

# Agriculture

Annual Report 2016/2017

In 2017 Warren Wilson College was distinguished as the “Top College Farm in the US,” owing to our long history, immersive student experience, and success in bringing home-grown food to students’ plates.





# Letter from the Director.

Dear WWC Community,

It has been a year of transitions and growth for agriculture at Warren Wilson College. In 2017 WWC was distinguished as the “Top College Farm in the US,” owing to our long history, immersive student experience, and success in bringing home-grown food to students’ plates. The Farm and Garden shifted from the Work Program to Academic Affairs, and are jointly supervised by a faculty Director of Sustainable Agriculture Programs. That’s me, Mary Bulan. It has been an honor to join this dedicated and welcoming community. Two interim staff positions: Garden Manager Ben Mackie and Assistant Farm Manager Virginia Hamilton were awarded well-deserved permanent employee status. We inaugurated the Agriculture Programs Advisory Committee, with diverse membership of 12 students, faculty, and staff, to help integrate and develop agricultural programming that grows our community and furthers the liberal arts mission of the College.

Ben Mackie and the Garden Crew rotated into new fields in Sawmill and the Fortune property, allowing cover cropping and rest for vegetable fields that were experiencing pest pressure and nutrient imbalances. While continuing to supply fresh produce to Gladfelter Dining Hall and Cowpie Café, and running a weekly on-campus farmer’s market and summer CSA, the Garden also piloted a popular “Break Boxes” program. Community members purchased a boxed selection of seasonal foods produced at the Garden, including heirloom “Bloody Butcher” commel, to bring home for Fall and Thanksgiving Breaks. Students on the Bee Crew caught two swarms this spring and also successfully applied for WWC to earn designation as a “Bee Campus USA”.

Asher Wright, Virginia Hamilton and the Farm Crew ran three lively and successful meat sales, serving hundreds of customers and grossing over \$110,000. The Farm continues to supply campus Dining and offer the community high quality, sustainable meat and eggs at affordable prices. Another highlight from the Farm is a new partnership with Sierra Nevada brewing company in Mills River. The brewery’s restaurant began buying meat from the farm and has contracted for a hog a week from the WWC farm. The brewery sponsored the senior research project of Sustainable Agriculture concentrator and Farm Crew member Julia Harvey, who studied the use of spent brewer’s yeast in swine feed. This partnership is one example of WWC students working with the community to improve sustainability and nutrient cycling in the local food (and beverage) system.

This spring the Farm and Garden had the honor to host candidates during the College presidential search. Our new President Dr. Lynn Morton expressed her excitement for powerful student learning experiences in agriculture at Wilson. We look ahead to building on strong roots and traditions, and innovating to educate future leaders in food and farming. Here’s to another year of work, learning and community-building on the land. Thank you for all your support of this special place.

Sincerely,



Mary Saunders Bulan









## About WWC Agriculture.

Warren Wilson College has cultivated the campus since its inception as the Asheville Farm School in 1894. Our current farming resource includes approximately 280 acres in production, well-established infrastructure, and 4 full-time employees. For many students, agricultural work and learning form the core of their distinctive liberal arts education at Warren Wilson. Production operations and student work crews are organized under the Farm (most livestock and field crops) and the Garden (vegetables, herbs, fruits, draft horses and bees). Sustainable Agriculture is a concentration within the Environmental Studies major, and is one of the largest courses of study at the College. Our graduates go on to careers in food, farming, natural resource management, and many other fields that value persistence, problem-solving, and an unstoppable work ethic.

# Production.

WWC agriculture supports diverse production operations ranging from livestock to field crops, vegetables and herbs.

## WWC 2017 Production highlights:

**\$229,000+**

Dollar value of sales from the Farm and Garden.



**65**

Different vegetable crops planted in the Garden.



**18,062**

Pounds of vegetables harvested.



**23**

Acres of fescue, orchardgrass, perennial ryegrass, alfalfa, and clovers established for forage.



**2,470**

Bushels of corn harvested.



**14**

Weeks of the Wilson summer CSA.



**325**

Piglets born in fall and spring.



**8**

Varieties of Winter Squash planted.



**171**

Grazing calves, cows, heifers, steers and bulls at the Farm.



**2**

Working Belgian draft horses.



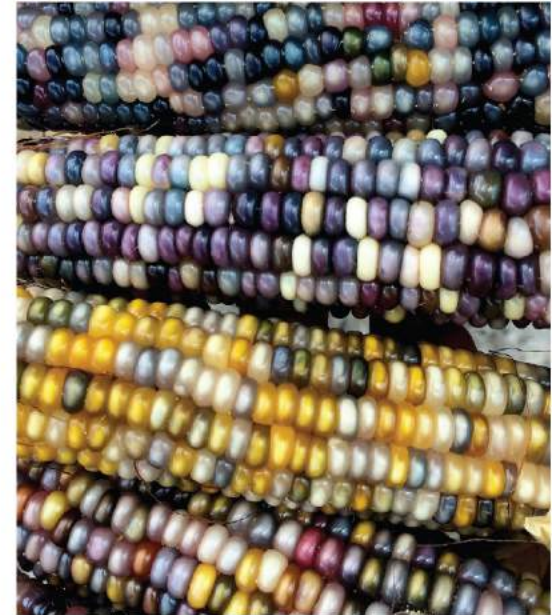




Thomas Smythe, Farm Crew.

## Infrastructure & Other Capital Improvements in 2016/2017.

- Purchased Cold Plate Refrigeration Truck for deliveries.
- Installed 250 Gallon Circulating Yeast Tank (on loan from Sierra Nevada).
- Installed efficient Mirafont waterers in Murphy's, Lower Field, and Hog Bottom.
- Installed improved shelving and lights in walk-in freezer.
- Welded and Installed 8 efficient gravity feeders in Upper House, that improve conservation and measurement when feeding.
- Built 25-foot-long hay feeder in white barn for sheep.
- Repainted and refurbished Lilliston 4-row cultivator.
- Poured concrete slab for farm storage building.



# Working Lands, Working Hands.

The 44 student workers at the farm and garden comprise 15 different majors at WWC. Over 50% of these students major in one of the Environmental Studies fields. Student workers rate their experience in agriculture as a highlight of their Wilson education.

CREW NAME	NUMBER OF STUDENTS
Garden General	6
Herb	5
Horse	5
Bee	5
Garden Chicken	3
Farm Pig & Chicken	5
Ruminant	6
Meat Sale	2
General Farm	7



## Students answer: What do you enjoy?

I love how much my crew feels like family. Working on a farm is a pretty big undertaking, and it requires a group of people who share a deep connection and really believe in one another. Managing the Farm wouldn't be possible if we didn't all trust and support each other.

— *Thomas Smythe*

One thing that I have enjoyed about being on farm crew is the passion and energy that every student brings to work. Everyone is excited to take on projects and figure out how to do them right, ... there is no better way to connect to one's place than by putting in the effort to grow food holistically, and resiliently. All workers, regardless of gender, age, wealth, experience, and background are given agency on the farm which gives them power, confidence, and motivation...

— *Georgia Ackerman*

## Lessons Learned.

I have gained skills I had never imagined possible— driving tractors, herding bulls, and assisting with births. I have been so empowered by my experience on the farm, and it has truly shown me I am capable of more than I ever thought.

— *Rhys (Emily) Burns*

Something I have learned on farm crew patience with others, whether they're a pig or a coworker, but also patience with myself when learning new things.

— *McKenna Mullis*

I have learned things on Garden crew not only about agriculture and herbalism but also about myself. It has taught me how to work hard and how to care about place for the sake of the place. I've learned to identify a ridiculous number of plants and the importance of food and community. It is because of the garden crew that I plan to work in agriculture after graduating!

— *Hannah Gibbons*

I have learned how to prune trees and build picnic tables!

— *Jake Garner*





# Majors Represented on the Farm and Garden Crews.

- ART
- BIOLOGY
- CHEMISTRY
- CREATIVE WRITING
- ENGLISH
- ENVIRONMENTAL STUDIES:  
[Sustainable Agriculture, Conservation Biology, Environmental Education, Ecological Forestry and Water & Earth Resources]
- GLOBAL STUDIES
- HISTORY & POLITICAL SCIENCE
- INTEGRATIVE STUDIES
- MATHEMATICS
- MODERN LANGUAGES
- OUTDOOR LEADERSHIP
- PSYCHOLOGY
- SOCIAL WORK
- SOCIOLOGY & ANTHROPOLOGY



2016/2017 Farm Crew.

**As of the close of spring semester 2017, there were 29 students who had declared ENVS: Sustainable Agriculture as their major. Eight of those graduated in May 2017.**

Of those 29, there were 23 who were participating in the work program in spring 2017.

- 6 on Farm Crew
- 6 on Garden Crew
- 11 on other crews: Blacksmith, Construction Services & Rentals, Design & Photography, Fiber Arts, Landscaping, Maintenance Services, Motor Fleet, Recycling/Solid Waste, and Residence Hall Maintenance.



# Fields of Learning.

The farm and garden hosted labs and tours from 11 courses in the Environmental Studies, Biology and Art departments.

## Course Highlights

- ART 103 **Painting** Professor Lara Nguyen took students to the farm and garden for on-site landscape painting.
- BIO 322 **Genetics** Professor Alisa Hove included a quantitative genetics farm tour, led by farm manager Asher Wright. The class discussed artificial selection and plant/animal domestication.
- ENS 115 **Perspectives in Environmental Studies**, Professors Amy Knisley, Mark Brenner and JJ Apodaca discussed water use and conservation in agriculture.
- ENS 126 **Intro to Environmental Education**, and ENS 426 **Environmental Education Methods and Materials** Professor Mallory McDuff used the garden & farm as a focal point for organizing field trips/hands-on lessons for 80 first graders and 20 high school students, who all come to WWC for experiential lessons. Wilson students designed lessons at Community High School and co-taught with high schoolers for the first graders. The WWC garden/farm serves as a foundational experience in curriculum design and implementation.
- ENS 201 **Applied Ecology** Professor Mark Brenner has done soil Organic Matter analyses for more than 10 years on one field.
- ENS 341 **Agroecology** and 330 **Soil Science** Professor Mary Bulan conducted labs on weed seed banks, grazing intensity and agricultural microclimates. Her students studied soil profiles and effects of management on infiltration, soil structure, and soil ecology.



Rhys (Emily) Burns, Farm Crew.



# Student Research.

Students conducted a variety of research projects at the Farm and Garden.  
Senior research presented in 2016/2017:

- The Effect of ACC Deaminase-producing Rhizobacteria on the Flower and Fruit set of *Cucumis sativa*, Angela Lombardo. **Committee:** *Alisa Hove, Jeff Holmes, Robert Hastings.*
- Korean Natural Farming Soil Inoculant IMO4: Its Effects on Agricultural Crop Yield and Soil Chemistry, Rose Bruce. **Committee:** *Mark Brenner, Alisa Hove, Jeff Holmes.*
- An analysis of the feasibility for implementing a rainwater catchment system at WWC garden, Whitney Brotherton. **Committee:** *Robert Hastings, Amy Knisley, David Coffey.*
- Effect of Cattle Trails on Soil Compaction Under Two Methods of Management Intensive, Rotational Grazing, Georgia Ackerman. **Committee:** *Robert Hastings, Bob Eckstein, Mark Brenner.*
- The effect of different feeds on the growth and mineral composition of black soldier fly larvae, Hayden Holbert. **Committee:** *Mark Brenner, Robert Hastings, Steve Cartier.*
- The Effects of Brewer Yeast on Growth Performance and Meat Quality in Swine, Julia Harvey. **Committee:** *Robert Hastings, Mark Brenner, Amy Knisely, Asher Wright.*
- Flow Regime and Water Chemistry from the Warren Wilson Pig Pond to the Swannanoa River, Caroline Jahn. **Committee:** *Robert Hastings, Mark Brenner, Steve Cartier.*
- Effects of Agricultural runoff on the WWC campus, Daniel Varick. **Committee:** *Mark Brenner, Dave Ellum, Robert Hastings.*
- Effects of Culturing Indigenous Microorganisms on Plant Productivity and Soil Quality in Vegetable Crop Production, Matthew Kessler. **Committee:** *Alisa Hove, Mark Brenner, Jeff Holmes.*
- Is Wilson Working? The Influence of Gender on Warren Wilson Work Crews, Sophia Strickler. **Advisors:** *Christey Carwile and Laura Vance.*

# Growing Community.

## Community highlights by the numbers:

1,200

pounds of meat donated to 7 community partners.

509

volunteer hours from students and the community at the Garden and Farm.

62

number of community events hosted.

37

number of tours hosted.

16

workshops hosted.

4

student community engagement projects completed (PEGs).

## Off-campus partnerships highlights:

Last fall, senior Sustainable Agriculture major and Garden crew member Angela Lombardo established a community partnership with a local non-profit, Bounty & Soul. Bounty & Soul is dedicated to providing free health and wellness services to underserved members of the Swannanoa Valley community. They run three free Farmers Markets a week and provide free workshops, yoga classes, and empowerment services. This partnership is a channel for our surplus produce and is an opportunity for students to perform service with a local organization that is bettering the lives of our neighbors. The Garden also donated food through Manna Food Bank, 12 Baskets, Food not Bombs, as well as to hungry crews and service trips on campus.

Farm Crew member and Sustainable Agriculture concentrator Hayden Holbert organized a concert and pig-pickin' on the Farm this spring, raising thousands of dollars to benefit FEAST. The non-profit teaches healthy eating to about 1,500 local schoolchildren a year, and provides cooking and gardening classes.









**Warren Wilson College.**

*Student powered agriculture since 1894.*





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