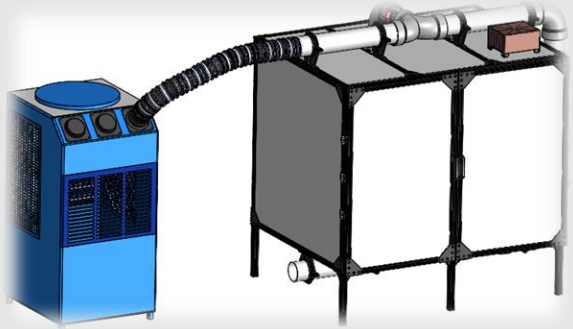
UF IFAS UNIVERSITY of FLORIDA

Blueberry BREEDING PROGRAM

Project -Growth Chamber-Rapid Breeding

Graduate Student Researcher



Unlocking the Future of Blueberries: 🌿

🔬 Imagine a world where blueberries grow **twice as fast**, thriving in a perfectly controlled environment.

Inside this compact, chamber, blueberries experience an optimized climate 24/7. With automated temperature, light, and humidity control, plants can flourish as if nature itself is accelerating their growth.

💡 **How It Works:**

✔ A custom-built chamber simulates day and night cycles, ensuring consistent development.

✔ A Raspberry Pi brain provides real-time monitoring & remote access.

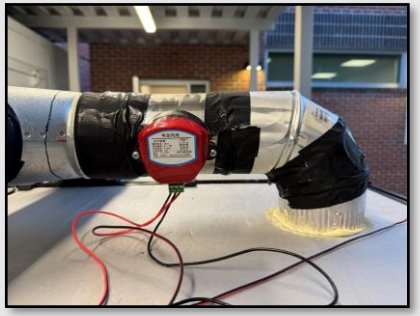
✔ Designed for precision, this innovation enhances breeding efficiency like never before.

Growth Chamber System Overview

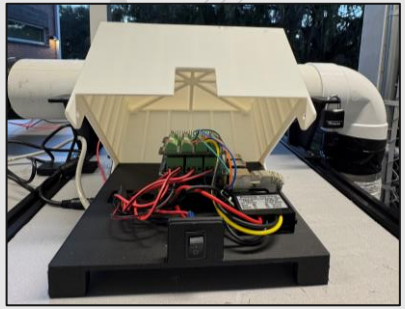
1 Climate Control & Airflow
•Integrated **HVAC system** regulates temperature and humidity.
•**Control valves** manage airflow distribution for uniform conditions.
•Efficient **air conditioning system** ensures stability in different environments.

2 Insulation & Lighting
•**Well-insulated chamber** minimizes external temperature fluctuations.
•**RGB lighting system** provides adjustable light settings for different growth stages.

3 Automation & Monitoring
•**Electronics-based automation** enables precise environmental control.
•**Temperature sensors** track real-time data for optimized conditions.
•System runs on a **Raspberry Pi**, allowing for remote monitoring and adjustments.

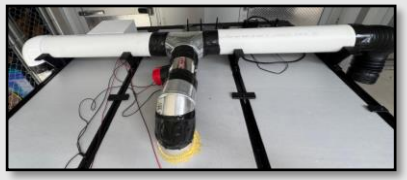


Control Valves



Electronics

Insulation



HVAC

RGB Lighting System