Professional services:** \$35/hour

Research Greenhouse Access

Access to the research greenhouses is limited to **authorized personnel only**. To obtain access, users must be part of an active PGF lab, complete **Worker Protection Standard (WPS) training** ([registration available here](#)), and attend an **on-site PGF orientation** before access can be approved.

Once all requirements are completed, access will be activated within **24 hours**. Users are encouraged to complete training in advance, as **same-day training is not available**.

Users are **not permitted in the facility until all required training and orientation are complete**. Key cards are assigned to individual users and **must not be loaned or used to provide access to others**. If you forget your key card, you may check out a temporary card for the day from the PGF main office.

Anyone found in the facility without proper authorization will be asked to leave. Individuals who allow unauthorized access will receive a warning. **Repeated violations may result in temporary suspension of facility access.**

Worker Protection Standard (WPS) Training and Requirements

The **Worker Protection Standard (WPS)** is a federal regulation administered by the **U.S. Environmental Protection Agency (EPA)** and enforced in Colorado by the **Colorado Department of Agriculture (CDA)**. WPS pesticide safety training is required for agricultural workers and pesticide handlers at facilities where pesticides are used. The purpose of WPS is to protect individuals from potential exposure to pesticides and to provide information about pesticide safety and workplace protections.

Training Requirements

The PGF offers WPS training and a site-specific on-site orientation approximately twice per month. **Training schedules** are posted throughout the PGF and shared by email at the beginning of each semester. Users may also register for a WPS training session through the **CSU Environmental Health and Safety (EHS)** website: [WPS Training Registration](#)

It is the user's responsibility to maintain current WPS training and complete required annual renewal.

If a user is unable to attend a scheduled PGF training session but requires access to the facility, they should contact PGF staff as soon as possible to discuss available options. **Users may not enter or conduct work in areas requiring WPS authorization until all required training and orientation requirements have been completed.**

Training at Other CSU Locations

WPS training completed at another CSU location may be accepted at the PGF when the training meets current WPS requirements. However, **each facility requires a site-specific orientation** because pesticide use, facility procedures, and notification requirements vary by location.

For example, if a user completes WPS training and the site-specific orientation at **ARDEC**, the user generally does not need to repeat the WPS training at PGF but must complete the **PGF-specific orientation** before working in PGF areas requiring WPS authorization.

Integrated Pest Management

The PGF supports more than 40 active research projects at any given time. Effective pest management is essential to protect research and minimize impacts between projects. PGF uses an **Integrated Pest Management (IPM)** approach that combines sanitation, monitoring, and biological, cultural, mechanical, physical, and chemical controls.

User Responsibilities

PGF staff will routinely scout and monitor for pests and maintain common areas. Users are responsible for:

- Keeping their growing and work areas clean.
- Removing weeds from pots and growing areas.
- Removing dead or diseased plant material at least weekly.
- Taking dirty pots and containers to the designated pot-washing area.
- Reporting pest or disease concerns to PGF staff promptly.

Plant Material

All plant material must be **inspected by PGF staff before entering the facility**. Contact PGF to arrange an inspection. **Seeds are exempt**. Unless a research requirement is approved and documented during the space request process, plant material may be treated with pesticides as part of the PGF IPM program.

Pesticide Applications.

Only authorized PGF staff **may apply pesticides in PGF facilities**. Affected users will be notified approximately **24 hours in advance** of scheduled applications by email, when practicable. Users are responsible for reading notifications and vacating affected areas by the designated time.

Unauthorized pesticide applications are prohibited. Any unauthorized pesticide use or containers found in the facility may be removed, and the responsible PI or lab will be notified. Repeated violations may result in suspension of facility access.

Specialized Equipment

PGF provides specialized equipment and shared-use spaces to support research. Equipment is available on a **first-come, first-served basis** unless otherwise noted. Users are responsible for keeping equipment and work areas clean and orderly and must complete required training before use.

Autoclave — Room 128

The autoclave is used to sterilize potting media, pots, tools, and other materials when required by research or permit. Users must be trained by PGF staff before operating the autoclave. However, **labs required by permit to autoclave waste are responsible for completing the process**

Drying Oven — Room N102

The drying oven is available for research use and is maintained at ambient temperature. Users must reserve a shelf and label all items with **name, date, and contents**. Items with no activity for more than **six months** may be discarded.

UV Room — Room 106

The UV room is available for disinfecting research materials such as pots and bamboo stakes. **Users must complete PGF training before operating UV equipment.** Contact PGF staff to schedule training.

Cold Rooms — Rooms 103B/C

Cold rooms provide temporary research storage and are maintained at approximately 2.4°C and 4°C. All items must be labeled with name, date, and contents. Items with no activity for more than six months may be discarded.

Plant and Soil Grinding Rooms — Rooms 102A/B

Grinding rooms are available for plant and soil sample processing. Keys may be checked out from the PGF main office. Because grinding can generate dust, **dust masks are recommended.** Report equipment problems or damage to PGF staff.

Equipment Room — Room 106/Warehouse

The equipment room contains power tools and other equipment and is available **only to trained users with PGF permission.** Required PPE, including safety glasses and hearing protection, must be worn. Contact PGF staff for training and equipment requirements.

Root Washing Station — Room 108A

The root washing station provides sinks, handheld sprayers, sieves, and a sediment trap for washing roots and research materials. Users are responsible for cleaning the station after use. PGF staff maintain the sediment trap.

Safety & Regulated Research

PGF policies are in place to protect users, staff, research materials, and facility operations. All users are expected to follow applicable CSU, PGF, and regulatory safety requirements.

General Safety

- Closed-toe shoes are required **in greenhouse work areas. Food and beverages are not permitted while working in greenhouses.**
- **Do not share keycards or provide keycard, lockbox, or access codes to others.**
- **Do not move, water, alter, or otherwise disturb another user's research material.**
- Experimental chemicals require **advance approval from PGF management.**

Inclement Weather and Emergencies

During severe weather or other emergencies, the PGF Building Proctor or designee will assess facility conditions and safety. Users requiring emergency watering due to facility closure or weather should contact cas_greenhouse@colostate.edu.

If PGF staff cannot safely access the facility, CSU Facilities Dispatch may be contacted at **491-0077.**

Regulated Research

Industrial Hemp

PGF maintains a **Colorado Department of Agriculture (CDA) Research and Development permit** for industrial hemp research. Researchers interested in conducting hemp research must contact the PGF Manager **before beginning the project** to review facility and regulatory requirements.

Researchers are responsible for completing all required CDA pre-planting, planting, and harvest documentation and providing copies to PGF within required timelines.

For current hemp requirements, contact PGF staff or visit the [Colorado Department of Agriculture](#).

Biosafety and Biosecurity

PGF supports research involving regulated or potentially hazardous materials, including transgenic plants, plant pathogens, select agents, invasive materials, and hemp. Such research requires **appropriate permits and approvals** before materials are brought into or used within PGF facilities.

The **Principal Investigator (PI)** is responsible for:

- Obtaining and maintaining all required permits and approvals.
- Providing PGF with copies of applicable permits.
- Ensuring all laboratory personnel are appropriately trained.
- Following permit requirements, approved protocols, containment procedures, and applicable CSU and federal regulations.
- Ensuring personnel comply with applicable **NIH Guidelines** and biosafety requirements.

PIs or lab managers must notify PGF management **at least one week in advance** of significant experiments involving BSL-2 or BSL-3 organisms. Additional communication, training, or facility requirements may be required.

Appendix 1: Directory

Website: <https://agsci.colostate.edu/plantgrowthfacilities/>

Main PGF Email: cas_greenhouse@mail.colostate.edu

Hours of Operation: 8:00-5 M-F

Personnel

Tammy Brenner-PGF Manager Office locations:

PGF/rm 115b Phone: 491-7140

Cell: 970-986-9427

Email: Tammy.Brenner@colostate.edu

Paul Freebury- Greenhouse

Foreman Office location:

PGF/rm 115a Phone: 491-7340

Cell: 989-506-4761

Email: Paul.Freebury@colostate.edu

Gabe Sanchez-IPM Coordinator/Conservatory Curator

Office location: PGF/ rm 115

Phone: 491-7340

Phone: 585-944-8281

Email: Gabriel.Sanchez@colostate.edu

Facilities Dispatch:

Phone: 491-0077

Email: fac_dispatch@mail.colostate.edu

<https://www.fm.colostate.edu/>

Growth Chamber Maintenance Contractor:

Landon Mechanical

Email: Landonmechanical@gmail.com

Cell: 970-214-7866

Website: <https://www.landonmechanicalnoco.com/>

Agriculture Experiment Station

Gene Kelly, Deputy Director/Agricultural Experiment Station

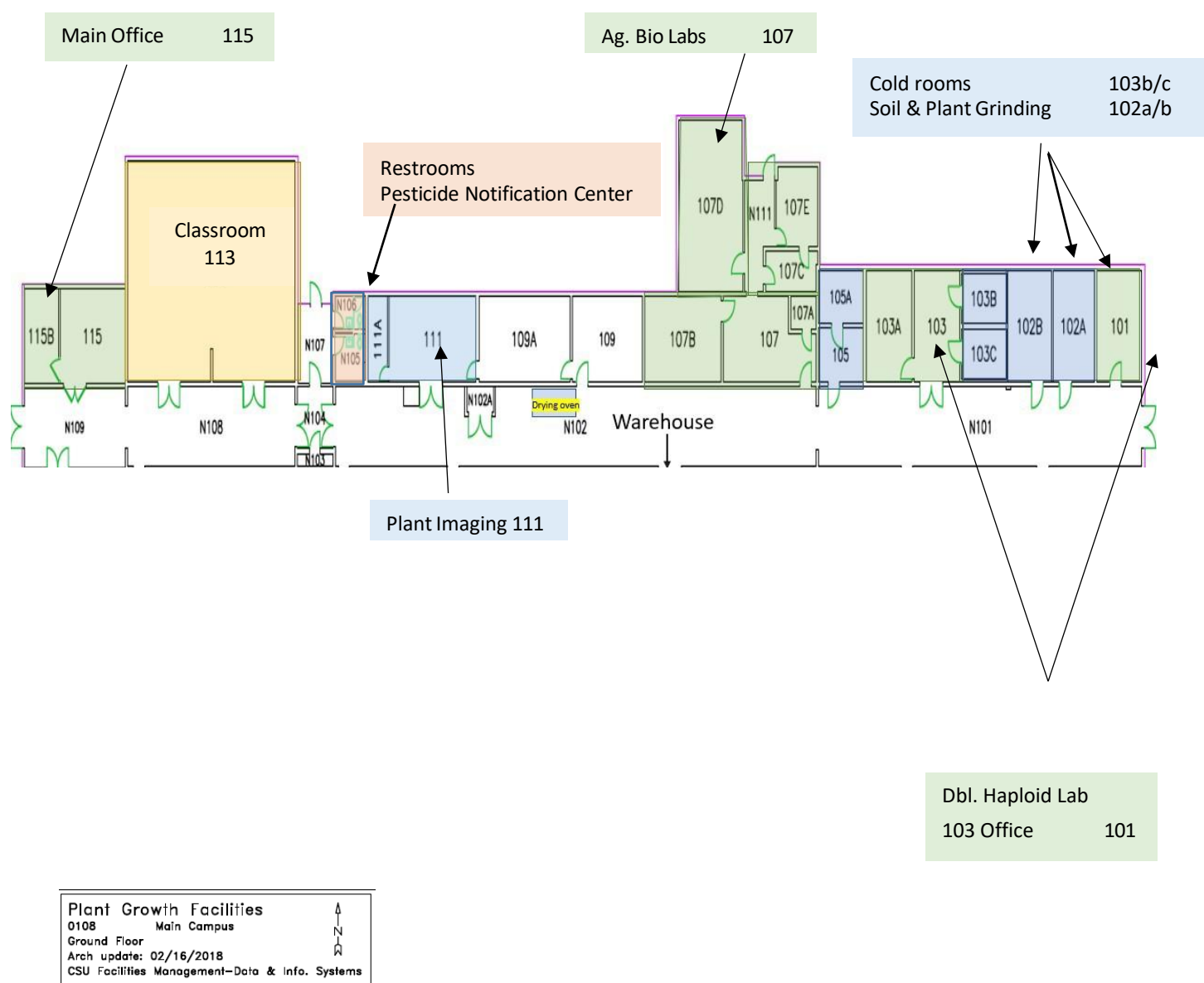
(AES) Email: Eugene.Kelly@colostate.edu

Troy Bauder, Assistant Deputy Director / AES

Email: Troy.Bauder@colostate.edu

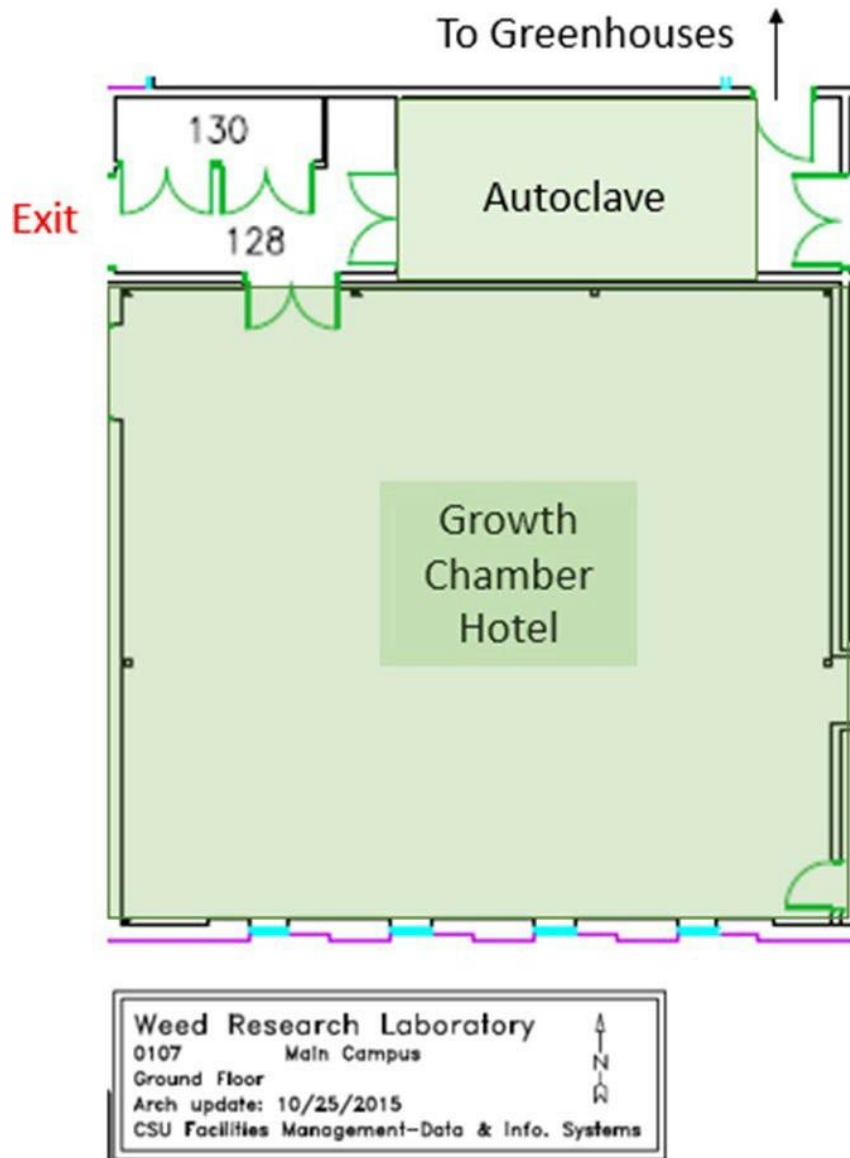
Appendix 5: Maps

Map-Main Headhouse



Appendix 5: Maps

Map-South/Growth Chambers & Autoclave



Appendix 5: Maps

Map-South bays

