



The Dickinson College Farm

2019 ANNUAL REPORT

Dickinson 
COLLEGE FARM

We welcome any questions or requests for additional information and encourage you to stay updated on farm events and happenings by following our blog, liking our page on Facebook, or following our Instagram account.

FOLLOW US:  

[BLOGS.DICKINSON.EDU/FARM](https://blogs.dickinson.edu/farm)



“To inspire responsible
land stewardship
through the study of
the earth’s natural
processes and
demonstrate the
science, practice and
culture of sustainable
food production.”

The staff at
the College
Farm invite
you to review
some of our
accomplishments
over the 2019
calendar year.

Table of Contents

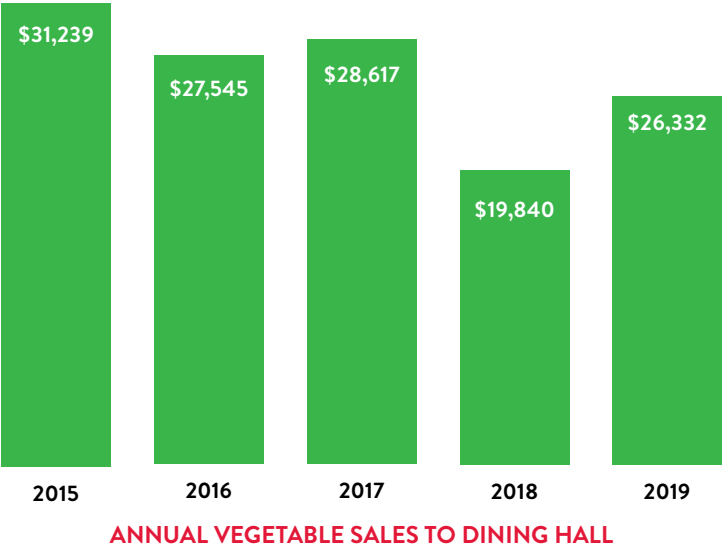
Farm Production Highlights	2-3
Livestock & Meat	4-5
Farm Personnel	6
Research and Partnerships	7
Academic Collaborations	8
Education and Outreach	9
On-Going Outreach and Co-Curricular Programming	10
Energy	11
Database	11
Revolutionary Challenge.....	11

Farm Production Highlights

The 2019 growing season at Dickinson College Farm proved to be a very successful one. From May through December, the farm managed 10 acres of certified organic vegetables and provided produce to 137 members over a 30 week growing season as part of the farm’s Campus Supported Agriculture (CSA) program. With such bountiful yields the College Farm exceeded its 2018 sales to the Dining Hall with \$26,332 all the while maintaining a vibrant stand at Farmers on the Square, including fresh-baked pizzas using the farm’s mobile wood-fired oven. With warm, dry weather in the late summer and fall, the farm welcomed a very productive final harvest. One highlight worthy of touting includes donating 5,977 pounds of fresh produce to Project S.H.A.R.E and another 1,498 pounds to South Central Community Action Gleaning Programs over the course of the 2019 growing season. Other noteworthy highlights include harvesting over 10,000 lbs. of cucumbers, 5,300 lbs. of potatoes and 8,600 lbs. of tomatoes. Please see the chart for additional production highpoints from the 2019 season.

In addition to maintaining a productive CSA program, the College Farm implemented a new software program called Harvie to manage CSA subscriptions and weekly distributions. Though there were a few growing pains, the system greatly streamlined our CSA enrollment, weekly customization and distribution processes, as well as enhanced our communication with CSA members.

2019 VEGETABLE FIELD PRODUCTION HIGHLIGHTS		
CROP	UNIT	TOTAL HARVESTED
BROCCOLI	LB	1,330
CABBAGE	HEAD	1,800
CARROTS	LBS	4,831
CORN, SWEET	EAR	3,500
CUCUMBERS	LB	10,000
MELONS	EACH	1,200
POTATOES	LB	5,300
TOMATOES	LB	8,631
BUTTERNUT SQUASH	LB	4,700
ZUCCHINI	LB	3,100



A SUMMARY OF SPECIFIC DINING HALL VEGETABLE PURCHASES FROM THE COLLEGE FARM

CROP	TOTAL 2019 PURCHASES DURING GROWING SEASON	UNIT	CASES-DCF	CASES-OTHER
BROCCOLI, CROWNS	345	LBS	24	321
CABBAGE GREEN	13.5	LBS	5	8.5
CABBAGE NAPA	6.5	LBS	3	3.5
CARROTS FRESH	155	LBS	55	100
CAULIFLOWER FRESH	104	LBS	5	99
EGGPLANT	28	LBS	9	19
FRISEE	106.5	LBS	83	23.5
KALE	66.5	BUNCH	41	25.5
LETTUCE GREEN	5	HEAD	5	0
LETTUCE ROMAINE	9	HEAD	9	0
LETTUCE ROMAINE CHOPPED	195	LBS	88	107
LETTUCE, SPRING MIX	1,005	LBS	300	705
PARSNIPS	25	LBS	13	12
PEPPERS, GREEN WHOLE	51	LBS	35	16
PEPPERS RED FRESH	86	LBS	31	55
PEPPERS SLICED FRESH	46	LBS	45	1
RADISH DAIKON	6	LBS	6	0
SCALLION	32	LBS	16	16
SPINACH	515	LBS	47	468
SQUASH BUTTERNUT	3	LBS	3	0
SQUASH YELLOW	19	LBS	10	9
SQUASH ZUCCHINI	101	LBS	31	70
SWISS CHARD RED	11	BUNCH	8	3
TOMATO GRAPE	30	PINT	16	14
TOMATOES	276	LBS	76	200
TOMATOES CHERRY	47	PINT	22	25
TURNIPS	35	LBS	22	13
WHEATGRASS	50	FLATS	50	0

Livestock & Meat

2019 was a very productive year for the livestock operation. At the peak of the season, our herds grew to over 80 sheep and 30 beef cattle, which actually exceeded the carrying capacity of the farm's pastures. The sheep spent part of the summer controlling weeds and grass at the 12-acre Dickinson solar field near campus. In order to prevent overgrazing, cut winter hay expenses and reduce labor for livestock care, we sold some live animals to other local farmers and butchered several for meat, ending the season with 14 sheep and 24 beef cattle. The dining hall purchased and served over 500 lbs. of farm beef (valued at \$2,200) to students this year. Farm and dining hall personnel worked together to coordinate butchering dates to coincide with special meals and to actively advertise the use of the farm's humanely raised grass-fed beef in the cafeteria. Farm burgers, sausages and hot dogs were also served to students at a Senior Week barbecue, "Gather" pop-up restaurant events and the annual fall harvest fest. Dickinson community members continue to purchase farm meats through the Meat Club and retail outlets.

The livestock crew and farm as a whole lost a most important team member in December. We're sad to report that after a short battle with mast cell cancer, Baya the farm dog passed away and was buried in the hilltop pasture. For the past eight years she played a key role, keeping the cows, sheep, chickens and rodents where they belonged, while keeping students and staff happy. Life above ground won't be the same without her.

Holiday Box sales were in full swing this holiday season. The farm staff produced, packed and delivered over 125 boxes filled with our fresh farm canned items such as Kosher Pickles, 7-Day Sweet Pickles, Zucchini Pickles, Red Devil Hot Sauce, Red Beets, Beef Jerky and Salsa as well as Grass-Fed Tallow Bar Soap, Popcorn, Herbs, Yarn and Felted Wool Angel Ornaments—The bulk of the farm's gift box items were produced by Jenn Wolf with help from students and volunteers. The gift box sales exceeded 2018 by 44% bringing in \$4,239 of revenue compared to last year's \$2,939.

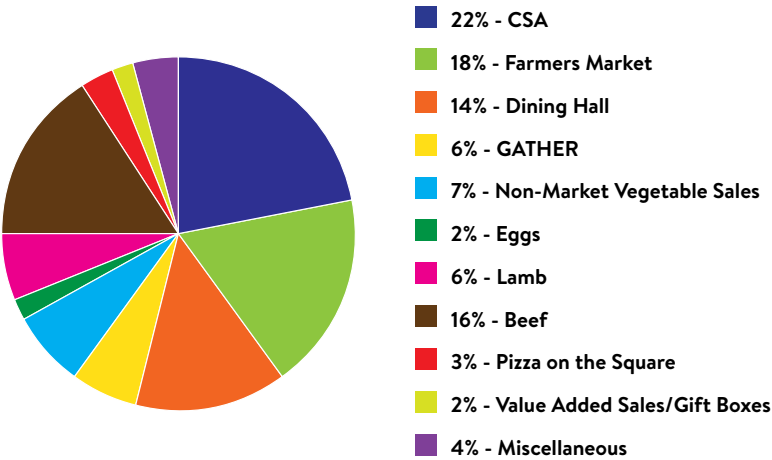




During 2019, College Farm staff and students collected 132 tons of food waste generated through dining services eateries and campus residence halls. On average, each day 700 pounds of food waste was transported to the College Farm. The result of managing food waste along with carbonaceous materials like woodchips and leaves sourced from nearby properties is finished compost, a key soil amendment applied to crop production fields each year. In addition to adding food waste to compost piles, a portion was diverted to the farm’s biogas project.

The College Farm closed out the 2019 calendar year with total revenue of \$190,427 exceeding 2018 total revenue by 24% or \$37K. The major factors for this increase include a very favorable growing season and the planned reduction of cattle and sheep yielding unprecedented sales revenue which will not be repeated in future years. Please see the snapshot of our revenue sources and percentage breakdown in each category.

2019 COLLEGE FARM REVENUE PERCENTAGES



Farm Personnel

The College Farm welcomed two new key staff members to the team last year. In January 2019, Will Nelson arrived to Dickinson as the College Farm's first-ever Vegetable Production Manager. In this new role, Will oversees all aspects of the farm's ten acres of organic vegetable production allowing Jenn and Matt to focus on key areas of the program including summer and semester course development, renewable energy project advancements at the farm, academic collaborations with students and faculty, field-based research initiatives with faculty, as well as outside organizations and strategic planning.

In the summer of 2019, the College Farm welcomed Mary Silva as our part-time administrative assistant. With 10 years of experience working with Student Senate, Mary fell right into pace managing program finances while learning new skills relating to overall program support.

The College Farm's one-year post-baccalaureate Education and Outreach Coordinator position continues to attract some of the most motivated and amazing Dickinson graduates. In May of 2019, Emma Weaver joined the farm team as our 2019-2020 Education and Outreach Coordinator. She continues to excel in her role and has maintained a rigorous programming and outreach calendar for the farm.

We are thrilled to have Jenn Wolf with us! With one year under her belt as our full-time Packing House Coordinator, Jenn has demonstrated her keen organizational skills and superhuman ability to multi-task with speed and efficiency! To support program efforts, the College Farm maintains a staff of Student Farmers employed during the academic school year, as well as over the summer months. Additionally, the farm benefits greatly from aspiring young leaders who partake in our Six-Month Apprenticeship program and our Second Year Apprentice position. Farm staff are in the process of reviewing and interviewing applicants for the 2020 Six-Month Apprenticeship program and are delighted to welcome back Vanessa Ryan, who has signed on for another season as our Second Year Apprentice.



Research and Partnerships

An overarching goal for 2019 was to minimize outside research opportunities in an effort to fully support Will Nelson during his first year as the College Farm's Vegetable Production Manager. The College Farm continues to participate in the statewide soil health benchmark study, a citizen-science research project led by Pennsylvania Association for Sustainable Agriculture (PASA). The College Farm is one of fifty farms across the Commonwealth and tristate region participating in this long-term project aimed at tracking soil management practices relative to soil health over time. In his capacity as the farm's Vegetable Production Manager, Will attended workshops to study how the College Farm compares with other Pennsylvania farms relative to soil health and soil management strategies.

Over the summer and fall semester of 2019, professors Scott Boback (Biology) and Maggie Douglas (Envi Sci) worked with students Abby Marich (Envi Sci '20) and Maddie DuBoyce (Envi Sci & Spanish '20) on research exploring the question of whether American toads influence vegetable production by consuming harmful pest insects or some other effect. A series of habitat enclosures were constructed and "seeded" with toads and plants and monitored weekly for trends.

Though no collaborative research was planned for 2019, the College Farm maintains a close relationship with the Rodale Institute, a premiere research center based in Pennsylvania. Starting in 2020, the farm will conduct two field trials focused on growing potatoes, specifically optimizing management systems for the production of organic potatoes to improve nutrient quality and pest control, as well as the impact that management strategies have on potato phytochemicals relative to yield and the ability to control pests and disease.

In 2019 farm staff investigated the possibility of partnering with the neighboring dairy farm (run by the Hoover family on Dickinson land) to build a commercial-scale biogas digester. The proposed project will combine manure from the dairy cows with college food waste to generate methane, which will be converted to electricity and fed into the utility grid. Our estimates show that the digester project will generate sufficient electricity to cancel the farm's power bill and generate a surplus that can be sold. This project builds on ten years of R&D work carried out by students at the farm. The small-scale biogas project was also used for lab exercises in the Food and Energy in USA and Israel course in the fall.



Academic Collaborations

Over the course of the spring and fall semesters in 2019, 25 faculty members from across all three academic divisions used the farm to further course goals, impacting approximately 350 students. During the 2019 fall semester alone, the College Farm hosted approximately 550 students at the farm or at campus-based events built to support extra-curricular student engagement opportunities.

In cooperation with the Center for Global Study & Engagement, the College Farm successfully launched an exchange program with the Israeli-based Arava Institute for Environmental Studies. During the 2019 spring semester, Matan Spector enrolled as a student at Dickinson after which he spent the summer interning at the College Farm. After his experience at Dickinson, Matan returned to Israel where is enrolled as a student at Hebrew University to study Environmental Economics.

During the 2019 fall semester, farm staff members Matt Steiman and Jenn Halpin co-taught a Food Studies elective course entitled, “Food and Energy in the United States and Israel”. This course was cross-listed with Middle Eastern Studies, Judaic Studies and Sustainability and reached its enrollment capacity at 24 students. As a globally integrated course, Jenn and Matt brought nine students to Israel in January 2020 for a two week immersive experience traversing the country and learning about Israeli innovations in the food and energy sectors.

Education and Outreach

A strength of the College Farm is the emphasis placed on educational and collaborative programming as part of our mission to expand the breadth of awareness and student participation in the College Farm. In 2019 we worked to achieve this goal through partnering with campus groups and organizations such as the Office of LGBTQ Services, the Multiorganization Board (MOB), foreign language departments, the Trout Gallery, the Center for Sustainability Education, the Arts Collective, academic departments, WDCV, Donor Relations and the Mermaid Society.

Every year, the Farm's Education and Outreach Coordinator plans and executes tried and true farm events such as **PIZZA ON THE PLAZAS**, **FARM FROLICS** and **HARVEST FEST**, as well as new ones such as last spring's **MEET-A-LAMB** event. This position gives a recent Dickinson grad the unique opportunity to continue their connection with the College Farm and local food initiatives while developing professional skills in educational programming, program management and communications. Programs go beyond just farming and focus on food entrepreneurship, cooking skills, Pennsylvania agricultural history and wellness.

Programs and outreach in 2019 included:

- **EDIBLE EXCURSIONS** trips where students, faculty, staff and alumni have the opportunity to visit exciting locations such as other local farms, farmers markets, small businesses and specialty food stores. Some summer and semester favorites this year have included outings Little Amps Coffee Roastery, Broad Street Market, Paulus Orchards and Big Hill Ciderworks. These trips give Dickinsonians the chance to get off campus and discover the local food scene.
- The farm's 2019 pre-orientation program "**COMPOST TO CUCUMBERS WITH THE COLLEGE FARM**," introduced seven first year students to life on the farm. This one-and-a-half-day program consisted of farm work, cooking with farm produce and local ingredients and educational sessions with farm and campus instructors on canning, watercolor "en plein air," renewable energy and livestock. A highlight of the program was student farm workers leading self-designed educational sessions on livestock and meditation/mindfulness.
- **THE 5TH ANNUAL FARM FROLICS** event the Saturday after the first week of classes. This event is a favorite among first years and seniors alike and highlights clubs and organizations at Dickinson as well as farm produce and local snacks.
- The farm's **12TH ANNUAL HARVEST FEST**, which was a huge success, with an estimated attendance of 400 students. Attendees enjoyed fresh pressed apple cider, grilled farm items and Leo's ice cream, as well as a bonfire and guided contra dancing.
- **SPRING COOKING CLASSES** that were taught by Professor Dragani of the Italian Department and farm staff. Fall 2019 cooking classes were taught by Professor Arnedo-Aldrich of the Department of Spanish and student farmer Danielle Moser '20. These classes showcase campus and community culinary talent, offer Dickinsonians a chance to learn new skills and ways to cook with farm and local produce.
- The 2018-2019 Coordinator Margaret McGuirk worked with the Dining Hall to create a series of **POSTERS FEATURING STUDENT FARMERS AND DINING SERVICES WORKERS**, which was displayed in the Dining Hall and the Underground. This year, current Coordinator Emma Weaver, continues this project and partnership with updated photos planned for Spring 2020. Additionally, Matt Steiman and Emma worked with the Print Center and the Dining Hall to revamp advertising for beef from the College Farm to be displayed when farm beef is being served in the dining hall.

On-Going Outreach and Co-Curricular Programming

Pizza on the Plaza (POP) continues to be a popular Friday night activity among Dickinsonians. In 2019 we worked with new and old campus partners to offer exciting programming and free farm pizza to the campus community. Collaborations included the Trout Gallery, the Office of LGBTQ Services, the Center for Sustainability Education, and MOB, the Art Department, WDCV and the Arts Collective. Often these campus organizations sponsor pizza sales so that pizza is free or discounted for attendees.

In collaboration with Homecoming Weekend, the College Farm hosted its fifth annual “Open Farm” for Dickinson alumni, students and their families. This popular event showcased farm goods, tours and educational stations about farm operations.

The farm continues to manage its monthly “pop up” restaurant, GATHER as a successful outreach initiative with a strong revenue generating capacity. Now in its fifth year of operation, GATHER hit its stride in 2019, selling out at every dinner and successfully recruiting a diverse pool of chefs from hyper-local chefs like Matt Hicks at Molly Pitcher Brewing Company and regional chefs like Pippa Calland (Midstate Taco) and Scott Robinson (Allenberry Resorts) to nationally recognized celebrity chef, Michael Solomonov from Zahav. GATHER dinners continue to highlight faculty, staff and student readers that included Chauncey Maher, Adeline Soldin and Kevin Harper-McCombs in 2019.

The farm’s two youth education programs [Sustainable Earth Education \(SEED\)](#) and [Farm, Cook, Eat \(FCE\)](#) provide a connection between the farm and the Carlisle community, as well as give a student educator skills in teaching, lesson planning and experiential education. The farm continued

partnering with LeTort Elementary this past year on FCE, an after-school education program that teaches students about sustainability, nutrition and how to make healthy snacks. Karin Carthins ’19 and Abby Israel ’20 served as the farm’s FCE educators for 2019. Looking ahead, the farm’s efforts with FCE will pause at LeTort Elementary providing time to access and revamp the program and partnerships in 2020.

SEED had great attendance in 2019 and hosted groups such as the Harrisburg Academy, homeschool co-ops and school groups from Bellaire and Crestview Elementary. Lena Friedman ’19 and Anna Zaremba ’20, the farm’s SEED educators planned and taught classes about the environment, sustainability life on the farm, art and more.

SEED continues its partnership with the Girl Scouts in the Heart of PA. In 2019, the farm worked to develop Girl Scout badge-specific lessons. Emma, the farm’s Education and Outreach Coordinator is further cultivating this partnership by promoting the SEED program to Girl Scout troops in Adams, Cumberland and Dauphin counties.



Energy

In 2019, we refurbished the farm's electric field truck with a smaller battery bank—cutting the weight and size of the original battery bank by about 40%. This makes the truck practical for transporting students, tools and harvested crops around the farm, without consuming gasoline or generating polluting exhaust.

Students in the Food and Energy in USA and Israel course learned the basics of solar power and biogas systems in a hands-on format. Groups of students completed lab exercises that gave them responsibility for connecting and monitoring a solar power project over ten days and for feeding farm biogas systems to generate cooking fuel.



Database

After a three year hiatus following the passing of Professor Tim Wahls, the Department of Mathematics & Computer Science has taken a renewed interest in the FARMDATA and AnimalData projects for online agricultural record keeping (built by Tim, students and the farm from 2013-2017). Visiting Professor Alan Tucker will work with students in a database systems class to adapt these Dickinson-built projects to a more widely used public format called FarmOS. This step is meant to ensure the longevity and adaptability of FARMDATA while sharing it with a wider audience. The original versions of FARMDATA and AnimalData are still in daily use at the College Farm.

Revolutionary Challenge

In October of 2019, the College Farm submitted a proposal as part of the college's Revolutionary Challenge. Out of the 49 submissions, the farm's Food, Agriculture & Resource Management (F.A.R.M) Lab was selected as one of four finalists. F.A.R.M Lab builds on existing institutional strengths to firmly establish Dickinson as a leader in sustainable living, innovative technologies and natural-resource management. At the core of this initiative is a vibrant space that facilitates learning, engagement and exploration. The design and construction of a new multiuse F.A.R.M Lab facility at the College Farm, using net-positive-energy green building technologies, will support academic research and coursework, house co-curricular programs and serve as a revenue-generating event venue for the college. F.A.R.M Lab aims to propel sustainability initiatives on campus by forging partnerships and creating opportunities for Dickinson students and faculty to immerse themselves in complex studies and research around these themes.

Currently, Jenn Halpin is working with a F.A.R.M Lab project team made up of students, alumni, faculty, staff and administrators to develop the final proposal that will be presented to the campus community in early May 2020. Farm staff look forward to the process of presenting its revolutionary idea and the prospect of seeing it come to fruition—please stay tuned!

Dickinson



COLLEGE FARM