



Homefield Farm at Kentland Farm

2019 Annual Report



Acknowledgments

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Homefield Farm summer crew, Dining Services
Sustainable Agriculture Practicum students

Photographs courtesy of Victoria Boatwright, Darren Van Dyke, and Alex Hessler.

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Executive Summary

A Year in Review

Homefield Farm is six-acre certified organic vegetable farm located at Kentland Research Farm that provides experiential learning opportunities in sustainable agriculture and grows fresh produce for Virginia Tech Dining Services. The farm is operated collaboratively by Virginia Tech Dining Services, the School of Plant and Environmental Sciences, and the College of Agriculture and Natural Resources. Homefield has hosted the Sustainable Agriculture Practicum, a hands-on course in organic vegetable production, since 2014. Twenty-two students enrolled in the course in the spring and fall of 2019. Three students were hired to work on the farm during summer break. Assistant farm manager Kyle Brolis, who joined the Homefield Farm team in 2018 and was instrumental to it's success, departed in August to pursue an exciting opportunity at another farm.

In 2019, Homefield provided 41,060 pounds of produce, valued at \$63,000, to campus dining centers.. Total operating costs, excluding labor, were \$28,450. The farm maintained it's USDA Organic Certification, and passed a USDA Good Agricultural Practices (GAP) food safety audit.

Homefield Farm put on a weekly on-campus farm stand for ten weeks during the 2019 fall semester. A hands-on course, the Farm Market Field Study, was developed and implemented to engage Virginia Tech students in the management and operation of the farm stand. Seven students oversaw the set-up and operation of the stand, and collaborated with faculty from multiple departments to explore marketing and business management as it related to the farm stand. Farm stand sales totaled \$6,434 from 3,160 pounds of produce.



Crop Production and Value

Total Harvest: 44,220 pounds

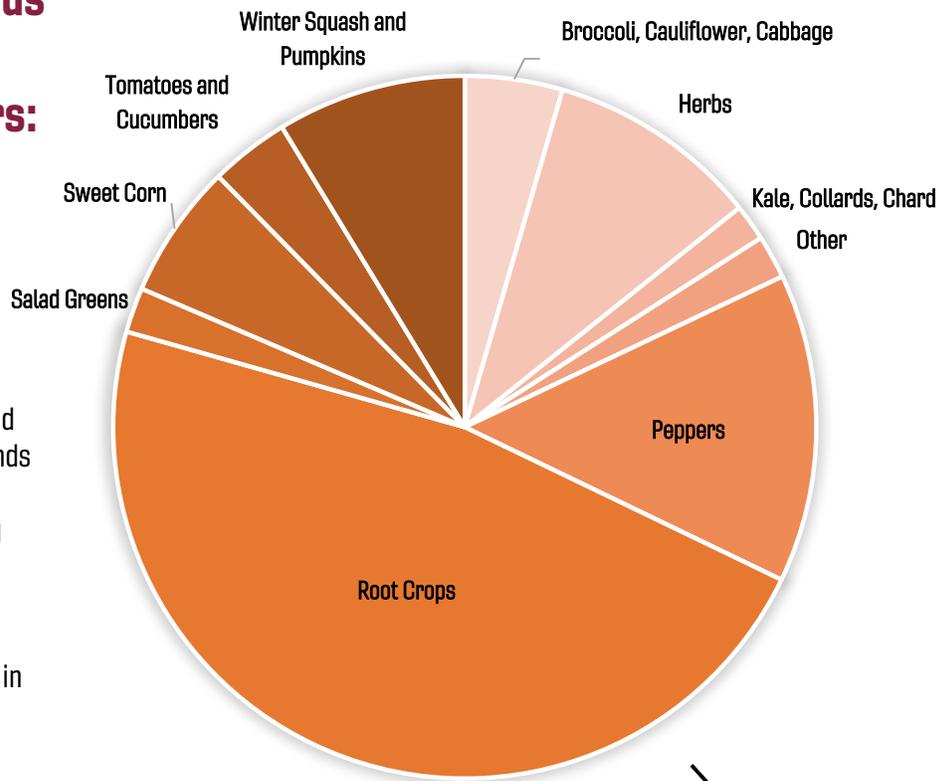
**Delivered to Dining Centers:
41,060 pounds**

Market Value : \$63,006*

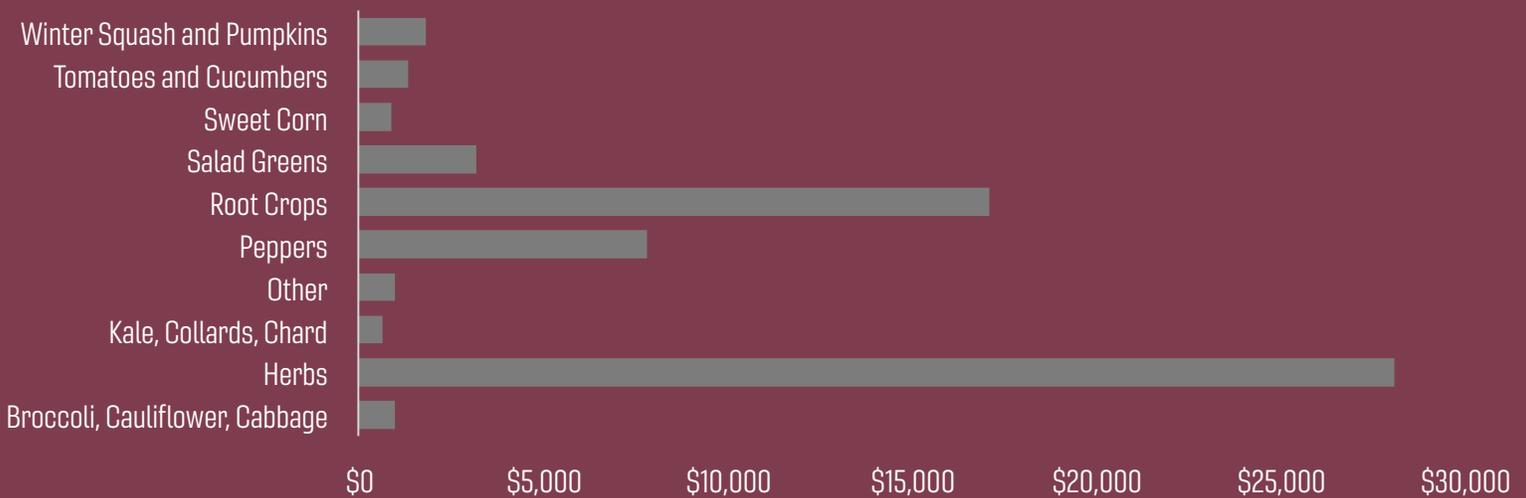
**Crops delivered to Dining Centers*

More than 30 different types of vegetables and herbs were grown in 2019. Of the 44,220 pounds harvested, 41,060 were delivered to campus dining centers, with the remaining 3,160 being sold at the on-campus farm stand

Root crops, peppers, and culinary herbs comprised the greatest portion of production in both weight and value. Excellent yields from these crops, along with a consistent need for them on the menus of multiple dining units, facilitated the large production increase experienced this year.



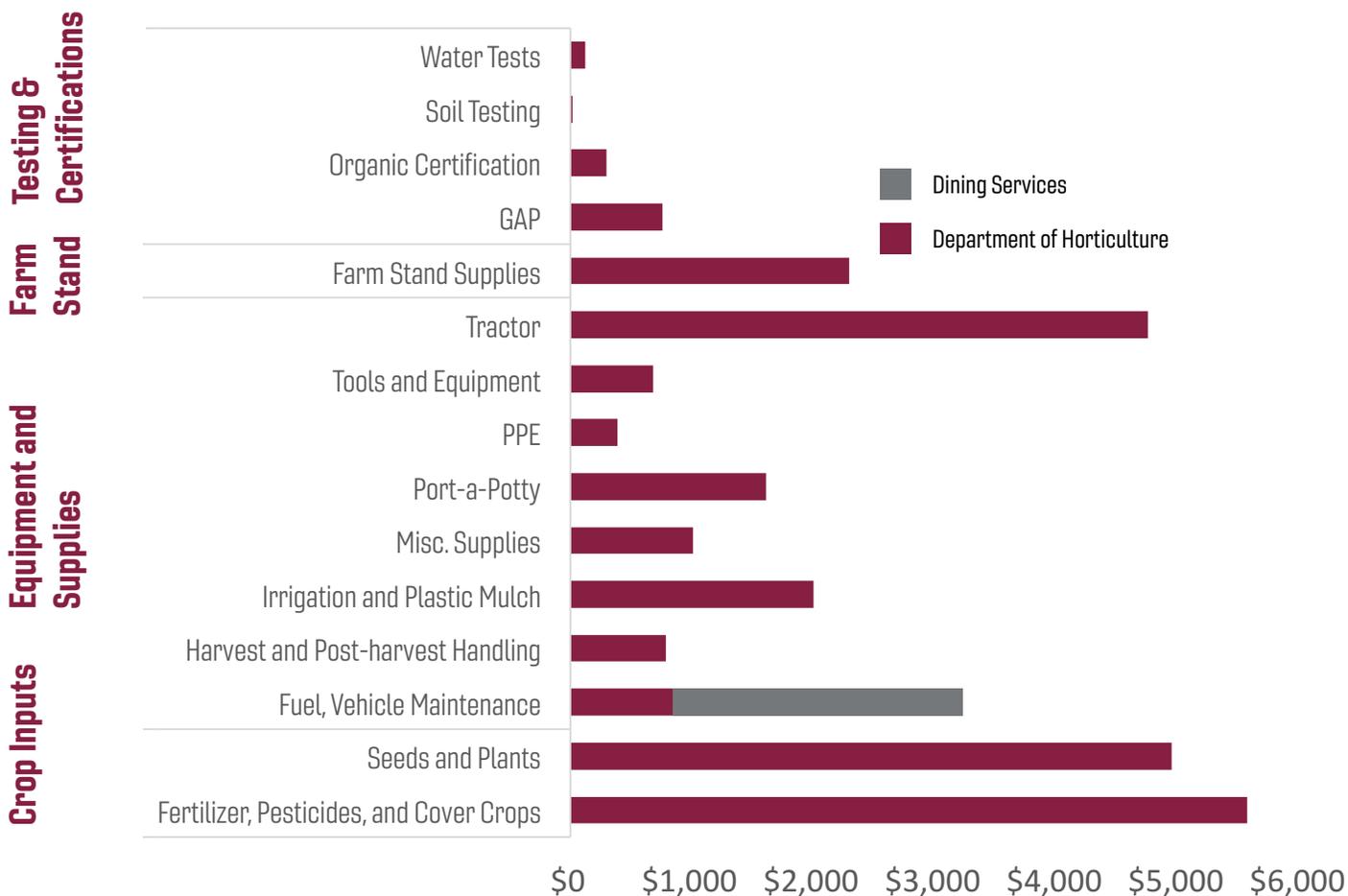
Market Value of Crops Delivered to Dining Centers



Operating Expenses

2019 operating costs for Homefield Farm totaled \$28,450. Dining Services contributed \$26,065 (92%), and the School of Plant and Environmental Sciences contributed \$2,384 (8%). \$4,750 (17%) of operating costs are attributed to the purchase of a used tractor. A detailed expense report can be found in the appendix.

2019 Operating Expenses



Student Engagement

Sustainable Agriculture Practicum

In 2019, twenty-two students participated in the Sustainable Agriculture Practicum, the hands-on course in organic vegetable production that takes place at Homefield Farm and the Urban Horticulture Center.



Sustainable Agriculture Practicum students proudly display their harvest of sunflowers destined for the on-campus farm stand.

Student Summer Crew

During summer break, a three-person student crew is hired to work at Homefield Farm. These students are responsible for harvesting crops that are frozen and preserved for use during the semester. They also plant and tend many of the crops that are harvested in the fall when students return to campus.



The summer farm crew harvests parsley that will be made into chimichurri by the staff at Dietrick Dining Center

On-campus Farm Stand

The on-campus farm stand provides Hokie students and employees the opportunity to enjoy and share Homefield Farm produce in their own kitchens. First piloted in 2018, the farm stand was open business for three hours on Tuesdays for ten weeks during the fall semester. The location, time, and ability to accept meal plan money made the farm stand accessible and convenient to busy students eager for fresh, organic produce. The farm stand was operated by seven students enrolled in the Farm Market Field Study, taught by farm manager Alex Hessler.



Total Sales

Value: \$6,343

Weight: 3,160 Lb.

Detailed crop sales available in the appendix

2019 Farm Stand Sales



Public Engagement

Tours and Events

- Ut Prosim Society tour; April 26.
- Old Guard Reunion tour; May 23.
- CALS Alumni Reunion tour; June 6.
- Dining Services Culinary Camp tour; June 25.
- Governors School for Agriculture tour; July 16.
- Junior Master Gardeners tour; July 18.
- Hill City Master Gardeners tour; Aug. 15.
- Twilight Farm Tour, Virginia Cooperative Extension; Aug. 22.
- An Evening at Kentland Farm meal and tour; Sept 9.
- Introduction to Civic Agriculture tour; Sept. 20th.



Hokie families tour Homefield Farm before enjoying a farm-to-table dinner prepared with Homefield Farm produce at An Evening At Kentland Farm during Parents Weekend.

On-Farm Research

Basil is an important crop at Homefield Farm: more than 1800 pounds of it were produced in 2019 to be turned into pesto and served in campus dining centers all year long. In 2019, farm manager Alex Hessler collaborated with Virginia Tech plant Pathologist Dr. Mary Anne Hansen to evaluate four new varieties of basil with purported resistance to basil downy mildew, a fungal disease that attacks basil leaves and reduces quality and yield. The evaluation found that, compared to standard non-resistant varieties, the new varieties yield up to twice as much over the course of the summer.

A more detailed discussion of the project can be found in a video produced by Virginia Cooperative Extension, available at the following link: <https://www.youtube.com/watch?v=ilOX1lljvjc>



Appendix

Crop Production and Value

Below is the total yield and market value of crops grown at Homefield Farm and delivered to dining centers. Market value was assigned to each crop based on typical prices charged by Produce Source Partners (PSP), Virginia Tech's contract produce supplier. Pricing for local produce was used when available. For items not available locally, national pricing was used.

Crop	Crop Category	Weight (pounds)	Price per Pound	Value
Arugula	Salad Greens	86.5	\$3.50	\$302.75
Asparagus	Other	93	\$2.25	\$209.25
Basil	Herbs	1834.75	\$7.00	\$12,843.25
Beets	Root Crops	1367	\$1.00	\$1,367.00
Braising Greens	Kale, Collards, Chard	85	\$2.00	\$170.00
Broccoli	Broccoli, Cauliflower, Cabbage	238.35	\$0.63	\$150.16
Cabbage, Green	Broccoli, Cauliflower, Cabbage	719	\$0.25	\$179.75
Cabbage, Napa	Broccoli, Cauliflower, Cabbage	842	\$0.75	\$631.50
Carrots	Root Crops	3546	\$1.50	\$5,319.00
Cauliflower	Broccoli, Cauliflower, Cabbage	43.5	\$0.88	\$38.28
Cilantro	Herbs	898.1	\$7.00	\$6,286.70
Cucumbers	Tomatoes and Cucumbers	172.6	\$1.00	\$172.60
Decorative Gourd	Winter Squash and Pumpkins	173	\$0.80	\$138.40
Dill	Herbs	28.2	\$7.00	\$197.40
Green Beans	Other	103	\$1.00	\$103.00
Kale	Kale, Collards, Chard	260.4	\$0.72	\$187.49
Kohlrabi	Root Crops	374.8	\$0.75	\$281.10
Lettuce Head	Salad Greens	147.75	\$1.00	\$147.75
Lettuce Mix	Salad Greens	188.5	\$2.20	\$414.70
Onion	Root Crops	1266.8	\$0.75	\$950.10
Parsley	Herbs	1255	\$7.00	\$8,785.00
Parsnips	Root Crops	12.8	\$1.50	\$19.20
Pepper, Green Bell	Peppers	50.8	\$0.76	\$38.61
Pepper, Jalapeno	Peppers	49.75	\$1.05	\$52.24
Pepper, Poblano	Peppers	475.7	\$1.45	\$689.77
Pepper, Red	Peppers	4933	\$1.34	\$6,610.22
Pepper, Thai Chili	Peppers	26.89	\$1.50	\$40.34
Pepper, Yellow	Peppers	297	\$1.34	\$397.98
Potato, Purple	Root Crops	2236	\$1.25	\$2,795.00
Potato, Red	Root Crops	1691	\$1.25	\$2,113.75
Potato, White	Root Crops	1000	\$0.39	\$390.00
Power Greens	Salad Greens	391	\$5.83	\$2,279.53
Pumpkin, Decorative	Winter Squash and Pumpkins	622	\$0.50	\$311.00
Pumpkin, Pie	Winter Squash and Pumpkins	66	\$0.50	\$33.00

Continued on next page

Appendix

Crop Production and Value:

Continued from previous page

Radishes	Root Crops	125.5	\$1.50	\$188.25
Rhubarb	Other	232	\$2.00	\$464.00
Spinach	Salad Greens	33	\$1.80	\$59.40
Squash, Yellow	Other	105.3	\$0.80	\$84.24
Sweet Corn	Sweet Corn	2544	\$0.35	\$890.40
Sweet Potato	Root Crops	5730.4	\$0.36	\$2,062.94
Sweet Potato, D2	Root Crops	1365	\$0.45	\$614.25
Sweet Potato, Fingerling	Root Crops	505	\$1.50	\$757.50
Swiss Chard	Kale, Collards, Chard	343.75	\$0.90	\$309.38
Tomato, Beefsteak	Tomatoes and Cucumbers	128.5	\$1.28	\$164.48
Tomato, Cherry	Tomatoes and Cucumbers	56	\$4.00	\$224.00
Tomato, Roma	Tomatoes and Cucumbers	1142	\$0.70	\$799.40
Turnip, Salad	Root Crops	173.7	\$1.50	\$260.55
Watermelon	Other	175	\$0.20	\$35.00
Winter Squash, Acorn	Winter Squash and Pumpkins	207.9	\$0.50	\$103.95
Winter Squash, Buttercup	Winter Squash and Pumpkins	127.4	\$0.50	\$63.70
Winter Squash, Butternut	Winter Squash and Pumpkins	1776.6	\$0.50	\$888.30
Winter Squash, Delicata	Winter Squash and Pumpkins	156	\$0.50	\$78.00
Winter Squash, Red Kuri	Winter Squash and Pumpkins	445.3	\$0.50	\$222.65
Zucchini	Other	112.74	\$0.80	\$90.19
Total		41060.28		63006.385

Appendix

Farm Stand Sales

Crop	Sales	Weight
Arugula	67	10.5
Basil	78.5	9.25
Beets	174.5	107
Broccoli	237.5	90.65
Cabbage, Green	33	24
Cabbage, Napa	46	70
Carrots	464	238
Cauliflower	18.75	7.5
Cilantro	120	15
Cucumbers	66.8	33.4
Dill	52	6.5
Kale	156.5	49.5
Kohlrabi	57.75	16.8
Lettuce Head	42	14.25
Lettuce Mix	52	6.5
Miscellaneous	158	158
Onions	204.2	176.2
Parsnips	7.2	7.2
Pepper, Green Bell	33	7.2
Pepper, Jalapeno	64.5	6.45
Pepper, Poblano	91.5	18.3
Pepper, Red	225.25	53.5
Pepper, Thai Chili	48.2	2.41
Pepper, Whoe Plant	25	1
Peppers, Red	170	42.5
Potato, Red	237	146
Power Greens	222	29
Pumpkins and Gourds	419	670
Radishes	62	15.5
Scallions	45	15
Spinach	168	21
Squash, Yellow	44.8	5.6
Sunflower	677	63.25
Sweet Corn	42	42
Sweet Potato	287.9	204.6
Swiss Chard	33	11.25

Crop	Sales	Weight
Tomato, Beefsteak	282	94
Tomato, Cherry	346.5	56.5
Tomato, Roma	90	58
Turnip, Salad	10.6	5.3
Watermelon	58	177
Winter Squash, Acorn	57.15	38.1
Winter Squash, Buttercup	122.4	81.6
Winter Squash, Butternut	168.75	110.4
Winter Squash, Delicata	105	70
Winter Squash, Red Kuri	94.05	62.7
Zucchini	78.4	11.76
Total	6343.7	3160.17

Appendix

Expenses

Category	Sub-Category	Vendor	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Grand Total	Purchaser
Crop Inputs	Fertilizer, Pesticides, and Cover Crops	Seven Springs Farm Organic Farming		247		0	4736			0		585			\$5,568.00	Dining
Crop Inputs	Seeds and Plants	Fedco Seeds			0	1616.25									\$1,616.25	Dining
Crop Inputs	Seeds and Plants	Harris Seeds			0	69.64			51.94						\$121.58	Dining
Crop Inputs	Seeds and Plants	High Mowing Organic Seeds					0								\$-	Dining
Crop Inputs	Seeds and Plants	Johnny's Selected Seeds	177.2	0	0	1811.81	45.06	47.84	469.88	74.85		0	73		\$2,699.64	Dining
Crop Inputs	Seeds and Plants	Jones Family Farms			0			198							\$198.00	Dining
Crop Inputs	Seeds and Plants	Seedway LLC			0	307.88									\$307.88	Dining
Equipment and Supplies	Fuel	Reimbursement Kentland Farm												273.01	\$273.01	Dining
Equipment and Supplies	Fuel, Vehicle Maintenance	Fleet Services													\$566.50	Dining
Equipment and Supplies	Fuel, Vehicle Maintenance	M&M Tire							2383.93						\$2,383.93	SPES
Equipment and Supplies	Harvest and Post-harvest Handling	Clark Food Service Equipment								69.98					\$69.98	Dining
Equipment and Supplies	Harvest and Post-harvest Handling	PURQUA PRODUCTS INC AS 0819								107.91					\$107.91	Dining
Equipment and Supplies	Harvest and Post-harvest Handling	Uline Inc						208.5	261.89			0	139.5		\$609.89	Dining
Equipment and Supplies	Irrigation and Plastic Mulch	BERRY HILL IRRIGATION AS 1015										217.9			\$217.90	Dining
Equipment and Supplies	Irrigation and Plastic Mulch	BERRY HILL IRRIGATION AS 1115											-6.97		\$(6.97)	Dining
Equipment and Supplies	Irrigation and Plastic Mulch	Berry Hill Irrigation, Inc.							1788.74						\$1,788.74	Dining
Equipment and Supplies	Misc. Supplies	Blacksburg True Value Hardware				24.96				67.99			33.98		\$126.93	Dining
Equipment and Supplies	Misc. Supplies	Puckett Greenhouses LLC			0	492.6									\$492.60	Dining
Equipment and Supplies	Misc. Supplies	Rain-Flo Irrigation LLC					0	207.5							\$207.50	Dining
Equipment and Supplies	Misc. Supplies	Rimol Greenhouse Systems Inc		180.66											\$180.66	Dining
Equipment and Supplies	Port-a-Potty	Tidy Services					214		398	199	199	199	199	199	\$1,607.00	Dining
Equipment and Supplies	PPE	Gempler's Inc							0	390.81					\$390.81	Dining
Equipment and Supplies	Tools and Equipment	GIH GLOBALINDUSTRIAL EQ AS 0916									176.14				\$176.14	Dining
Equipment and Supplies	Tools and Equipment	W W Grainger Inc							378.73			127.4			\$506.13	Dining
Equipment and Supplies	Tractor	Reimbursement Kentland Farm					143.01								\$143.01	Dining
Equipment and Supplies	Tractor	Reimbursement Kentland Farm						4607.55							\$4,607.55	Dining

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Appendix

Expenses

Continued from previous page

Category	Sub-Category	Vendor	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Grand Total	Purchaser
Farm Stand	Farm Stand	Amazon.com							193.98	98.58	615.61				\$908.17	Dining
Farm Stand	Farm Stand	DISPLAYS2GO								0	483.96				\$483.96	Dining
Farm Stand	Farm Stand	Lowe's Home Centers Inc								0		899.79			\$899.79	Dining
Testing and Certification	GAP	Virginia Department of Agriculture		756											\$756.00	Dining
Testing and Certification	Organic Certification	Quality Certification Services					0	300							\$300.00	Dining
Testing and Certification	Soil Testing	Soil Test Fe-ISR-Testing of Soil Sa				16									\$16.00	Dining
Testing and Certification	Water Tests	Clear Creek Water Works LLC												125	\$125.00	Dining

Appendix

Expenses: Fuel

Vehicle	Date	Gallons	Cost
Van	11/6/18	27.47	\$59.88
Van	9/20/18	20.02	\$47.45
Van	8/2/18	24.37	\$57.76
Van	7/2/18	24.12	\$53.79
Van	5/23/18	24.79	\$61.48
Van	4/27/18	26.16	\$62.26
Van	3/20/18	27.64	\$60.53
Van	1/26/18	23.01	\$52.23
Truck	12/7/18	7.14	\$13.28
Truck	10/17/18	12.24	\$28.15
Truck	8/21/18	12.49	\$28.48
Truck	7/9/18	14.1	\$33.42
Truck	5/30/18	14.89	\$37.47
		Total	\$596.18

Appendix

Summer Produce Request (for processing)

OWENS				
ITEM	NAME	ORDER THIS WEEK LB	STANDARD LB	DELIVERY DATE
1353	KF RHUBARB		125	
1309	KF GREEN BEANS		100	
1237	KF TOMATO ROMA		500	
1332	KF BASIL		500	
1284	KF CILANTRO		100	
1285	KF PARSLEY		200	
1289	KF THYME		150	
1287	KF OREGANO		50	
1290	KF MINT		35	
WEM				
ITEM	NAME	ORDER THIS WEEK LB	STANDARD LB	DELIVERY DATE
1332	KF BASIL		80	
1285	KF PARSLEY		80	
1284	KF CILANTRO		80	
D2				
ITEM	NAME	ORDER THIS WEEK LB	STANDARD LB	DELIVERY DATE
FRESH USE				
1285	KF PARSLEY		800	
1284	KF CILANTRO		800	
PROCESSING				
1149	KF CORN SHUCKED		150	Orientation: July 4 - Aug 1
1184	KF LETTUCE MIX		50	Orientation: July 4 - Aug 1
1294	KF CARROTS SLICED		20	Orientation: July 4 - Aug 1
1284	KF CILANTRO		30	Orientation: July 4 - Aug 1
1285	KF PARSLEY		10	Orientation: July 4 - Aug 1
1183	KF KALE		75	Orientation: July 4 - Aug 1
1364	KF POTATO PURPLE QUARTERED		50	Orientation: July 4 - Aug 1
1366	KF POTATO RED QUARTERED		50	Orientation: July 4 - Aug 1
TURNER				
ITEM	NAME	ORDER THIS WEEK LB	STANDARD LB	DELIVERY DATE
1332	KF BASIL		725	June
1284	KF CILANTRO		50	June
1285	KF PARSLEY		50	June
1149	KF CORN SHUCKED		640	
1237	KF TOMATO ROMA	300	3,000	Friday
1353	KF RHUBARB		125	June
1003	KF ASPARAGUS		-	
1183	KF KALE		6,000	

Appendix

Fall Produce Request

Continued from previous page

UNIT: D2					
ITEM	NAME	ORDER THIS WEEK LB	STANDARD LB	DELIVERY DATE	NOTES
1278	PUMPKIN/GOURD			Sunday	
1183	KF KALE		40	Sunday	Rotate with Chard
1343	KF SWISS CHARD		40	Sunday	Rotate with Kale
1203	KF POWER GREENS MIX		25	Sunday	
1284	KF CILANTRO		30	Monday	
1294	KF CARROTS SLICED		40	Monday	
1364	KF POTATO PURPLE QUARTERED		100	Monday	Rotate with others
1366	KF POTATO RED QUARTERED		100	Monday	Rotate with others
1367	KF POTATO WHITE QUARTERED		100	Monday	Rotate with others
1329	KF BUTTERNUT PEELED/CUBED		20	Monday*	Every other week
1223	KF SWEET POTATO		200	Monday	
1329	KF BUTTERNUT PEELED/CUBED		20	Tuesday*	Every other week
1329	KF BUTTERNUT PEELED/CUBED		20	Wednesday*	Every other week
1203	KF POWER GREENS MIX		25	Wednesday	
1364	KF POTATO PURPLE QUARTERED		100	Wednesday	Rotate with others
1366	KF POTATO RED QUARTERED		100	Wednesday	Rotate with others
1367	KF POTATO WHITE QUARTERED		100	Wednesday	Rotate with others
1180	KF CAULIFLOWER		20	Thursday	
1329	KF BUTTERNUT PEELED/CUBED		20	Thursday*	Every other week
TURNER					
ITEM	NAME	ORDER THIS WEEK LB	STANDARD LB	DELIVERY DATE	NOTES
1388	KF NAPA CABBAGE SLICED		200	Sunday	
1375	KF BRAISING GREENS		80	Sunday	
1203	KF POWER GREENS MIX		30	Sunday	
1376	KF SPINACH		20	Sunday	
1237	KF TOMATO ROMA		400	Sunday	
1199	KF POTATO PURPLE		160	Monday	
1361	KF POTATO RED		160	Monday	
1363	KF POTATO WHITE		160	Monday	
1187	KF PEPPER POBLANO		20	Monday	
1376	KF SPINACH		20	Monday	
1325	KF SWEET POTATOES PEELED		300	Monday	
1376	KF SPINACH		20	Tuesday	
1203	KF POWER GREENS MIX		30	Wednesday	
1376	KF SPINACH		20	Wednesday	
1376	KF APPLES		40	Thursday	
1179	KF CARROTS		20	Thursday	
1283	KF SPINACH		20	Thursday	
1143	KF BEETS		20	Friday	
1336	KF TURNIPS STORAGE		50	Friday	
1280	KF BUTTERNUT		50	Friday	

Appendix

Field Map

Below is a graphic representation of the fields and crop locations

Roadway	O-15	CC	
	O-14	Parsley, Onions, one bed sweet corn	
	O-13	Carrots, Cilantro, Dill, Beans	
	O-12	Peppers, HH Watermelon	
	O-11	Corn Basil	
	O-10	Fall Brassica, Chard, Scallion, Late Watermelon	
	O-9	Transitional - Cover Crop	
	O-8	Transitional - Cover Crop	
	O-7	Carrots, Parsnips, Beets	
	O-6	Baby Greens, Lettuce	
	O-5	Baby Greens, Lettuce	
	O-4	Fall Brassica, 1 bed beets	
	O-3	Cover Crop	
	O-2	Transitional - Cover Crop	
	O-1	Asparagas, Fall Sweet Corn and Zuchinni	
	C-15	Flowers	
	C-14	Cover Crop	
	C-13	Winter Squash	
	C-12	Cover Crop	
	C-11	Sweet Potatoes, Spring Beets	
	C-10	Flowers	
	C-9	Kuhar Cucurbits	
	C-8	Kuhar Brassica	
	C-7	Potato	
	C-6	Potato - 1 bed pumpkins	
	C-5	Cover Crop	
	C-4	Cover Crop	
	C-3	Cover Crop	
	C-2	Flowers	
	C-1	MOVEABLE HIGH TUNNEL	
	Demo	DEMO	

Appendix

Farm Map

