



BOSTON AREA
GLEANERS
FROM FARMS TO FAMILIES

SURPLUS COMMODITY CROP PROGRAM

*Decreasing On-Farm Food Waste by Creating
Alternative Markets for Surplus Crops*

Charlotte Border
Dylan Frazier



THE PROBLEM

- Up to 40% crops never harvested
- Wholesale markets don't support the movement of surplus
- Thin margins and high harvest labor costs cause farmers to abandon Grade A crops

FARM LEVEL FOOD WASTE

A quick assessment at the end of the season reveals what's left

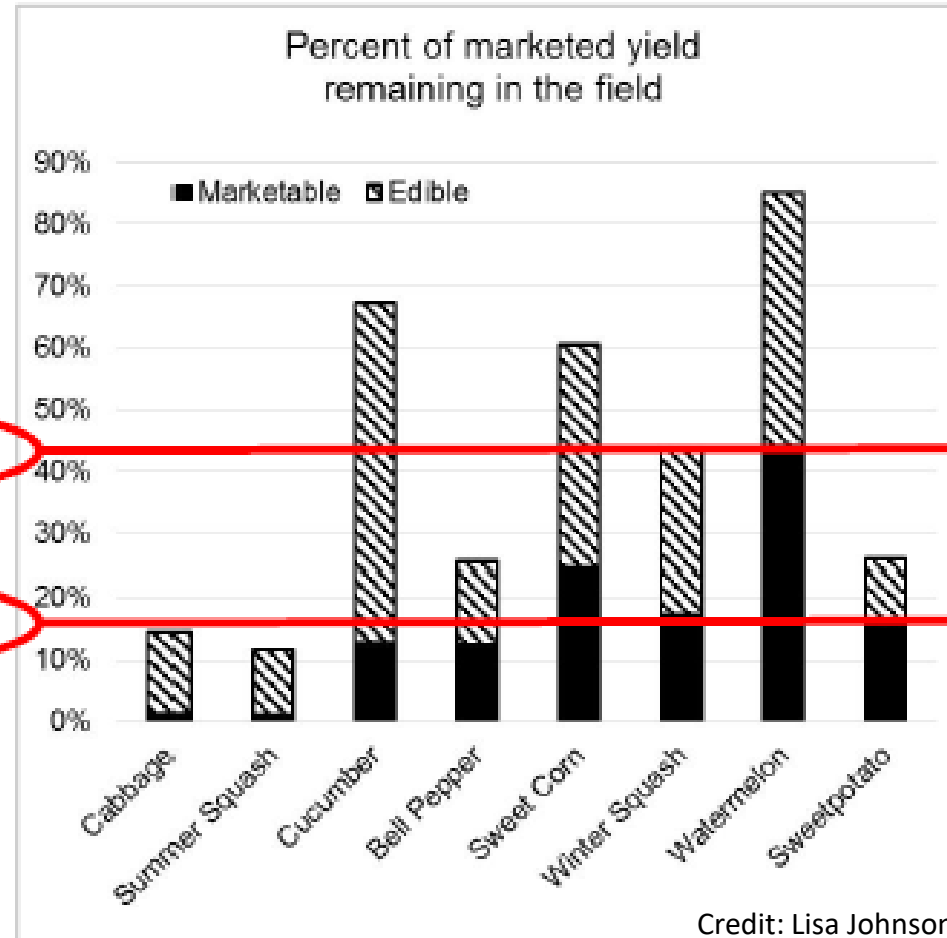
End of season harvest potential protocol:

1. Note information and gather equipment
2. Mark rows randomly in the field
3. Harvest rows separately
4. Sort samples into categories
5. Weigh and record sample in each category
6. Calculate estimate of potential in field

Avg of 42% of yield
unharvested but edible

Avg of 16% of yield is
marketable but unharvested

**The findings suggest that
yield can be increased by
14 – 85% by continuing to
harvest**



- Institutional buyers spend the majority of their budget outside the region
 - Lower quality produce
 - Inflexible system
 - Higher carbon footprint
 - Complexities of logistics prevents regional farmers from marketing surplus
- **These forces create waste!**

THE PROBLEM



THE PROBLEM



- Traditional gleaning models are highly reactive
- Don't address systemic causes of on farm food waste
- Difficult to scale
- Overly reliant on philanthropy



THE SOLUTION: BAG'S SURPLUS COMMODITY CROP PROGRAM

*“Creating alternative markets
for surplus”*

- Functions like a Regional Food Hub for surplus crops
 - Proactively designed to reduce on-farm food waste
 - Establishes new markets
 - Fair & transparent pricing
 - Predictable & reliable service to institutions
- Leverage institutional purchasing power
- **Generate sustainable, long-term earned revenue for BAG**

THE SOLUTION





How DOES THE SCCP WORK?



**Coordinate
crop planning
and negotiate
pricing**



**Coordinate harvest
schedule and
volumes**



**Aggregate & pack
to order**

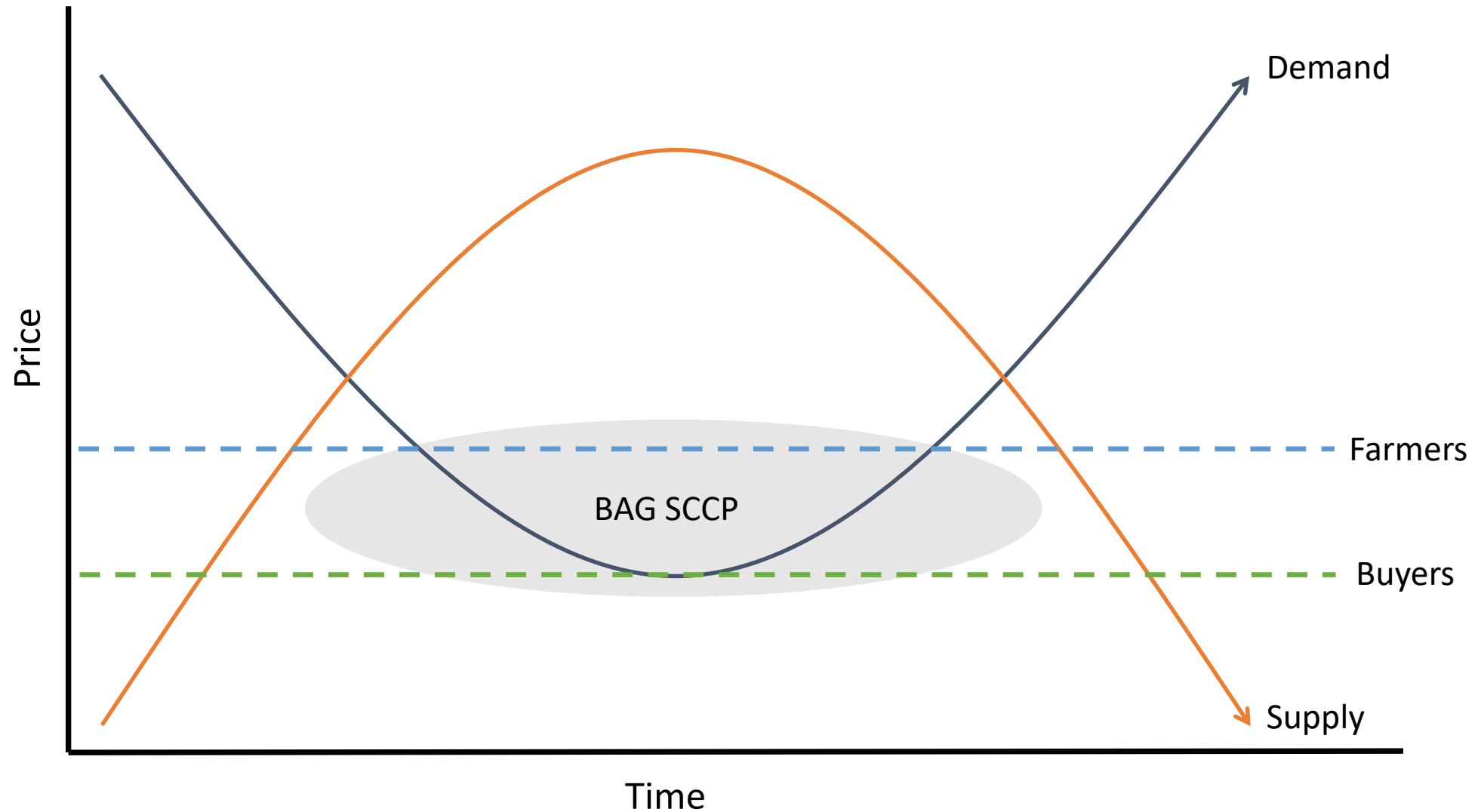


**Customized pull
through ordering
system**

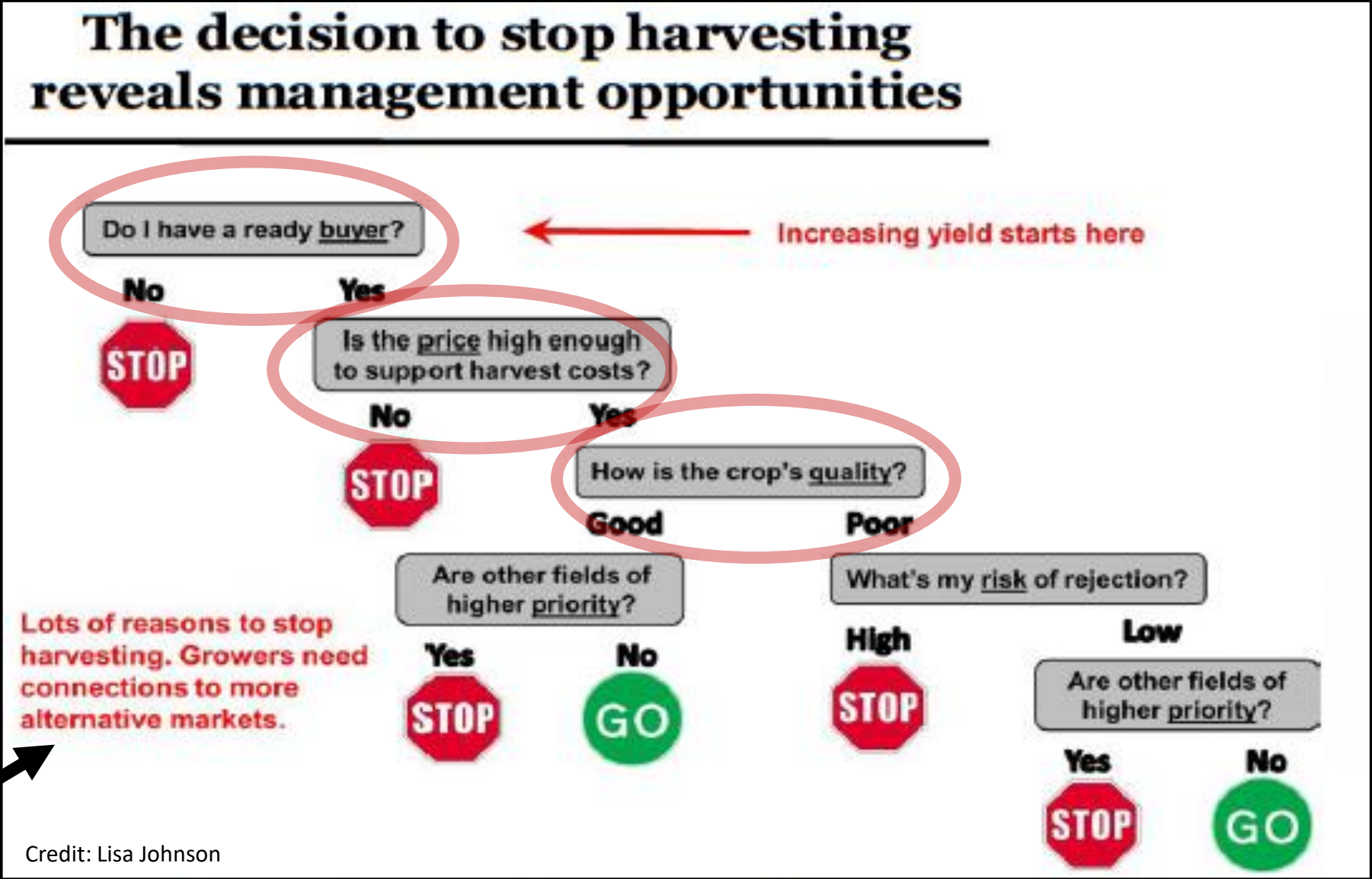


**Distribution to
institutions**

FARMER BREAK EVEN POINT VS. BUYER WILLINGNESS TO PAY



CAPTURES SURPLUS UPSTREAM



- ✓ Leverages our expertise in managing highly perishable inventory
- ✓ Targets surplus crops in the field
 - ✓ Farmers able to continue prioritizing their highest margin harvests/sales
 - ✓ No additional investment in harvesting/packing/marketing/ shipping
- ✓ Strong & long-standing relationships with farmers



COMPETITIVE ADVANTAGE



COMPETITIVE ADVANTAGE

- ✓ Customized inventory management software
 - ✓ Streamlines movement of surplus
 - ✓ Full traceability
 - ✓ Supports scaling of program
- ✓ Historical data on donated crops allows us to forecast surplus in advance
- ✓ Pre-existing relationships with institutional buyers
 - ✓ MEFAP Certified Vendor



PROOF OF CONCEPT:

PILOTED 2017

LAUNCHED 2018

MVP FEEDBACK: BUYERS



INSTITUTIONAL BUYERS:

- Quality is superior and pricing is better than any other source
- Program helps to achieve sustainability goals
- Consistent and customized orders reduce challenges of managing perishable inventory
 - Value just-in-time delivery
- Valuable access to produce from multiple farms through one point of coordination
- Compliance with third party food safety certification

PARTNER FARMS:

- View BAG as a more reliable and trustworthy partner than wholesalers
- Value transparency of pricing & net 30 payments
- Valuable to have BAG manage logistics, cold storage, marketing & distribution
- Appreciate flexibility
- Value accurate and timely reports
- Appreciate working with a team that has extensive farming knowledge

MVP FEEDBACK: GROWERS

“This program has made the difference in my ability to make payroll”

“The Gleaners saved this farm from operating at a deficit. It’s made the difference between being in the red and the black.”

“Too often non-profits don’t value our work and expect us to keep donating every year while we struggle to pay our bills.”

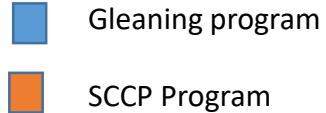
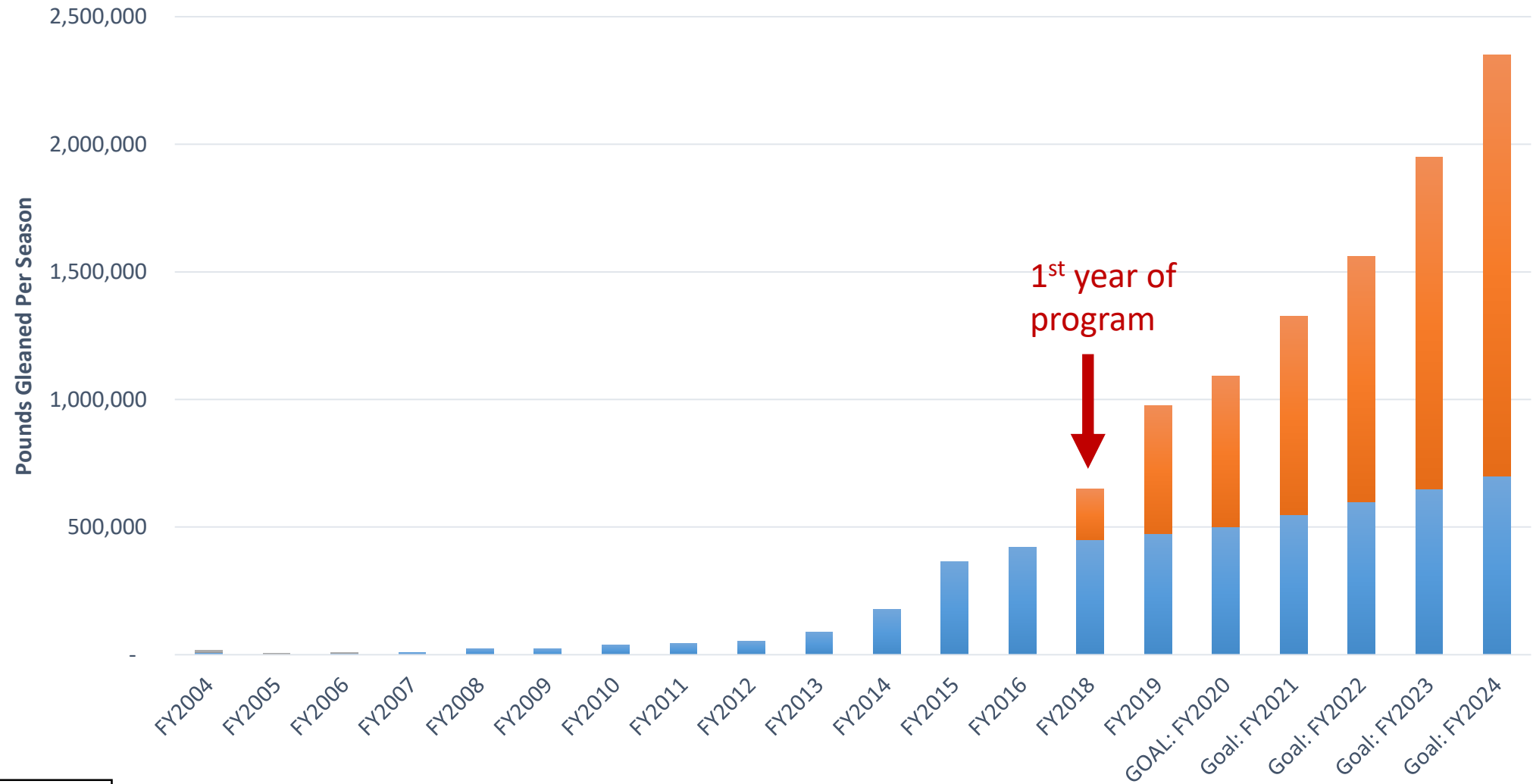
- Program is financially self-sufficient
- Designed to cover 70% of entire organization's operating budget
- Projected to break even in 2022 (year 4)
- Cumulative Totals through 2023
 - 6.3 million pounds distributed
 - \$1.8 million in total revenue
 - Over \$1 million in new revenue to partner farms

	2019	2020	2021	2022	2023
Total Revenue	\$121,800	\$186,250	\$334,800	\$495,500	\$628,500
Total Costs	\$157,115	\$244,515	\$361,065	\$482,465	\$580,465
Total Profit	(35,315)	(38,265)	(26,265)	13,035	48,035
Net Margin (%)	-29%	-21%	-8%	3%	8%

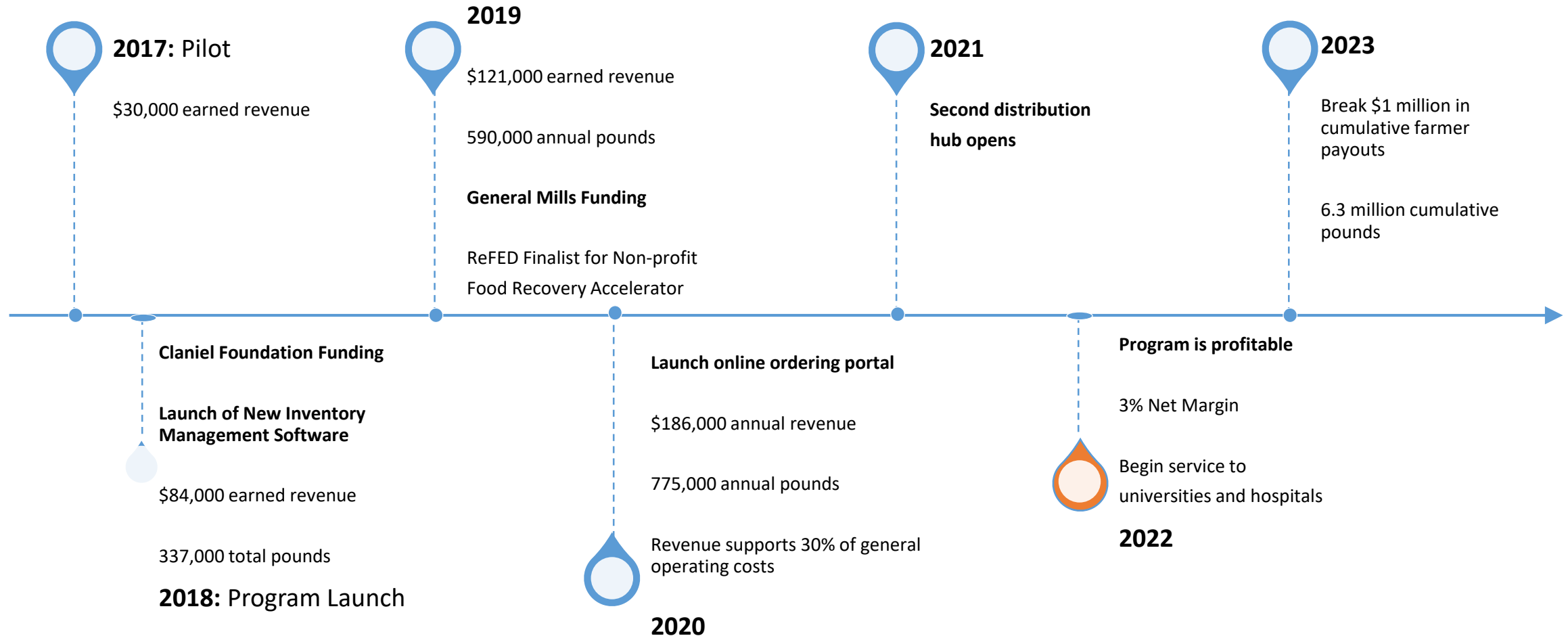
FINANCIAL PROJECTIONS

SURPLUS COMMODITY CROP PROGRAM

SCALING THE PROGRAM



PROJECT TIMELINE & MILESTONES





APPENDIX

(SLIDES 20 TO 36)

Unit Economics: Costs and Pricing per LB

Product Description	Source	Package type	LBS	Total BU	COGS Pre-Harvest Access Fee / BU	COGS Post-Harvest Access Fee / BU	Harvest Cost with Paid labor (Staff) / BU	Storage Cost / BU	Pack-Out cost / BU (with vol)	Packaging cost	Palletized Shipping Cost / BU	Cost per Unit	Cost per LB	Confirmed 2019 Institutional Pricing per LB
Apples Loose - Orchard run	Field Harvest - Orchard run	Banana Box	40	1	\$ 2.00	\$ -	\$ 2.00	\$ 1.25	\$ 0.50	\$ 0.67	\$ 1.25	\$ 7.67	\$ 0.19	\$ 0.19
Apples Loose - Long Term Storage	Surplus Farm Storage	Banana Box	40	1	\$ -	\$ 6.00	\$ 2.00	\$ 0.25	\$ 0.50	\$ 0.67	\$ 1.25	\$ 10.67	\$ 0.27	\$ 0.19
Apples Bagged	Surplus Farm Storage	Banana Box	30	0.75	\$ -	\$ 6.00	\$ -	\$ 0.25	\$ 3.25	\$ 1.27	\$ 1.25	\$ 12.02	\$ 0.40	\$ 0.44
5 dozen corn	Field Harvest	Corn Bag	65	1	\$ 1.50	\$ -	\$ 3.00	\$ 0.75	\$ -	\$ 0.45	\$ 1.00	\$ 6.70	\$ 0.10	\$ 0.10
Butternut Field Harvest	Field Harvest	Banana Box	50	1	\$ 6.00	\$ -	\$ 1.75	\$ 0.25	\$ 0.70	\$ 0.50	\$ 0.75	\$ 9.95	\$ 0.20	\$ 0.23
Butternut Post Harvest	Surplus Farm Storage	Banana Box	50	1	\$ -	\$ 7.00	\$ -	\$ 0.25	\$ 0.70	\$ 0.50	\$ 0.75	\$ 9.20	\$ 0.18	\$ 0.23
Collards - Bunched	Field Harvest	Banana Box	18		\$ 4.00	\$ -	\$ 2.00	\$ 0.25	\$ -	\$ 0.67	\$ 0.50	\$ 7.42	\$ 0.41	\$ 0.41
ALL VAP donations	Volunter Field Harvest	Banana Box	35	1	0	0	2	1.1	0.75	0.67	1.25	\$ 5.77	\$ 0.16	\$ 0.16

- The goal is to cover programmatic operating costs while compensating the grower and generating earned revenue.
- Quality and standardization are essential for our success in developing a wholesale pricing strategy
- The very first objective of the program launch in 2017 was to establish a base unit price per for all palletized deliveries (\$0.16 / lb)
- In 2018 we negotiated higher pricing on select crop and packing types. These (identified above) served as our MVP and eventually independent product launches for items were have historically harvested in large volumes.

Actual Food Bank orders from 2019

- Availability sent out weekly on Sunday night with order fulfillment on Monday.
- Standing scheduled delivery on Tuesday morning.
- Invoiced weekly

Boston Area Gleaners, Inc. Weekly Availability for Food Banks Date 9/8/19					
Item	Details	Weight per case (lb)	Service Fee Price/lb (>36 cases)	Cases Available	Total Pallets
Corn	5 doz Bags	60	\$0.16	84	7
Cucumber	Wax bu box	50	\$0.16	60	2
Collards	Bunched	18	\$0.41	36	1

****Price per pound includes delivery**
****Please submit orders by 10am on Monday for Delivery Tuesday**
****Minimum Order of 1 full pallet (36 cases)**

Boston Area Gleaners, Inc. Weekly Availability for Food Banks Date 9/16/19					
Item	Details	Weight per case (lb)	Service Fee Price/lb (>36 cases)	Cases Available	Total Pallets
Corn	5 doz Bags	60	\$0.16	96	8
Cucumber	Wax bu box	50	\$0.16	60	2
Cabbage	green - organic	30	\$0.16	144	4
Eggplant	Italian	40	\$0.16	144	4
Apples	Mac - loose	40	\$0.19	180	5
Kale	loose	12	\$0.16	36	1
Peppers	Green - bell	30	\$0.16	36	1
Watermelon	5 per case	30	\$0.16	36	1
Carrots	Washed	50	\$0.16	72	2

****Price per pound includes delivery**
****Please submit orders by 10am on Monday for Delivery Tuesday**
****Minimum Order of 1 full pallet (36 cases)**

Boston Area Gleaners, Inc. Weekly Availability for Food Banks Date 9/10/19					
Item	Details	Weight per case (lb)	Service Fee Price/lb (>36 cases)	Cases Available	Total Pallets
Corn	5 doz Bags	60	\$0.16	48	4
Cucumber	Wax bu box	50	\$0.16	60	2
Collards	Bunched	18	\$0.41	36	1
Peaches		25	\$0.16	36	1
Cabbage		30	\$0.16	144	4
Carrots	Washed	50	\$0.16	72	2

****Price per pound includes delivery**
****Please submit orders by 10am on Monday for Delivery Tuesday**
****Minimum Order of 1 full pallet (36 cases)**

Boston Area Gleaners, Inc. Weekly Availability for Food Banks Date 11/10/19					
Item	Details	Weight per case (lb)	Service Fee Price/lb (>36 cases)	Cases Available	Total Pallets
Butternut	Grade A	50	\$0.23	108	3
Apples bagged	6-5lb bags	30	\$0.44	468	13
Apples	loose	40	\$0.19	180	5

****Price per pound includes delivery**
****Please submit orders by 10am on Monday for Delivery Tuesday**
****Minimum Order of 1 full pallet (36 cases)**

How it works in detail: Seasonal Timeline

- December to February: BAG staff coordinate with farmers to determine which crops they have had difficulty marketing in the previous season. Analysis is based on sales and donation records. Optimal pricing and timing is determined for the upcoming harvest season.
- March to May: BAG staff coordinate with regional institutional buyers (Food Banks and Processors) to determine optimal timing, price point and order volumes.
- June to November: BAG staff communicate with farmers every day of the week during the growing season to coordinate optimal crop harvesting windows. Our distribution team communicates with buyers to meet their needs. BAG handles the management of field harvesting, packing, trucking, cold storage, ordering and distribution.

Improved Economics

- Establishing alternative markets
- Improved cash flow from “ACCESS FEES”
- Revenue transfer back to farmers
- Establish reliable price floor

Reduced Costs

- Harvesting labor
- Packaging and storage
- Inventory databases and management
- Trucking

VALUE PROPOSITION: FARMERS



Crop Acquisition

- Orchard Run: This refers to when BAG purchases an entire section of an orchard with the fruit still on the tree. BAG will pay a fair comparable access fee per bushel to the farmer for all fruit harvested that reflects the true costs of growing. This scenario is triggered when a grower struggles to find adequate labor and the crop will otherwise be wasted. BAG does the harvesting with staff. If the crop is going to be moved into the charitable food system, volunteers will contribute. This scenario is a great option for the numerous apple orchards in New England that struggle to wholesale their crop against the backdrop of globalization.
- Field Harvest: Similar to an orchard run, BAG will purchase an entire field of high-quality vegetables that would otherwise be wasted because of oversupply or difficulties with insufficient labor. This situation is triggered by strong growing conditions and weak wholesale prices in the commercial markets due to regional over supply. The timing of these arrangements is critical as prices fluctuate daily and quality changes over time.
- Surplus Farm Storage: These are crops that the farm has harvested and put into long term storage using their own labor and equipment. BAG negotiates a fair price to acquire these crops in large 21 bushel bins. The crops are transported to our headquarters for grading and packing before distribution. The farmer saves on packaging and marketing costs and receive a much better price than conventional bulk crop markets.



VALUE PROPOSITION: INSTITUTIONAL BUYERS

High Value:

- Higher quality produce
- Most competitive service fees in the industry
- Locally sourced, lower carbon footprint

Predictable:

- Pricing and quantity agreed upon in advance of growing season

Reliable service:

- Consistent scheduling and sourcing
- Rapid and reliable logistics
- Full traceability
- More efficient than interfacing with individual farms directly

KEY GROWTH INSIGHTS



CUSTOMER GROWTH STRATEGY:

- Scale service to Regional Food Banks (triple the volume)
- Supply regional processors (*beginning 2018 and scaling as they grow*)
 - Commonwealth Kitchen
 - Community Servings
 - Franklin County CDC
 - Farm Fresh RI
- Expand service to Universities & Hospitals (beginning 2022)
 - Harvard Dining
 - Boston University
 - Brandeis
 - Tufts

Identified Risks and Challenges

- Competition from large commercial wholesaler and commitment from buyers in a pay to play industry can hinder growth if we don't develop strong personal relationships.
- Scaling at a pace that allows all systems to grow in unison will create strong internal systems that support future success.
- Retaining core staff who have developed long standing relationships and institutional knowledge.
- Staying true to our organizational mission over time by not sacrificing our other programing.

Meet the BAG Leadership Team



Dylan Frazier, Director of Operations

Dylan's been keen on amplifying our work since 2014. He's been working in and studying food systems for more than a decade. His experience includes growing, harvesting, post-harvest processing, distribution and retailing produce.

Dylan graduated from Saint Joseph's College of Maine where he studied Environmental Science, Philosophy and Business. He earned his master's degree in sustainability and environmental management, with a focus on sustainable food systems, through the Harvard University Extension School in 2016. He's also a certified Wilderness First Responder and certified in HACCP for food safety.

Meet the BAG Leadership Team

Charlotte Border, Operations Manager

Charlotte has a degree in Sustainable Agriculture and Food Systems from the University of New Hampshire and a professional certificate in Food Hub Management from the University of Vermont. She has firsthand experience in a variety of areas within the food system including managing small farms, working in farm-to-table restaurants, conducting research on agricultural development in Costa Rica, working in food co-operatives and other nonprofits.

Charlotte believes the biggest shifts in the food system will come from improving the system itself by finding new ways to collaborate, increasing efficiency, and minimizing waste.!



Meet the BAG Leadership Team



Laurie “Duck” Caldwell, Consulting Director

Duck's work in the nonprofit sector since 1995 includes program and project management, program and curriculum development, and consulting. She is a carpenter by trade, has been a business owner, and has worked with farmers in VT and NH as a produce buyer for natural foods cooperatives across the northeast. She holds an MBA in Organizational Management and Sustainability from Antioch University New England.

Meet the BAG Leadership Team

Usha Thakrar, Interim Executive Director

She holds a Masters in Public Policy from the Kennedy School at Harvard University and has a wide range of experience including fundraising, financial management and organizational development.



Meet the BAG Leadership Team

Dr. Lisa K. Johnson, Consultant

Lisa is a Leader in food loss and waste - focused on agricultural production. Seasoned horticulturist with a broad range of experience in local, organic, sustainable, conventional, and biotech food and agriculture.

Lisa's research has aimed to understand the loss of edible vegetables. She believes that understanding constraints from the growers' perspective is critical, and always encourages people to incorporate more growers' voices in their work.

Meet the BAG Leadership Team

Greg Foudray, Consultant

Greg has direct operational management experience in a number of highly successful high-growth software technology organizations. He has launched and developed large professional services and training organizations providing technical consulting and training services to corporate and global enterprises.

As a management consultant Greg has worked with senior executives in developing strategy and articulating vision for initiatives in the areas of Customer Relationship Management, Corporate Growth, Professional Services Development, and Sales Training.

His education includes a BS degree from Purdue University, an MS from Indiana University and an MBA from Florida International University.

Big Picture Strategic Priority:	Create a financial incentive for farms to donate surplus crops through the creation of an alternative market because State and Federal tax incentives are non existent or entirely inadequate to address on farm food waste. By assigning a dollar value to surplus crops we can contribute to long term and sustained farm viability while reducing on-farm food waste and generating earner revenue.			
Proposed Solution:	Surplus Commodity Crop Program - generates revenue for farmers while providing high quality produce to hunger relief agencies at below-market rates			
Hypotheses	Experiment/MVP	Output/Evidence	Result/Insight	Action
	<ul style="list-style-type: none"> ➤ <i>Acquisition of surplus crops at market rate from farms.</i> ➤ <i>Packed and delivered to regional buyers</i> ➤ <i>Pricing structure negotiated prior to the season</i> 	<ul style="list-style-type: none"> ➤ <i>Farmers want an alternative market</i> ➤ <i>Buyers want a cheaper option with comparable quality standards</i> ➤ <i>Unit economics are critical to</i> 	<ul style="list-style-type: none"> ➤ <i>Cold Storage capacity is critical</i> ➤ <i>Demand is higher than anticipated</i> ➤ <i>Second distribution hub will radically improve efficiency</i> 	<ul style="list-style-type: none"> ➤ <i>Scale up!</i> ➤ <i>Explore other crops</i> ➤ <i>Analytical forecasting</i> ➤ <i>Experiment with customers outside the charitable food network</i>