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In 1920, the McFadden Science Hall was opened with a more spacious greenhouse located on the roof.



The E.W.E. Schear Greenhouse was built in 1955, when the one on the roof was cleared to make room for the Weitkamp Observatory and Planetarium.



The current greenhouse is situated on the south side of the Science Center.



The Otterbein Greenhouse: Now and Through the Ages



Top: Otterbein's current greenhouse uses a highly automated series of sensors to manage airflow, temperature and light. **Above:** Flowers of Persian violet (*Exacum affine*). **Left:** Rain barrels collect rainwater to be used in watering plants. **Bottom:** Fruit of the chocolate tree and flowers of Turk's cap mallow.



The first Otterbein greenhouse was built in 1898. It was added on to the south side of Saum Hall, a former dormitory that was renovated into a science building that same year. What was described as a "temporary" fix to Otterbein's lack of a proper science building managed to stand for the next two decades before plans were made for a proper facility.

In 1920, the McFadden Science Hall was opened and dedicated in honor of the McFadden family, whose association with Otterbein lasted from 1850 until 1906. Part of this new building was a more spacious greenhouse, located on the roof of the building. This greenhouse was used until 1955, when the roof was cleared to build the Weitkamp Observatory and Planetarium.

That summer, students from the Otterbein grounds crew, under the direction of Business Manager Sanders Frye, built a new greenhouse off the south side of McFadden Hall, accessible from the basement. This greenhouse was given by the many friends and former students of E.W.E. Schear in grateful recognition of his distinguished teaching career from 1912 to 1951. The E.W.E. Schear greenhouse served the university almost continuously for just more than half a century.

By 1980, the greenhouse had fallen into disrepair. Students, under the direction of Ursula Holterman, spent that summer reglazing and washing all of the glass panels, and Jon Wathen (director of the university Physical Plant) assisted with carpentry work, helping the students to build plant benches, cold frame boxes, and a compost bin. In the late 1990s, the E.W.E. Schear Greenhouse received its final facelift when students and faculty rebuilt benches and repaired glass, and the service department made improvements to the heating and cooling systems.

In 2008, when the McFadden-Schear Science complex was renovated, the E.W.E. Schear Greenhouse was removed and a larger, more modern greenhouse was built on the south side of the new wing of the Schear Center.

This new greenhouse was built by Rough Brothers, Inc. of Cincinnati, who specialize in greenhouses and conservatories and have built such notable structures as the United States Botanic Gardens on the mall in Washington, D.C., the East Conservatory at Longwood gardens in Pennsylvania, and the conservatory at the Cincinnati Zoo and Botanical Gardens. The new greenhouse consists of two rooms for instruction and research given by generous donations from the family of Lou Ann Riseling '56 and from Thomas C. Morrison '63 and Sarah Morrison.

The new greenhouse is highly automated with a series of sensors and monitors that record conditions (e.g., temperature, sunlight, wind speed) in and outside the greenhouse and allow the greenhouse to adjust ridge and side vents, reflective shade cloths, exhaust fans, and high-pressure sodium light fixtures as required. Once conditions are set, the greenhouse manages airflow, temperature, and light to create a constant environment.

The new greenhouse is routinely utilized in the biology and environmental curriculum at Otterbein. It provides the repository of plants used throughout the curriculum to illustrate such topics as plant evolution and diversity, genetics of polyploidy, and pollen tube growth and formation. Some recent independent class projects that have utilized the greenhouse include 1) exploring the effect of plant competition, soil microflora, and vermiculture on plant growth, 2) monitoring the rates of decomposition of hydrocarbons, and 3) addressing the toxicity of species in the genus *Acer*. In addition, the greenhouse provides a place to teach grafting and propagation of woody plant species in plant biology classes.



Above: A pineapple matures in the greenhouse. **Left:** Small fruits of *Musa* sp. (banana). **Bottom:** Flower of the orchid *Teleipogon storkii*.

