



DINING SERVICES FARM

2014 ANNUAL REPORT



This report prepared by Alex Hessler and Rial Tombes Carver.

Acknowledgments

Susan Clark, Associate Professor, Horticulture
Susan Day, Associate Professor, Horticulture/FREC
Ted Faulkner, Director, Dining Services
Roger Harris, Department Head, Horticulture
Bill Hess, Associate Director, Dining Services
John James, UHC Facilities Manager, Horticulture
Tom Kuhar, Professor, Entomology
Ron Morse, Professor (retired), Horticulture
Megan O'Rourke, Assistant Professor, Horticulture
Dwight Paulette, College Farm Coordinator, CALS
Anthony Purcell, Assistant Director for Southgate, Dining Services
Holly Scoggins, Associate Professor, Horticulture
Susan Sumner, Associate Dean of Academic Programs, CALS
Jon Wooge, Kentland Farm Agricultural Manager, CALS
Kentland Farm Crew
Dining Services Farm Crew
Sustainable Agriculture Practicum Class Farm Crew

For more information, please contact:

Alex Hessler
Instructor
Director, Sustainable Farming Systems
Department of Horticulture
Virginia Tech
306-B Saunders Hall (0327)
490 West Campus Drive
Blacksburg, VA 24061
hessler@vt.edu
(540) 231-0834

Rial Tombes Carver
Sustainability Coordinator
Dining Services
Virginia Tech
Southgate Food Center (0224)330
Sterrett Dr. Blacksburg, VA 24061
rtcarver@vt.edu
(540) 231-1139

Photographs courtesy of Alex Hessler, Victoria Betzel, and Rial Tombes Carver.

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2014 Expenses: Paid by the Department of Horticulture

2014 Dining Services Farm Harvest Log

EXECUTIVE SUMMARY

The Dining Services Farm (DSF) is a collaboration between Virginia Tech Dining Services, The Department of Horticulture, and the College of Agriculture and Life Sciences (CALs). The DSF began in 2009 as a small garden at Kentland Research Farm to provide experiential learning opportunities for students in the Civic Agriculture and Food Systems Minor and grow fresh produce for Dining Services. The mission of the DSF is to promote sustainable agricultural practices and community food systems by serving as a resource for education, research, and outreach for Virginia Tech and the Blacksburg Community.

In 2014, the DSF operated on approximately six acres at Kentland Research Farm. In summer 2014, a high tunnel was installed at the Urban Horticulture Center as a site for education in extended-season vegetable production. Alex Hessler was hired in January 2014 as the Sustainable Food Systems Production Director, a joint-appointed faculty position in the Department of Horticulture and Dining Services. The responsibilities of this position include management of crop production at the DSF and instruction of undergraduate courses in the Department of Horticulture. Rial Tombes Carver, Sustainability Coordinator for Dining Services, oversees farm-to-campus procurement of produce grown by the DSF. Twelve Dining Services employees served as the DSF farm crew from May to August.

Total combined operating expenses for the DSF for Dining Services and the Department of Horticulture in 2014 were \$29,596.69. Thirty-nine different types of vegetables, herbs, and fruit were grown at the DSF and gleaned from Kentland Farm research projects. The harvest total was 40,857 pounds, with a market value of \$22,687.06. Of the total harvest, 5,545 pounds of produce were donated to local food banks.

In Fall 2014, the Sustainable Agriculture Practicum (HORT SS: 4984) was developed and taught by the Sustainable Farming Systems Production Director. Twelve students gained hands-on training in sustainable fruit and vegetable production through two weekly three-hour class sessions held at the DSF and Urban Horticulture Center. Students in five courses in CALs and other colleges participated in field-based activities and independent projects at the DSF. An additional three hundred eighty-five students volunteered a total of seven hundred seventy hours at the DSF in 2014. The DSF partnered to support seven research projects, represented by four faculty members and four graduate students in the Department of Horticulture and the Department of Entomology. The DSF was featured in one online video and five professional presentations.

With support from Kentland Farm personnel, many improvements were made to facilities used by the DSF in 2014. Two existing structures were modified to accommodate increased tool and equipment storage, workshop space, and community and teaching space. A portion of another structure was repurposed as a produce washing and packing shed. Several critical pieces of weed-control equipment were refurbished and put to use on the DSF, allowing for improvements in produce yield and production efficiency. Goals for 2015 include applying for USDA Organic certification and implementing Good Agricultural Practices (GAP) procedures at the DSF.

ABOUT THE DINING SERVICES FARM

History of the Dining Services Farm

The vision for the Dining Services Farm began in 2008 as a medium for hands-on student educational experiences in sustainable farming and community food systems at Virginia Tech. An educational farm-to-campus program was a pivotal component of an interdisciplinary, experiential-based sustainable agriculture and food systems minor being planned in the College of Agriculture and Life Sciences (CALs). A partnership between CALs, Dining Services, Kentland Research Farm, and the Department of Horticulture was formed to implement a student educational farm at Kentland. A USDA Higher Education Challenge grant, “Restoring Community Foodsheds: A Multidisciplinary Curriculum Translating Science into Practical, Innovate and Sustainable Solutions for Economic Viability, Food Security and Health” was awarded in 2009 – 2013 (Award No. 2009-38411-19770) to develop the Civic Agriculture and Food Systems minor in CALs. Grant funds supplied seeds and equipment and supported a Farm Manager-Educator, a part-time Foodshed Liaison between the farm and Dining Services, and three hourly student wage farm assistants. In 2009, quarter-acre garden at Kentland Farm was designated as a site for experiential learning for students in the minor and the production of fresh produce for Dining Services.

By 2011, the program had grown from its original site to encompass more than two acres. Procurement of produce from the farm to campus dining halls was facilitated by a student manager hired by Dining Services in 2011, along with the Dining Services Sustainability Coordinator. The Farm Manager-Educator and the Dining Services Sustainability Coordinator participated in curriculum development for the minor and facilitated student involvement and volunteering at the farm. In 2014, the farm size had increased to six acres, and the Farm Manager-Educator position was transitioned to a joint academic-auxiliary instructor-level faculty position financially supported by Dining Services, CALs, and the Department of Horticulture. Dining Services furnishes a farm crew of Dining Services employees from May to August.

Student Engagement

The DSF is a resource for hands-on experiences in sustainable agriculture for students in the Department of Horticulture, CALs, and throughout Virginia Tech. Thousands of students participate in the farm every day when they discover that some of the food they ate on campus was grown on the DSF. Volunteer opportunities give students a chance to explore the excitement and challenges of farming and perform meaningful service for their campus community. This is the first exposure to agriculture for many students, and often inspires a newfound passion for food and farming. The DSF is a partnering program that supports field-based learning activities and independent projects for the Civic Agriculture and Food Systems Minor. The Sustainable Agriculture Practicum was developed in 2014 as a new course in the Department of Horticulture to teach students practical skills in operating a sustainable farm, from planting, soil fertility, and pest management to harvesting and food safety. Some of these students may go on to become farmers; all of them will carry a first-hand appreciation for sustainable food and agriculture into their personal and professional lives.

Interdisciplinary Research

The DSF is a unique field laboratory for interdisciplinary research on sustainable agricultural production practices and agroecology. As a working, diversified fruit and vegetable farm, the DSF is a model agricultural system for conducting applied research in a real-world setting. Students and faculty are encouraged to integrate experiments into production fields, and receive technical support from DSF personnel. The interactions between students and researchers at the DSF broadens educational outcomes to include an understanding of agricultural research procedures and career opportunities.

Community Outreach and Extension

As a highly visible collaborative project on campus and in the community, the DSF is medium for promoting public awareness and understanding of sustainable agriculture and community food systems. The DSF strives to demonstrate agricultural practices that are environmentally sound, socially just, and economically viable. The DSF actively builds relationships with state and local farmers, master gardeners, extension agents, and professionals through tours and presentations. The dissemination of knowledge generated by the DSF supports the advancement the sustainability and profitability of small-scale agriculture in Virginia. The farm-to-campus partnership that brings thousands of pounds of fresh produce in to Virginia Tech dining halls is a model for institutional adoption of community food systems principles and practices.



Pumpkin harvest with the Sustainable Agriculture Practicum course.



DINING SERVICES FARM MISSION

- Educate VT students about sustainable agriculture and food systems by serving produce grown on the Dining Services Farm in Virginia Tech dining halls.
- Provide experiential learning opportunities in sustainable agricultural production through hands-on participation at the Dining Services Farm.
- Foster collaborative, interdisciplinary research and education around food and agriculture among VT students, staff, and faculty.
- Promote awareness of sustainable agriculture and community food systems through community outreach and public education.

2014 OPERATIONS AND ORGANIZATIONAL STRUCTURE

Operation

In 2014, the DSF operated on six acres of organically-managed land and 0.75 acres of conventionally-managed land at Kentland Research Farm. Farm equipment and facilities used at Kentland Farm are owned by CALS and the Department of Horticulture, and operated by Kentland Farm personnel. The DSF extended operations to a thirty ft. by ninety-six ft. high tunnel constructed in May 2014 at the Urban Horticulture Center. All of the produce was delivered to Dining Services and distributed to dining halls across the Virginia Tech campus or diverted to local food banks.

Organizational Structure

A diverse group of faculty, staff, and students from Virginia Tech Dining Services, The Department of Horticulture, and the CALS collaborate to achieve the multi-faceted objectives of the DSF. In January 2014, Alex Hessler was hired as the Sustainable Food Systems Production Director and joint-appointed faculty member in the Department of Horticulture and Dining Services. His role is to manage crop production at the DSF and teach classes on sustainable and organic agriculture in the Department of Horticulture.

Name	Title	Role with DSF
Rial Carver	Sustainability Coordinator, Dining Services	Coordinates produce distribution in Dining Services; outreach; coordinates DSF farm crew.
Ted Faulkner	Director, Dining Services	Director of Dining Services
Roger Harris	Department Head, Horticulture	Oversees Horticulture resource allocation.
Bill Hess	Associate Director, Dining Services	Oversees Dining Services resource allocation.
Alex Hessler	Sustainable Food Systems Production Director, Horticulture	Directs DSF crop production; supervises DSF farm crew; teaches Sustainable Ag. Practicum
John James	Urban Horticulture Center Facilities Manager, Horticulture	Manages Urban Horticulture Center Facilities; assists with high tunnel infrastructure.
Dwight Paulette	College Farm Coordinator, CALS	Coordinates Kentland Farm operations and resources.
Anthony Purcell	Assistant Director for Southgate, Dining Services	Oversees DSF produce distribution; coordinates Dining Services resource allocation
Jon Wooge	Kentland Farm Manager, CALS	Manages Kentland Farm staff and operations.
Dining Services Farm Crew	N/A	Assist with vegetable production and harvest, May – Aug.
Sustainable Ag. Practicum	N/A	Assist with vegetable production and harvest, Sept. – Nov.; March – May.

2014 EXPENDITURES

Seed	\$3,423.73
Production Materials	\$3,283.00
Supplies	\$3,743.47
Furniture	\$245.00
Fuel	\$1,340.47
High Tunnel	\$17,561.02
Total Operating Expenditures*	\$29,596.69

* Total does not include cost of labor. See Appendix for distribution of expenses between Dining Services and the Department of Horticulture.

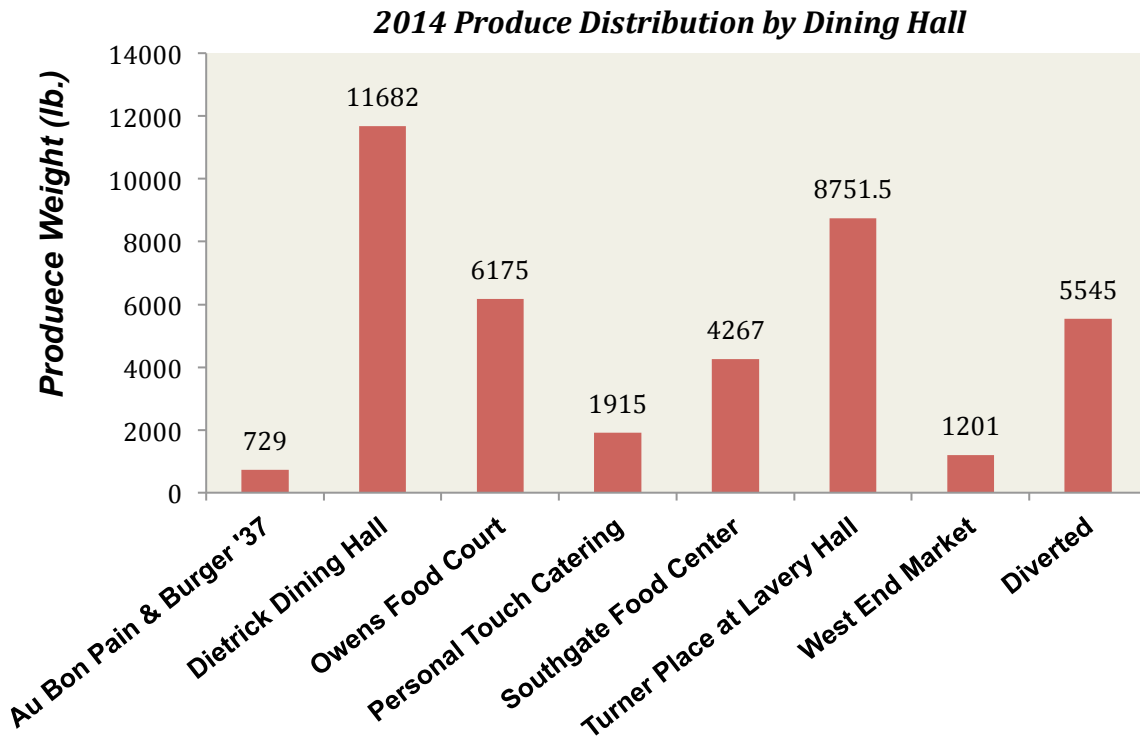
2014 HARVEST AMOUNTS AND MARKET VALUE

	Pounds Harvested	Market Value*
Vegetables	33,892	\$17,781.93
Fruit	6,719	\$3,027.13
Herbs	246	\$1,878.00
Total	<u>40,857</u>	<u>\$22,687.06</u>

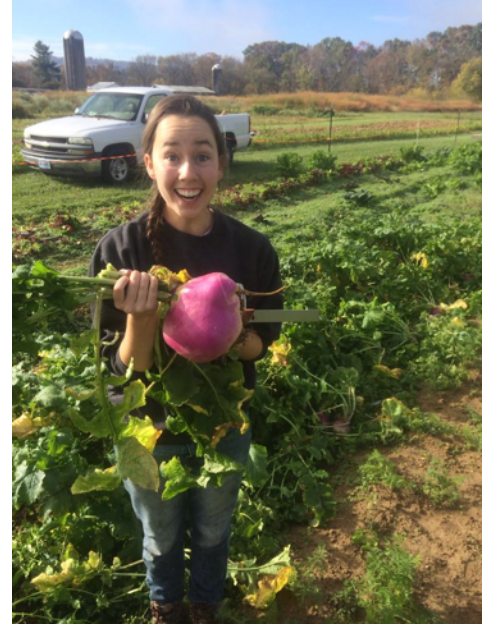
*Market value calculated from conventional wholesale price. See Appendix for details.



2014 PRODUCE DISTRIBUTION SUMMARY



The new high tunnel built at the Urban Horticulture Center in 2014.



STUDENT ACADEMIC PARTICIPATION

Fall 2014 Sustainable Agriculture Practicum (HORT SS: 4984)

The Sustainable Agriculture Practicum (HORT SS: 4984) was offered as a special studies course in the Department of Horticulture in Fall 2014 to fulfill growing student demand for experiential educational opportunities in the area of sustainable agriculture. This field-based course took place at the DSF at Kentland Farm and the Urban Horticulture Center. Twelve students representing seven undergraduate and graduate degree programs enrolled in 2014. Three separate sections of the course were offered, each meeting for three hours, twice per week. Students applied the fundamental skills required to work on a diversified sustainable farm, including planting, fertility and pest management, irrigation, post-harvest handling, and food safety. Students examined the organizational structure of the farm-to-campus program at Virginia Tech Dining Services as a model for community-based food systems. The course will continue to be offered in the spring and fall semester, with the possibility of a summer session offering in the future.

The DSF engages students in other academic programs and courses in the CALS through tours, activities, and projects. The DSF is a principle community partner in the **Civic Agriculture and Food Systems minor**, serving as a field-site for experiential learning and independent research projects.

Spring 2014 Organic Vegetable Production (HORT 4834)

Fall 2014 Introduction to Civic Agriculture (ALS 2204)

Fall 2014 Ecological Agriculture: Theory and Practice (ALS 3404)

Fall 2014 Capstone: Civic Agriculture and Food Systems (ALS 4214)

Fall 2014 Construction Principles 1 (BC 2014)



Student Chris Youngs, Civic Agriculture and Food Systems Minor.

STUDENT VOLUNTEERING

- Number of student volunteers: 385.
- Total volunteer hours logged: 770.

Thank you to all the volunteer groups that participated at the Dining Services Farm in 2014. The DSF would not be possible without their hard work and dedication.

VT Engage
 Sustainable Food Corps
 Intersarsity Christian Fellowship
 Big Event
 Alpha Phi Omega
 VT Corps of Cadets
 VT Student Conduct
 Civic Agriculture and Food Systems Minor
 VT Dining Culinary Camp
 Tom Kuhar Entomology Lab
 Governors School for Agriculture.



Volunteers from VT Engage and the Corps of Cadets.

FOOD BANK PARTNERSHIPS

In 2014, the DSF donated 5,545 pounds of produce to local gleaning groups, food pantries, and community organizations. The tireless work of these organizations to ensure that extra produce is given to those in our community who need it most is greatly appreciated. Kentland Farm Manager Jon Wooge was instrumental to the coordination of these efforts between the Dining Services Farm and participating food banks.

Produce grown on the DSF, along with produce from other Kentland Farm research programs, was donated to the following organizations:

St. Mary's Church, Society of St. Andrews, Interfaith Food Pantry, Fieldstone Food Pantry, Dwelling Place Food Pantry, New River Valley Community Services, Montgomery County Emergency Assistance Program, NRV Women's Resource Center, Micah's Backpack, Salvation Army NRV Free Clinic, Little Angels Pre-School, St. John Neumann Academy.

RESEARCH PARTNERSHIPS AND SUPPORT

The DSF engages in partnerships with CALS faculty and graduate students by facilitating the integration of research projects into production sites managed by the DSF. Additionally, the DSF production manager and farm crew provide assistance to other research projects at Kentland Farm.

Research partnerships and support in 2014 include:

Farmscaping to Provide Beneficial Insect Habitat in Agroecosystems.

Dr. Megan O'Rourke, Horticulture.

5 blocks of native flowering plants were planted in five DSF production fields. Beneficial insect populations and insect pest control were assessed.

Determining the Conservation Value of High Tunnels.

Nate Foust-Meyer, Graduate Student; Dr. Megan O'Rourke, Horticulture.

A portion of the high tunnel at the Urban Horticulture Center was dedicated to the evaluation of the influence of high tunnels on fruit yield and quality, and plant diseases on tomatoes and cucumbers.



Control of Colorado Potato Beetle in Organic Potatoes.

Dr. Tom Kuhar, Entomology.

A portion of a quarter-acre field of potatoes on the DSF was dedicated to the evaluation of the experimental organic insecticide PFR-97 for control of Colorado Potato Beetles.

Trap-cropping for Control of Insect Pests in Organic Tomato.

Taliaferro Trope, Graduate Student; Dr. Doug Pfeiffer, Entomology.

Plot space on the DSF was dedicated to the evaluation of sorghum and sunflower as a trap crop for insect pests of organically-grown tomatoes.

Stink Bug Monitoring Traps in Community Gardens.

John Aigner, Graduate Student; Dr. Tom Kuhar, Entomology.

Four stink monitoring traps were positioned around the DSF herb plot to evaluate stink bug activity in diversified community gardens.

Eastern Organic Broccoli Variety Trial

Dr. Ron Morse, Horticulture.

DSF personnel assisted with planting and maintenance; approximately 60 hours.

Strip Tillage as a Climate Change Mitigation and Adaptation Tool for Vegetable Production.

Shaun Francis, Graduate Student; Dr. Megan O'Rourke, Horticulture.

DSF personnel assisted with plot establishment and maintenance; approximately 200 hours.



Graduate student Shaun Francis, Horticulture.

PUBLICITY AND PROJECT DISSEMINATION

2014 Popular print and internet publications:

September 2014. Video: Kentland Farm Class. Virginia Tech University Relations.
http://www.unirel.vt.edu/audio_video/2014/09/091814-dining-kentland.html

Professional Presentations:

Carver, R. (2014). "Closing the Loop: Translating Local Food from the Farm to the Menu." Oral Presentation, Annual Conference of the Sustainable Agriculture Education Association, Raleigh, NC. August 4, 2014.

Hessler, A. (2014). "A Multi-stakeholder model for the development of an educational farm-to-campus program at Virginia Tech," Oral Presentation, Annual Conference of the Sustainable Agriculture Education Association, Raleigh, NC. August 4, 2014.

Hessler, A. (2014). "Dining Service Farm Tour: Integrated soil, crop, and pest management on a six-acre diversified vegetable farm," Field Tour, Annual Master Gardener College, Blacksburg, VA. June 26, 2014.

Hessler, A. (2014). "Sustainable Vegetable Production at the Dining Services Farm," Field Tour, Annual Virginia Nursery and Landscaping Association Field Day, Blacksburg, VA. August 14, 2014.

Hessler, A. (2014). "The Dining Services Farm: An Educational Farm-to-Campus Program at Virginia Tech. Oral Presentation, Virginia Tech University Libraries: Celebrating Extensions 100th Anniversary, Blacksburg, VA. September 10, 2014.



Tour of the DSF with the 2014 Master Gardener College.

LESSONS LEARNED

Organizational Structure:

- A meeting of stakeholders from Dining Services and the Department of Horticulture was held to discuss strategies for cost recovery associated with the high tunnel constructed at the Urban Horticulture Center. The stakeholders agreed that establishing a formal committee to guide future decision-making related to activities at the Urban Horticulture Center was necessary.
- The summer DSF crew consisted of twelve Dining Services Employees. Twelve employees seemed to be the maximum number of employees needed. A work schedule of four days per week was established in summer 2014.
- The DSF grew its operations and educational programming significantly in 2014. The creation of an assistant farm manager position may be considered in the future.

Student Involvement:

- The Sustainable Agriculture Practicum class proved to be a successful learning experience for students and was critical to keeping up with farm tasks in the fall semester. Student enrollment in the course, however, will need to increase if farm production is to expand in the future.
- Weekend volunteer opportunities were attended by several hundred Virginia Tech Students in 2014. Facilitating volunteer opportunities during the school week would improve the integration of volunteers during normal farm work hours.

Infrastructure:

- The tool storage shed known as the “feedlot shed” was reorganized to include hanging tool racks, shelving, lockers, lunch tables, and chairs. This greatly increased the functionality of the space for storage, community use, and teaching. A hand-washing sink is still needed.
- The milk parlor was cleaned and reorganized for better equipment storage. It was determined to be poorly suited as a washing and packing shed, but may be utilized as a workshop space.
- A portion of the mechanic shop was converted into a washing and packing shed. This greatly increased the ability to maintain post-harvest quality of produce.
- A battery was stolen from a Dining Services Farm delivery van. The incident reinforced the need to implement tighter security measures for vehicles and buildings.



The expansion of washing and packing space allows for more efficient and food-safe produce handling.

Production and Harvesting

- The refurbishing and use of existing weed cultivation equipment at Kentland Farm greatly improved production efficiency and yield in 2014. Equipment included two Allis Chalmers G cultivating tractors, and a Williams Tool System cultivation implement.
- In previous years, tomatoes had been difficult to grow organically due to excessive disease pressure. This year, tomatoes were grown organically in the high tunnel and with conventional pesticides at the DSF, with significant improvement in fruit yield and quality.
- Deer pressure at Kentland farm resulted in crop losses of beets, chard, and carrots, with some damage to other crops. Strategies to exclude deer, including deterrents and fencing, were used to some extent. These and other strategies need to be intensified in future years.

Produce Utilization

- A “standing order system,” consisting of a scheduled delivery of a predetermined produce order to Dining Halls, was implemented in Fall 2014. This system increased the amount of produce used and greatly simplified the ordering system.
- Beginning in Fall 2014, a delivery truck from Southgate Food Processing Center picked up produce from the DSF every Thursday. This made it possible to deliver otherwise unwieldy pallet-loads of bulky produce items from the farm to campus.

Outreach

- The name “Dining Services Garden” was adapted to “Dining Services Farm” to reflect to expanding scale of production.
- There was agreement among stakeholders that the name “Dining Services Farm” should be changed to more accurately reflect the diversity of participants involved in and impacted by the program. A committee of stakeholders will be charged with developing a new name in 2015.
- A centralized website for the DSF needs to be developed.



The Dining Services summer farm crew.

ONGOING GOALS AND PROGRESS

USDA Organic Certification:

The DSF has operated using organic management practices since its inception. We intend to apply for USDA Organic certification in 2015 to advance our mission of promoting organic farming practices and food consumption. Certified organic land will be made available to researchers seeking grant funding specific to organic farming systems.



Implement Good Agriculture Practices (GAPS) Policies and Procedures:

We are currently partnering with VT Fresh Produce Food Safety Coordinator Amber Valloton and VT Horticultural Extension Agent Kelli Scott to implement GAP policies and procedures in DSF production, harvest, and handling operations. This partnership will serve as a platform for education, research, and extension outreach around food safety. To address irrigation water quality concerns, the DSF partnered with Axiall Corporation, which donated and installed an Accu-Tab® irrigation chlorinator unit (\$4,150 value).

Additional High Tunnels:

The high tunnel built in 2014 has extended the growing season for fresh produce and provided hands-on educational opportunities for students at the Urban Horticulture Center. We intend to build additional tunnels at the DSF Kentland Farm location to expand off-season produce production. When electrical utilities and propane service is supplied to the high tunnel at the Urban Horticulture System, it will serve as the primary location for transplant propagation.

Dining Services Farm Infrastructure:

The support from management personnel at Kentland Farm has been instrumental to the growth and success of the DSF. In 2014, Kentland Farm personnel facilitated improvements in tool storage, community and teaching space, and produce washing capacity by sharing their facilities and contributing their time and expertise. The addition of a hand-washing sink, storage shelves, and lockable tool room are planned for 2015. Efforts to renew planning and fundraising for the construction of a new community building at the Kentland Farm site need to be addressed by a committee of stakeholders.

Student and Faculty Research:

In 2014, research projects were conducted by students and faculty from the Department of Horticulture and the Department of Entomology. We welcome participation from other departments in the future. The potential for undergraduate research experiences at the DSF has not yet been fully realized. A protocol for conducting undergraduate research at the farm, including space request, resource allocation, and advising, needs to be developed.

Marketing Venues for DSF Produce:

Educating and empowering students through the act of eating local, sustainably grown food is a central mission of the DSF. Serving the produce in dining halls extends this experience to students across the Virginia Tech campus. Other venues for distributing food grown by the DSF that have been considered include an on-campus farm stand and a Community Supported Agriculture (CSA) program. These venues may also provide an additional source of revenue to fund program development and hire staff. A committee of stakeholders must partner with university and community representatives to determine the feasibility of these options and their potential impact on the community.

Appendix

2014 Expenses: Paid by Dining Services

Seed, Materials, and Supplies

Order Date	Vendor	Item	Description	Amount
1/28	Johnny's Selected Seeds	Seed	Onions and spring greens, Seed Order #1	\$132.15
2/18	Nourse Farms	Seed	Asparagus Crowns	\$142.45
3/1	Johnny's Selected Seeds	Seed	Seed Order #2	\$203.14
3/1	Harris Seeds	Seed	Seed Order	\$132.90
3/4	SeedWay	Seed	Seed Order	\$396.24
3/24	Johnny's Selected Seeds	Seed	Seed Order #3	\$40.25
4/11	Seven Springs Farm	Production Materials	Organic Fertilizer, Potting Media, Fish Emulsion, Inoculent, Potassium Sulfate	\$1,529.25
4/11	Wildseed Farms	Seed	Wildflower Seeds	\$99.25
4/14	Montcroft Farms	Seed	Potatoes	\$510.00
4/14	Berry Hill Irrigation	Supplies	Drip Tape, Layflat, Black & White Plastic, Twine	\$1,119.50
4/17	Gemplers	Supplies	Safety Equipment, etc.	\$568.15
4/18	PME Compost	Production Materials	Spring compost delivery	\$562.00
5/14	Seven Springs Farm	Production Materials	Organic Fertilizer, Cover Crop Seed	\$849.25
5/16	Uline	Supplies	Produce bags, rubber bands, stickers	
5/20	Jones Family Farms	Seed	Sweet Potato Slips	\$204.00
6/18	Clear Water Testing	Supplies	Water Testing	\$35.00
8/4	Johnny's Selected Seeds	Seed	Seed Order #4	\$211.20
8/4	Sanico	Supplies	Brooms	\$39.26
9/4	Berry Hill Irrigation	Supplies	Chlorine Tablets	\$665.50
9/12	Indiana Berry & Plant Company	Seed	Strawberry Plants	\$347.95
9/17	Seven Springs Farm	Production Materials	Fertilizer	\$337.00
9/25	groworganic.com	Seed	Garlic seed	\$719.50
11/3	Seven Springs Farm	Supplies	Row Cover 40- x 430'	\$740.00

Fuel

Use Period	Vendor	Item	Description	Amount
1/17-7/31	Foster Fuel	Gas	Chevy 1500, cultivating tractor, gas cans	\$702.35
4/4-7/23	Foster Fuel	Diesel	Tractor mowing, tillage, cultivation, lay plastic	\$281.25

8/30	Foster Fuel	Diesel	Tractor tillage, cultivation	\$66.87
9/5-9/19	Foster Fuel	Diesel	Tractor tillage, pesticide application	\$57.90
9/17	Foster Fuel	Gas	Chevy 1500	\$94.11
10/23-10/27	Foster Fuel	Diesel	Tractor mowing, tillage, lift plastic, cover crops	\$59.47
10/27	Foster Fuel	Gas	Chevy 1500	\$78.52

High Tunnel Expenses

Date	Vendor	Item	Description	Amount
7/30	Puckett Greenhouses, LLC	30' x 96' high tunnel	57% cost of construction: materials and labor	\$10,061.02

Total Expenses

Seed	\$3,139.03
Production Materials	\$3,277.50
Supplies	\$3,167.41
Fuel	\$1,340.47
High Tunnel	\$10,061.02
Total All Expenses	\$20,985.43

2014 Expenses: Paid by the Department of Horticulture

Seed, Materials, and Supplies

Order Date	Vendor	Item	Description	Amount
6/4	Heaveners	Screws	Supplies	\$47.12
6/6	Heaveners	Screws	Supplies	\$10.51
6/14	Seventh Season	Watering Wand	Tools	\$24.71
6/16	Heaveners	Bolts	Supplies	\$15.84
6/27	Heaveners	Saw, Misc. carpentry supplies	Tools	\$202.68
6/28	Heaveners	Raft Angle Square	Tools	\$(16.99)
6/28	Heaveners	Drywall Square	Tools	\$23.59
6/27	Lowe's	Swanson Speed Square	Tools	\$12.95
6/27	Southern States	Wire Tensioners/sleeves	Supplies	\$33.42
7/8	Heaveners	Drill Bit	Tools	\$7.26
7/9	Heaveners	Nuts/bolts	Supplies	\$14.68
7/12	Blacksburg Feed and Seed	Liquid Calcium	Production Materials	\$5.50
7/23	Heaveners	Hose, mouse trap, mineral oil	Supplies	\$70.37
7/23	VT Surplus	Whiteboard, desk, table lockers freezer, cabinet	Furniture	\$190.00
8/11	Gemplers	Sprayer part, mouse trap, notebook	Supplies	\$65.45
8/30	Mead Tractor	Allis Chalmers G Parts	Supplies	\$10.84
8/30	Blacksburg Auto Parts	Allis Chalmers G Parts	Supplies	\$5.69
9/5	Hose House Inc	Pipe fittings/O-rings	Supplies	\$16.99
9/5	Home Depot	Cleaning Supplies, fittings for wash tanks	Supplies	\$99.90
9/17	Home Depot	Fittings	Supplies	\$101.17
9/17	Home Depot	Refund for Tax Exempt Status	Supplies	\$(5.39)
9/17	Seven Springs Farm	Cover Crops	Seeds	\$272.35
9/20	Home Depot	Fittings	Supplies	\$37.30
9/20	Home Depot	Refund of Fittings	Supplies	\$(19.96)
9/22	Heaveners	Fittings	Supplies	\$44.93
9/24	VT Surplus	Drawers and Tables	Furniture	\$55.00
9/25	Grainger	Fittings for packing shed	Supplies	\$60.56
10/3	Home Depot	Tubing, Lock Hatch, weed wacker string	Supplies	\$15.36
10/3	Home Depot	Refund of Fittings	Supplies	\$(50.62)
10/30	Heaveners	Fittings	Supplies	\$8.15
10/30	Heaveners	Refund of Fittings	Supplies	\$(6.25)
11/7	Johnnys Selected Seed	Salad greens seed.	Seeds	\$12.35

High Tunnel Expenses

Date	Vendor	Item	Description	Amount
7/30	Puckett Greenhouses, LLC	30' x 96' high tunnel	43% cost of construction: materials and	\$7,500.00

labor

Total Expenses	
Seed	\$284.70
Production Materials	\$5.50
Supplies	\$576.06
Furniture	\$245.00
High Tunnel	\$7,500.00
Total All Expenses	\$8,611.26

2014 Harvest Totals and Market Value

Product	Actual Poundage Harvested	Market Value
Arugula	25.00	\$84.38
Asparagus	108.00	\$255.27
Beans, Green	1,088.00	\$725.33
Braising Mix	60.00	\$145.40
Broccoli	2,750.50	\$2,200.40
Carrots	107.00	\$47.08
Collards	940.00	\$574.44
Corn	1,595.00	\$478.50
Cucumbers	505.00	\$116.15
Eggplant	58.00	\$25.52
Gourds	660.00	\$858.00
Head Lettuce, Green Leaf	141.00	\$108.95
Head Lettuce, Romaine	136.00	\$99.73
Kale, Lacinato	405.00	\$247.37
Kale, Red Russian	354.00	\$216.22
Mixed Salad Greens	147.00	\$343.00
Mustard Greens	191.00	\$116.72
Peas	18.00	\$22.91
Pepper, Red Bell	262.00	\$296.93
Peppers, Green Bell	896.00	\$501.76
Peppers, Poblano	342.00	\$376.20
Potatoes, Kennebec	5,383.00	\$2,045.54
Potatoes, Salem	1,398.00	\$531.24
Pumpkins	3,699.00	\$508.61
Spinach	125.00	\$312.50
Sweet Potatoes, Large	3,675.00	\$1,837.50
Swiss Chard	100.00	\$133.33
Tomato, Roma	139.00	\$213.23
Tomato, Slicer	1,433.00	\$802.48
Tomato, Sungold	2,324.00	\$1,487.36
Turnips	100.00	\$44.00
Winter Squash, Acorn	1,551.00	\$664.71
Winter Squash, Butternut	2,954.00	\$1,266.00
Winter Squash, Carnival	155.00	\$66.43
Winter Squash, Cushaw/Hubbard	67.00	\$28.71
Apples	1,512.00	\$1,020.60
Blackberries	18.50	\$80.17
Peaches	1,594.00	\$1,434.60
Raspberries	4.00	\$24.00
Rhubarb	30.50	\$52.43
Watermelon	3,560.00	\$415.33

Basil, Genovese	235.00	\$1,762.50
Lemon Balm	6.00	\$63.00
Sage	5.00	\$52.50
Total	40,856.50	\$22,687.06