



The 2022 Squire Valleevue and Valley Ridge Farms Annual Report for the Case Western Reserve University Board of Trustees

April 2023

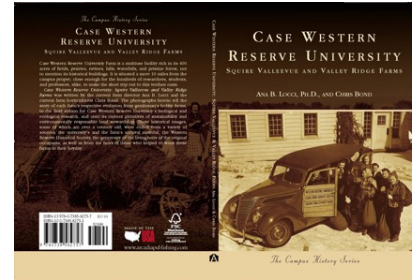
History & Background

The farm continues to be a University asset that provides a wide variety of unique opportunities for education, research, community service and recreation.

- History

- The farm came to the university as the result of five gifts:

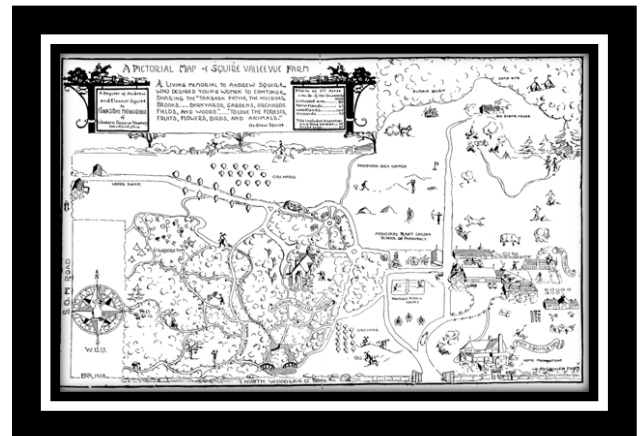
1. The late Andrew Squire gave 277 acres (Squire Valleevue Farm) in the late 1930s
2. The heirs of Jephtha Wade II gave Case Western Reserve 104 adjoining acres (Valley Ridge Farm) in 1977
3. John and Elizabeth Hollister deeded five acres to Case Western Reserve in 1984
4. And the Hollisters gave another five acres in 1995
5. In 2013, nine acres was added to the property thanks to a generous gift by an anonymous donor



- As is outlined in the Farm's history book — In his will Andrew Squire wanted the property to be cultivated and preserved as a farm by the University for educational purposes, and to be a place “where the practical duties of life may be taught; where teachers and students can come in close contact with Mother Earth.”
 - As a condition of the Wade gift CWRU must offer a report annually to the Board of Trustees of the University and to the trustees of the Cleveland Museum of Natural History with respect to the operation of the donated property in 1977.

- Site Attributes:

- Approximately 400 acres
 - Eight ponds, with several meadows and creeks
 - 200 acres of woodlots
 - Teaching and research labs
 - Art studio spaces
 - Debra Ann November Research Greenhouse
 - Three conference spaces
 - Three private residences
 - One overnight cottage that accommodates 16 students overnight



- Funding

- The Farm operations are funded through the Squire Endowment, annual capital asks, direct gifts, and small donations
 - The Biology Farm Committee, comprised of Biology faculty members, oversees the Oglebay endowment for the Biology Field Station and research infrastructure investment at the Farm

The Farm has three strategic operational areas:

1. Academic & Research Programs
2. Conservation & Sustainability Initiatives
3. Recreation & Community

In 2022 the Farm Hosted

- 79 Unique Events
- 181 total events including individual class or weekly school visits
- An estimated 7,300 Visitors

Academic & Research Program Initiatives

- **Courses**
 - 10 credit courses hosted classes at the Farm in 2022, accounting for over 1,000 student visits and 49 bus trips
 - The Farm endowment pays for CWRU class and club transportation costs
- **Continuing Education**
 - Four Siegal Lifelong Learning programs were offered at the Farm in 2022 with 24 individual classes
- **Research Related Activities**
 - Seven faculty conducted research at the Farm property from Biology and EEPS
 - Specific to the Biology Field Station six laboratories (Bagby, Benard, Burns, Cullis, Diamond, Martin) in the Department of Biology conducted research at the farm in 2022
 - Five research projects (Balman, Lenard, Neptune, Faloni, and Clayton) were funded by the Oglebay Small Grants program (see attached appendix, all were graduate students, except Clayton)
 - In 2022 the Oglebay Undergraduate Fellowship supported two undergraduate students (Lesley Armah and Noah Clayton, Fox and Burns labs) to conduct independent research
 - Burns Lab: Research of four undergraduate students (Clayton, Villafan, Dwyer, and Armah) was conducted at the farm and contributed to their research and senior capstones (e.g. BIOL388S)
 - Diamond Lab: The Farm was the main site for butterfly collections for Dr. Diamond's NSF CAREER project. This supported research for two grad students in the lab and three undergrad students. The work was presented at major conferences including Society for the Study of Evolution, Ecological Society of America, and European Society for Evolutionary Biology (as a symposium keynote).
 - Two data papers were published with data collected from the Farm:
 - Diamond, S. E.*, R. A. Martin*, G. Bellino, K. N. Crown, E. G. Prileson. 2022. Urban evolution of thermal physiology in a range-expanding, mycophagous fruit fly, *Drosophila*

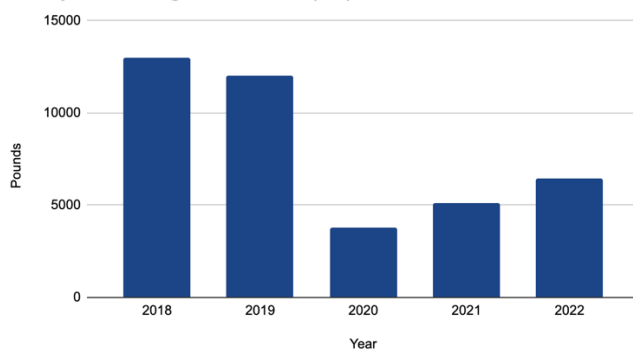
- tripunctata. Biological Journal of the Linnean Society 137:409-420. (*co-first authors)
 - Yilmaz, A. R., A. Yoder, S. E. Diamond, R. A. Martin. 2022. Adaptation to urban heat islands enhances thermal performance following development under chronic thermal stress, but not benign conditions in the terrestrial isopod *Oniscus asellus*. *Physiological and Biochemical Zoology* 95:302-316.
- Dr. Mark Green, Senior Research Associate, Department of Earth, Environmental and Planetary Sciences, College of Arts and Sciences had two EEPS student senior thesis projects conducted at the farm
 - Kyle Rickert - "Beech Leaf Disease Impact on Forest Hydrology: Insights from Micrometeorology and Sap Flux"
 - Sara Olmsted - "Microlysimeter-based Measurements of Forest Floor Condensation in a Mixed Hardwood Forest"
 - One manuscript was submitted: Rickert, Green, and Koonce. Impact of Beech Leaf Disease on Sap Flux Density and Soil Moisture, to the journal *Trees*.
- Citizen Science:
 - Several co-curricular student research projects were conducted at the Farm as a part of the Humanity Design Corp and for undergrad Senior Capstones
 - Dr. Benard held the annual Bioblitz event for CWRU students to use the iNaturalist app for citizen science cataloging event, Nature Challenge
 - The group made over 200 observations, that included documentation of 25 new species for the Farm not previously identified onsite
 - The Eastern Bluebird trail research project and documentation continued into its 21st year, with 52 boxes and several community volunteers performing weekly documentation and bird banding Spring-Summer
 - 2022 was a record year for Bluebirds - 99 fledged. The total number of Bluebirds fledged over twenty seasons is now 1,274

Conservation & Sustainable Initiatives

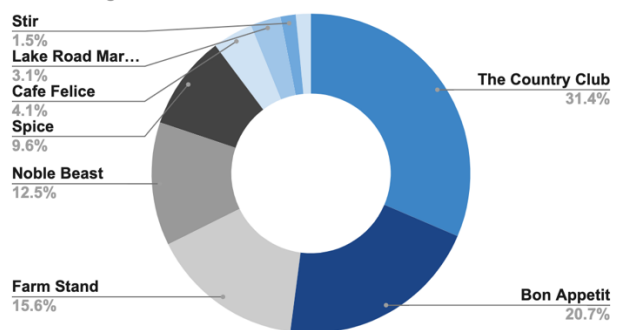
- Farm Food Program 2022 Production Yield:
 - 6,422 lbs. harvested
 - Vendors included:
 - Bon Appetit and local restaurants and stores: Spice, Felice Urban Café, Noble Beast, Stir, Lake Road Market, The Country Club, Perfectly Imperfect Produce, and three private chefs
 - Additionally, to provide community benefit when produce couldn't be sold in a timely manner it was donated to three community non-profit partners. 819 pounds was donated to Food Strong, MetroHealth's Food as Medicine Clinic, and the Community Fridge Cleveland

- 15 Farm Stand sale days were held at the Farm Greenhouse on Saturdays, July-October from 9 am-12 pm
- The Food Program staff prepared a Spring vegetable garden seedling sale held on campus in May 2022 to provide CWRU faculty and staff with plants at cost for their home gardens, it was a great success with every plant sold within an hour. This will now be an annual event.
- 66 tons/132,000 lbs of compost/food waste were captured from on campus operations, keeping the material out of the landfill and turning it into a healthy soil amendment
- The 2022 bee keeping honey harvest was bottled and provided to Harcourt House as a gift for President Kaler's events and visitors
- The food program hosted two interns in 2022
- The Farm staff continue to test electric grounds equipment and have a chainsaw, brush trimmer backpack, and a snowblower
 - The electric equipment pieces are quickly becoming staff favorites because they are lightweight, quiet, do not produce fumes while being used, and are easy to maintain

Yearly Food Program Harvest (lbs)



Food Program Sales 2022



Recreation & Community

- The 12th annual student focused event, Farm Harvest Festival returned in September 2022, hosting over 1,000 CWRU students for a day long Farm and sustainability focused experience
- The Hopewell Therapeutic Farm held their annual Solstice Fundraiser at the farm for the first time in June 2022 with an estimated 350 attendees
- The CWRU Cross Country teams returned for Fall meets and practice runs
- The Case Amateur Radio Club hosted their annual ham radio Field Day at the Pink Pig, the first one since 2019
- Community members, neighbors, and alumni continue to use the Farm seven days a week, from dawn to dusk, for recreation including hiking, dog walks, cross country skiing, and picnics

“I desire it cultivated and preserved as a farm for educational purposes, and to be a place where the practical duties of life may be taught; where the teachers and students can come in close contact with Mother Earth”.

- Andrew Squire, 1932

