

Case Western Reserve University Farm  
Squire Valleevue and Valley Ridge Farms  
2017 Annual Report



*Flora Stone Mather College Students at the Farm 1940's*

*“ to be 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 1934.*



*Case Western Reserve University Students at the Farm 2017*

**The Case Western Reserve University Farm  
Squire Valleevue and Valley Ridge Farms  
2017 Annual Report**

**Stephen M. Campbell**, Vice-President for Campus Planning and Facilities Management

**FARM STAFF**

**Ana B. Locci**, Director and Department of Biology Adjunct Assistant Professor

**Patty Gregory**, Department Coordinator

**Ryan Bennett**, Farm Food Program Coordinator

**Alan Alldridge**, Farm Associate 2

**Matt Burtonshaw**, Farm Associate 2

**Ian Mungall**, Farm Associate

**Shane Brown**, Facilities Group Leader

**Joe Miller**, Facilities Crew Assistant

**Cullin Brown**, Facilities Crew Assistant

**Emily Pek**, Farm Associate

**BACKGROUND**

The Case Western Reserve University Farm, located on Fairmount Boulevard in the Village of Hunting Valley, is a 400-acre property that includes within its boundaries forests, ravines, waterfalls, meadows, ponds, a self-contained natural watershed, seven residences, many other structures, and several miles of roads and trails. The farm came to the university as the result of five gifts: The late Andrew Squire gave 277 acres (Squire Valleevue Farm) in the late 1930s; the heirs of Jephtha Wade II gave Case Western Reserve 104 adjoining acres (Valley Ridge Farm) in 1977; and John and Elizabeth Hollister deeded five acres to Case Western Reserve in 1984 and another five acres in 1995. In 2013, nine acres were added to the property thanks to a generous gift by an anonymous donor.

In his will Squire wanted the farm to be 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.

As a condition of the Wade gift, the university officers 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.

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

## **OPERATIONS AND FINANCES**

Since 2011, Stephen Campbell, vice president for campus planning and facilities management, reports to the Division of Administration regarding the overall management of the farm.

Ana Locci, farm director and adjunct assistant professor in the Department of Biology, manages the farm operations, staff and finances. Locci reports directly to Stephen Campbell. Shane Brown, farm facilities group leader, is responsible for the daily on-site supervision of the farm and reports directly to Locci. Joe Miller and Cullin Brown work with Shane Brown on the maintenance of buildings and grounds. Patty Gregory is the department coordinator and Manor House program administrator. Ryan Bennett was hired in spring as the Farm Food Program coordinator. Other staff members with the expanding Food Program include Alan Alldridge, Matt Burtonshaw, Ian Mungall and Emily Pek. Summer students working at the Farm were undergraduate student Corey Kopchak and Kyle MacDonald to assist the maintenance staff and graduate student Rebecca Pannone to assist the Farm Administration Office.

## **ACADEMIC AND RESEARCH PROGRAMS**

Academic activities at the Farm continue showing a significant increase. The research areas have shown the greatest increase followed by courses and student life activities.

### ***Undergraduate and graduate courses***

Academic programs at the University Farm have greatly expanded during the last sixteen years. In 2017, the farm's indoor and outdoor facilities were used by 15 credit courses at the undergraduate and graduate levels including courses in the fields of ecology, geology, entomology, herpetology, introduction to biology, engineering, nutrition, nursing, social studies, SAGES classes and visual arts, as well as training courses for the nursing program and language immersion programs. Over 2,245 students and faculty visited the farm to teach or take credit classes.

Undergraduate and graduate courses offered included eighteen lab sections with over 650 students enrolled in the Genes and Evolution (BIOL 214), Aquatic Ecology Laboratory (BIOL 339), Ecophysiology of Global Change (BIOL 353/453), Introductory Entomology (BIOL 318L/BIOL 418L), Herpetology Lab (BIOL 305), Public Health Nutrition (NTRN 528), Materials and Society (EMSE 110), MSASS Community Practice for Social Change (CPSC), the Dorothy Ebersbach Academic Center for Flight Nursing Summer Camp, and several art classes including Raku Ceramic Workshops (ARTS 214/314, ARTS 339 and ARTS 602), and Photography 220.





**The Genes and Evolution (BIOL 214) and Aquatic Ecology Laboratory (BIOL 339) Instructors**



**Public Health Nutrition (NTRN 528) Farm visit**





**The Dorothy Ebersbach Academic Center for Flight Nursing Summer Camp,**



### **Continuing Education**

The Laura and Alvin Siegal Lifelong Learning Program (LASLL) offered seven continuing education courses year-round during 2017. *The Summer in the Country program* offered 7 courses: writing poetry, writing creative nonfiction, nature walks, bird watching, outdoor painting, foraging, and a history class on the Wade family. Each class had between seven and 18 participants resulting in 310 person-visits to the farm during the months of May to July. During fall the LASLL office offered three classes including outdoor painting, nature walks and foraging classes.

The Farm administration offered continuing education classes during winter and fall, including beekeeping, mushroom growing and foraging.



**Continuous Education classes at the Farm**

## **Research**

The number of faculty and students actively doing research at the farm continue increasing. Research areas include ecology, environmental studies, engineering and conservation. Projects included graduate, undergraduate capstone and high school senior research. Some of the research projects at the Farm are supported by the Oglebay Trust.

Active research projects onsite include: Studies on salamander populations and movements by Michael Benard, Department of Biology associate professor. Professor Benard's main research study organisms are amphibians. His research focuses in importance of determining why amphibians are declining and how to stop those declines. Amphibians provide important ecological services and they can also serve as a sensitive indicator of environmental change that might directly harm humans. Dr. Benard's research lab consists of graduate students Hilary Rollins, David Dimitrie and Kasey Dananay.

Another ongoing project initiated by Dr. Benard consists of the characterization of the farm's biodiversity using the iNaturalist app. So far over 1,346 observations and 546 species have been recorded and identified by name, location and date. Five researchers are participating in the data collection including: Mike Benard, Ana Locci and Dave Dimitrie.

Jean Burns, Department of Biology associate professor, continues her research program on the mechanisms governing community assembly and biological invasions in plant communities. Dr. Burns' lab consists of graduate students Colin Cope, Andrew Lance, Jennifer Murphy, Grant Yu Liu, and Anne Osvaldsson. Andrew Lance started a new project on forest restoration at the Farm.



**Dr. Jean Burns working on plant competition experimental plots**





**Graduate student Andy Lance forest restoration project**



**Jenifer Murphy, PhD student, working on her Multiflora competition experiments**



Christopher Cullis, Department of Biology professor, and his graduate students are working at the Debra Ann November Research Greenhouse growing flax plants to study the mechanisms by which DNA within the cell can change rapidly, particularly in response to external stimuli.

Sarah Diamond, Department of Biology assistant professor, research is focused on understanding and predicting biological responses to novel environments. Through a combination of field and laboratory-based experiments and statistical modeling, Diamond's lab examines how organisms cope with environmental novelty and global change.

Ryan Martin, Department of Biology assistant professor continues his research at the farm during 2017. His PhD student, Michael Moore, is studying the local dragonflies' population metamorphism.



**Ph.D. student Michael Moore is studying the local dragonflies' population metamorphism.**

Joseph Koonce, Department of Biology emeritus professor, has continued his efforts to create a high-resolution environmental monitoring network at the farm to improve understanding of the interaction of environment and populations of animal and plant species at the scale of the individual organism for research and teaching. The Oglebay

trust awarded a five-year grant for \$5,000 to update and expand the long term monitoring programs at the Farm.

David Burke, assistant scientist at the Holden Arboretum and adjunct assistant professor of the Department of Biology, continues studying phosphorus limitation and soil microbial community composition in hardwood forests of the farm.

Post-doc, Lacy Chick, continues studying how acorn ant populations have the ability to keep pace with rapid changes in climate. The predictive physiological ecology tries to understand the basis of biotic responses to these environmental challenges by quantifying the contributions of canalization, phenotypic plasticity without genetic change, and evolved plasticity to changes in physiological traits under different environmental conditions.

Devastation of the American Beech forests by the Beech Leaf Disease (BLD) is being monitored by Drs. Ana Locci and Joseph Koonce using drone photos and video as well as field samples at several sites of the Farm primary forests.

### **CONSERVATION PROGRAMS AND GREEN INITIATIVES**

The conservation programs continue to expand at the farm. The programs are focused on the expansion of the teaching opportunities while increasing habitat for wildlife and reducing energy consumption.

The natural gas fueled bus acquired by the university to provide transportation to and from campus and farm has been a great success. This service meets the needs for academic, volunteer, and recreational activities. During the 2016-2017 academic year, a total of 116 round trips were provided for 3,433 riders. Transportation served 48 programs including credit courses, volunteer groups, student groups, and special events.

The Farm Food Program (FFP) continues to provide new educational opportunities for faculty and students by studying local food production in a sustainable way using methods consistent with organic farming. During the 2017 spring, summer and fall, labor was provided by farm staff, (Alan Alldridge, Matt Burtonshaw, Ian Mungall, Emily Pek and Ryan Bennett) and many other students, alum and staff volunteers. Volunteer hours accounted for about five percent of the total labor. The farm produced 11,800 lbs. of fresh food for the Case Western Reserve campus during the 2017 harvest season (over 91,000 lbs. since 2010), either in direct sales to Bon Appetit, farm stands and Cleveland area restaurants including Trentina, Sara's Place, Café Avalaum, Black Pig, Coquette, Table 45, Spice Kitchen, Marigold, Noble Beast and the Chagrin Valley Hunt Club. Local academic institutions that visited the Farm to tour the Farm Food Program facilities included: John Carroll University, University of Akron, Hiram College, and Lorain County Community College.





**Farm Food Program Products and growing areas 2017**





**Ryan Bennett, Food Program Coordinator  
at campus BA event “Meet our local Farmers”**

The collaboration with local compost company Rust Belt Riders greatly increased the amount of recycling material and compost quality and quantity. With the diversion of over 60,000 lbs. of campus green to the Farm compost piles.



**Farm compost piles**



Teaching and research opportunities provided by the FFP in 2017 included visits by SAGES courses, Engineering classes and Public Nutrition classes. The FFP offered eight seminars for the incoming freshman class. The FFP is in collaboration with CWRU Faculty member Wyatt Newman on the development of an automated crop seeding robot. Wyatt Newman's graduate student, Ananya Ananya, worked at the Valley Ridge Farm gardens collecting data and images of plants vs weeds over the summer. Ananya focused on specific crops grown at the VRF gardens to obtain data both before and after weeding.



**Prof. Wyatt Newman and graduate student, Ananya Ananya, collecting data for their an automated crop seeding robot study.**

The FFP continues to provide support by growing plants for the on-going research of both Dr. Nicole Steinmetz and Dr. Mark Willis. Support for research by Dr. Chris Cullis and Dr. Jean Burns continues as well. The FFP provided support to several Farm-sponsored, day-long symposiums including beekeeping. Since October 2015, the FFP working with the campus Sustainability Office and Bon Appetit chefs, has been able to compost on average 1,600 gallons of food scraps per month generated from five campus sites, including the pulper at the Tinkham Veale University Center. A new company was hired

to help manage the compost program. The Rust Belt Riders assist with the delivery of the green materials from 6 campus dining units, and training and consulting campus kitchen's on compost management.

The Eastern Bluebird Trail, in its sixteenth season, includes 50 Peterson houses located around the research ponds and nearby fields. Alumnus Bill Jirousek, University staff member Betsy Banks, and Farm neighbor Bruce Resnick, all volunteers, checked the trail regularly during the breeding season (April - August), recorded data, and banded hatchlings. Many of the Farm's Eastern Bluebirds wintered over and the first Bluebird egg was laid on March 30, 2017; the last Bluebird fledged on August 24, 2017. A total of 144 birds fledged (133 in 2016), 85 Bluebirds (68 in 2016), 39 Tree Swallows (42 in 2016), and 20 House Wrens (23 in 2016). It was a record year for Eastern Bluebirds. The total number of Bluebirds fledged over sixteen seasons is now 853. Trail data, recorded and analyzed at the Farm as part of a long-term study, continues to be included in the Holden Arboretum's and Cornell University's (national database) totals.

### ***Facilities Upgrades***

Yearly facilities improvements continue largely focusing on projects to reduce energy consumption and enhance the teaching and research facilities.

Much needed improvements were done to two of the farm's rental properties: A new heating and cooling system was installed in the May House, and updated kitchen and new flooring in the Carriage House.

A paving project was completed for the Pink Pig and Main Lab parking lot, and driveway leading to the Green Barn, Apiary and research areas.

The November Meeting Center improvements included renovations to two restrooms, a new tile floor in restrooms and main hallway, and replacement of eighteen outdated window blinds with new light filtering roller shades.

Some of the Greenhouse improvements included repairs to the roof vents, replacing old, leaky steam pipes in the basement ceiling, and a new tile floor in main headhouse classroom.

The installation of new carved redwood directional signs will help visitors to better navigate around the farm property.

Several vehicles were purchased including a minivan, all terrain trail vehicles, skid steer, brush hog and mower.

To protect ongoing research in the farm's wooded areas, approximately 3,000 feet of split rail fencing was installed along Cedar Road property lines.





**Split rail fencing was installed along Cedar Road property lines.**

## **STUDENT LIFE**

Student-initiated scheduled use of the farm facilities continues to be a popular site for students to host their events. Fifty-three student groups reserved the facilities in 2017. The student reservations included groups using the Pink Pig, November Meeting Center, Manor House, Kutina Classroom, picnic grounds, Green Barn, and Silo Theater. Among the student groups using the facilities were: Alpha Chi Omega, Alpha Phi, Alpha Phi Omega Sorority, Alpha Kappa Psi, Anthropology, Beta Nu of Theta Chi, Biology Graduate students, Bioethics Graduate students, Biomedical Engineering, Campus Crusade for Christ, Case Concert Choirs, Case University Singers, , , CWRU Film Society, School of Medicine, Women and Men's Cross Country teams, Track team, Cycling Club, College Scholars Program, Delta Sigma Theta, Delta Upsilon, Delta Psi Omega, Delta Tau Delta, Geological Society, German Immersion, Graduate Student Senate, Iranian Academic Assoc., Inter Society Council, Inter-Varsity Christian Fellowship, International Student Fellowship, Material Science Graduate students, Law School, Master of Public Health (MPH), MGSA, MSASS, Phi Delta Upsilon, Beta Theta Phi, Phi Kappa Psi, Phi Kappa Tau, Phi Beta Phi, Phi Gamma Delta, Phi Sigma Rho, Phi Mu Sisterhood, Pi Beta Phi, Nursing School Graduate students, Amateur Radio Club, Zimmerman Lab Graduate

students, Physics Grad Students, Organizational Behavior, Students President's Round Table, Sigma Phi Epsilon Fraternity, Sigma Psi Sorority, SMDEP, Student Sustainability Council, Tau Beta Pi, Theta Chi Fraternity, Turkish Student Association, WSOM

On September 30th, the eighth annual "Farm Harvest Festival" event took place at Squire Valleeview Farm. The event was co-sponsored by the Case Western Reserve University's Student Sustainability Council (SSC) and the University Farm. The festival was intended to expose students to activities at the farm and raise awareness of the Farm Food Program. The event guest list included alumni, staff, faculty, graduate and undergraduate students, and their families. The attendance was estimated to be around 1,500. The fundraising effort was headed by SSC's Co-Chairs Cara Fagerholm and Alan Chen. Over \$5,000 was raised to support the festival. SSC also coordinated volunteers from other student organizations. The council members reached out to the university community by making class announcements, coordinating the volunteer groups, organizing student performance groups, sending emails, posting event fliers and promoting word-of-mouth. During the event SSC members welcomed visitors, and helped with the many indoor and outdoor activities. Event activities included corn-hole tournament, farm animal's petting zoo, cooking demonstration by Bon Appetit chefs, knitting classes, mushroom cultivation demonstrations, research projects, making lip balm and sea salt scrub. Other outdoor "hands-on" activities included a tall grass field maze and planting and taking home herb plants.



**Farm Harvest Festival Hay Rides 2017**





**Tall Grass Field Maze**



**Farm Harvest Festival SSC Student Leaders**

Orientations for IMRP Cleveland Clinic, School of Dental Medicine, Anesthesiology and Perioperative Medicine, and Case Western Reserve's new faculty also took place at the farm's picnic grounds. These orientation picnics introduce the new faculty and professional schools to the farm facilities and its usages.

Several student groups continue to use the farm for special projects as part of their extra curriculum activities. The farm provides unique space and opportunities for outdoor projects.

### **FACILITIES USAGE**

All of the facilities continue to be a popular destination for university classes, department events and meetings, student group meetings and retreats, and outreach programs. Events hosted at the various facilities range from international conferences and outdoor training programs to small weekend retreats. The historic facilities are not only excellent venues to host such events, but hold many memories for university alumni.

### **COMMUNITY SERVICE**

As part of its strategic plan, the university is committed to encouraging other organizations to use the farm. Area museums, academic institutions, local schools and community service groups are encouraged to use the farm's facilities, property and research areas for academic purposes.

The School Visitation Program is a hands-on program designed to reinforce concepts and field methods in the areas of environmental science, food production and ecology for local middle and high school students. During the academic year 2016-2017, the farm hosted local school visits with over 300 student-visits, 25 teachers and 16 chaperones. The schools participating were Shaker Hts. Middle School, Hathaway Brown, Laurel, and Beachwood.

During the academic year 2016-2017, Beachwood Schools offered the "Outward Boundless Bryden Elementary Program", an after-school club that comes to the Farm each week with groups of students in Kindergarten and 1st Grade. During their visits they explore and play in the natural world. Beachwood Bryden Elementary students were able to hike in the creeks, roll in the grass, climb in the trees, play in the snow, and slosh through the mud - rain or shine. Led by Beachwood staff members Wendi Bomback and Jason Downey, the kids had the freedom to play creatively, navigate terrain, be social and challenge themselves physically. The students love the opportunity, which has given them direct access to a natural environment in which to study, learn and play. The program expanded for the 2017-2018 academic year to include 2<sup>nd</sup> and 3<sup>rd</sup> graders from Beachwood Hilltop School.

Gilmour Academy visited the farm on October 6, 2017, with 50 students and 6 adults to conduct a macroinvertebrate sampling program at the Farm Ponds. The project was supervised by Jacki Zevenbergen, Stormwater Educator at the Cuyahoga Soil and Water Conservation District, in partnership with Chagrin River Watershed Partnership, Tinkers Creek Watershed Partnership and West Creek Conservancy.



Hathaway Brown School and Case Western Reserve continued their collaboration and usage of the farm facilities. During the academic year 2016-2017, 45 events were hosted at the farm facilities bringing more than 1,784 students, staff and guests to the farm. Their use of the farm facilities included the November Meeting Center, Pink Pig, Kutina Classroom, Manor House, picnic grounds and outdoor space. Visits included environmental programs for second, fourth and fifth graders; 11th and 12th-grade AP biology class field trips; middle school aquatic education; creative writing camps; ASPIRE Leadership mentoring program; Early Education student hikes, weeklong retreats and picnics; faculty and staff professional meetings and social events.

## **GRANTS AND GIFTS**

A Farm Annual Fund to raise funds to support new farm initiatives and programs was initiated in 2005. By means of this fund, individuals can now contribute directly to the farm during the university's annual fund drive. To date, \$52,000 has been raised thanks to the generosity of farm friends and neighbors. This fund is already being used for new initiatives such as trails brochures, green initiatives and support for the Farm Visitation Program.

Two new benches were generously donated to the farm in 2017. There have been a total of 34 benches donated to the farm by families of alumni, faculty and staff. This program helps to improve the farm's outdoors while providing a new funding source to update the facilities.

Other generous donors for the Farm Food Program included the Ivy Garth Seed Company for their continued donation of seeds

## **Thanks for Your Generous Support to the Farm**

Your continuous support has allowed us to develop new academic programs and to update our teaching and research facilities. Thanks again for your generosity. Your philanthropy for the farm can be expressed in several ways including:

- **Farm Annual Fund:** Gifts received in any amount to provide unrestricted income to develop new academic and conservation initiatives, as well as small facilities improvements.
- **Farm Bench Dedication Program:** A \$2,000 bench donation would help to update our art teaching facilities and to improve our outdoor areas at the farm. For more information, please go to: [studentaffairs.case.edu/farm/support/bench.html](http://studentaffairs.case.edu/farm/support/bench.html)
- **University Farm Endowment:** This fund was established in 2007 to help improve and maintain the property with more than 20 structures and 389 acres of green space. Many of the farm buildings are over 100 years old and require extensive upkeep to preserve their rich history.
- **Planned Giving:** A planned gift to the farm would provide a benefit to you and your family by bringing immediate and deferred tax advantages to both you and your heirs.

- Memorial Tree Donation: A \$1,200 donation will plant a lasting memorial at the Farm. Gift includes the cost of a tree, selected by the Farm horticulturist, and memorial plaque. Funds for this program also help to support Farm Food Program initiatives and School Visitation Program.

If you would like to contribute or have questions about any of these opportunities, please contact us at 216.368.0274 or visit our website and Facebook pages.

