MASSACHUSETTS FARM TO SCHOOL

Hydroponics in the Cafeteria
March 6, 2024

MASS. FARM TO SCHOOL OVERVIEW

Mass. Farm to School strengthens local farms and fisheries and promotes healthy communities by increasing local food purchasing and education at schools.

Get involved through our:

- Professional learning opportunities
- Networking
- Policy/Advocacy
- Communications

Today's Presenters

Sam Malesa

Regional Director of Partnership Development

New England Fork Farms

Danielle Sprague

Chef & Food Service Director

Dr. Franklin Perkins School, Lancaster

Hydroponics in the Cafeteria: Dr. Franklin Perkins School

It started with a hope and an email from Sam at Fork Farms dated September 1, 2022.

Then, the MA FRESH Grant opportunity arose for my school, and I responded to that email on January 15, 2023.

Hydroponics in the Cafeteria: Dr. Franklin Perkins School

Then the big news. Mass FRESH Grant Funding was awarded to my school, the Dr. Franklin Perkins School, for our "Perkins: Planting the Seeds for FRESH Growth" project. That was the green light I needed to purchase a Flex Farm for my school.

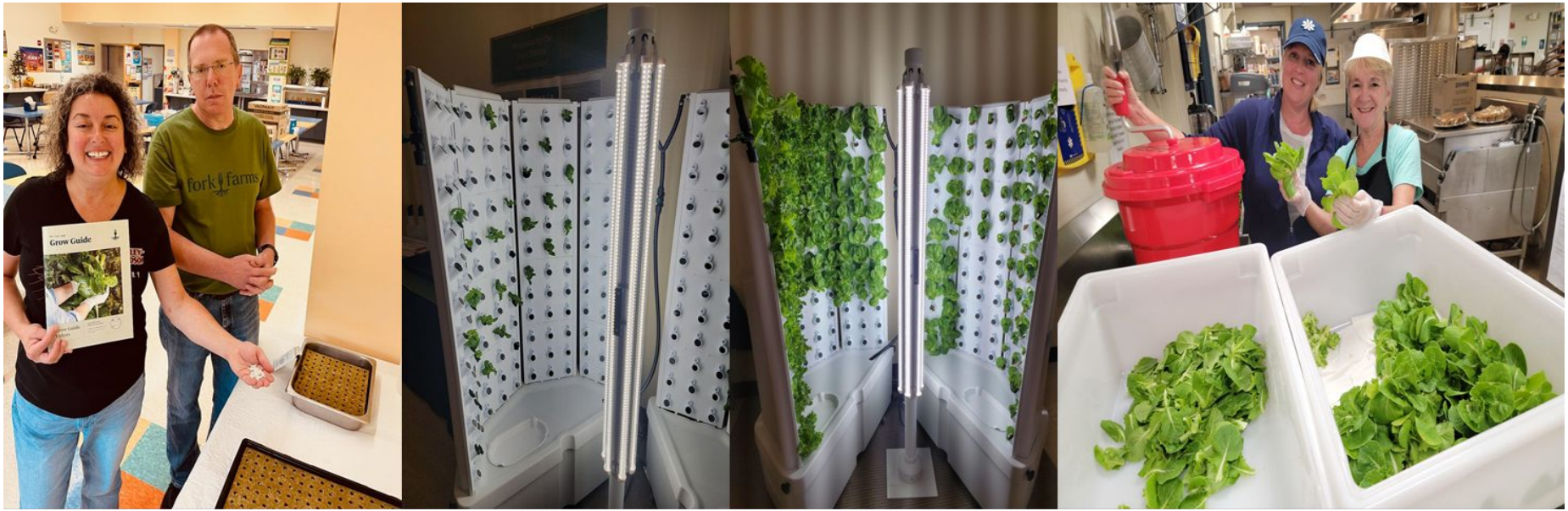
Next steps: meeting with Sam to discuss what exactly is a Flex Farm's capabilities, discussing operational logistics with internal partners, assembling an internal Flex Farm team, brainstorming with teachers for student engagement ideas.

Finally…..the Flex Farm arrives!

Hydroponics in the Cafeteria: Dr. Franklin Perkins School

Location, location, location.

Hydroponics in the Cafeteria: Dr. Franklin Perkins School



From Seed to Growth to Harvest to Student Lunch and Everything In Between.
Lettuces (romaine, butter) herbs (basil, thyme) and vegetables (bok choy, tatsoi)….oh my.

Hydroponics in the Cafeteria: Dr. Franklin Perkins School

Estimated Weekly Salad consumption @ my 1 school:
150 entree salads at lunch
175 side salads at lunch
80 dinner salads

Fork Farms Philosophy

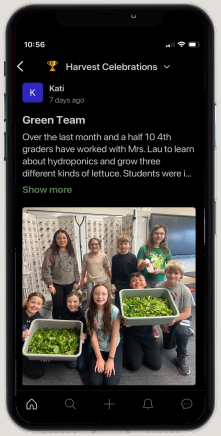
As populations grow, climates change, shipping distances increase, and overall health declines, is it critical to address food and nutrition insecurity in a forward thinking, revolutionary way.

At Fork Farms, we are creating a **better, cleaner, more efficient, and sustainable food system** for our communities, one farmer at a time.

We’re leading a *Fresh Food for All* revolution

THE MOST ENERGY EFFICIENT INDOOR HYDROPONIC FARMS

DEDICATED PARTNERSHIP THROUGH EVERY STEP



TECHNOLOGY + TOOLS TO ENSURE YOU SUCCEED

A fresh solution to **own where your food comes from**

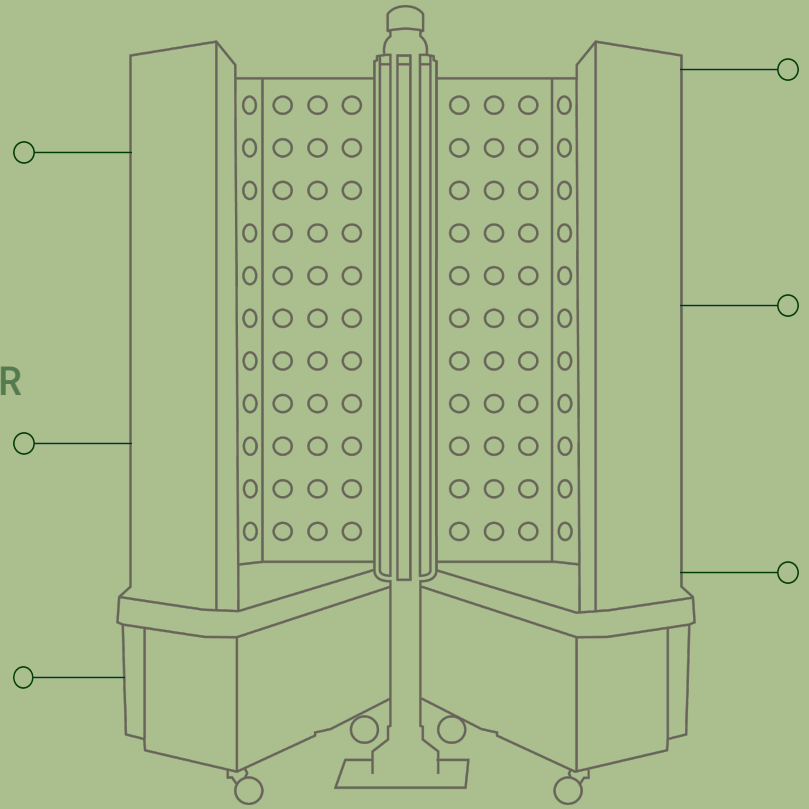
The Flex Farm

The Flex Farm

CROP VARIETY

DISHWASHER SAFE

MADE IN WISCONSIN



VERSATILE

- 288 plant spaces
- Numerous applications

SCALABLE

- Expand and connect farms to increase growing capacity

EFFICIENT
vs. Traditional Ag

- 98% LESS water
- 98% LESS land required

The Flex Farm

Weekly Maintenance

5-30 MINUTES

Every 4 Week Harvest

25+ POUNDS

Dollar Per Pound

$1 PER POUND

Return on Investment

2 YEARS

Flex Connect

Daisy-Chain 6-50 Flex Farms
Simple, Scaled Production

Flex Farm Plant Varieties

LEAFY GREENS 28 DAYS = 25+ POUNDS EDIBLE PORTIONS

- Butterhead, Romaine, Crisphead, Loose Leaf, Oak Leaf

HERBS

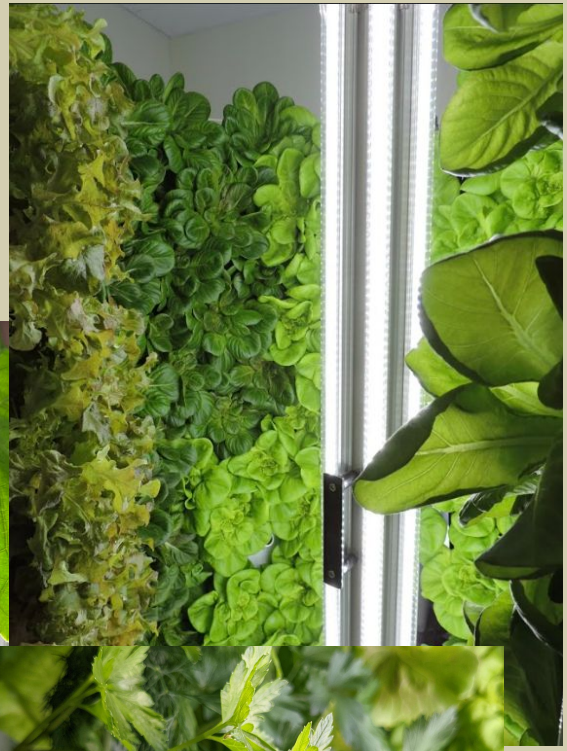
- Rosemary, Basil, Cilantro, Parsley, Dill, Mint, Sage, Chives, Oregano, Thyme

FRUITING PLANTS

- Peppers, Cucumbers, Strawberries, Tomatoes

OTHERS

- Kale, Swiss Chard, Bok Choy, Collard Greens, Lavender, Chamomile, Tatsoi & More!



Farming in School Nutrition

GROWING SCHEDULE

- Complete control of supply chain
- Farmative for technical support
- Customized to School Calendar

MAINTENANCE

- Weekly - 20 min - water level, pH, nutrients
- Monthly - 1.5 hr - light cleaning and harvest
- Annually - 2 hr - deep clean

RESOURCES

- Cultivation Team
- Flex Farming 101 - self-paced training
- Grow Videos
- Growing Community
- Food Safety: SOP Template + HACCP Template

IMPACT

- *Education* - Hands-on and engaging natural science lessons
- *Nutrition* - Increased consumption and improved perception of fresh food
- *Sustainability* - Be part of the change to protect our resources and make a difference

Food Safety and the Flex Farm

HOW TO SAFELY SERVE HYDROPONIC GREENS

- Food Safe Construction
  - FDA approved materials and fertilizers
  - Made from same polymer as gallons of milk
- HACCP
  - Best practices for your plan on Farmative
- ServSafe
  - Same process as if you ordered produce from a local farm
  - Wash before serving, store dry and cool
- Students
  - We find that there may be some interest from the students at first
  - THIS IS A GOOD THING!!
  - Never has something a student done rendered the produce inedible or unsafe

City of Menasha • Health Department

April 26, 2018

Ms. Susan Malesa
Director of Dining Services
Menasha JSD/Chartwells
974 Ninth Street
Menasha, WI 54952

Re: Approval for the use of hydroponic grown produce

Dear Ms. Malesa,

The City of Menasha Health Department has reviewed the process of growing and harvesting produce (lettuce sp.) using hyrdroponic system. The review included care, maintenance, water source, harvesting and cleaning of involved equipment. The use of this hydroponic system is within the scope of the requirements of the Wisconsin Food Code. Growing of simple produce by this method along with the fact that the equipment and procedural documentation will be reviewed by this office meets the requirements of approved source. Production of harvest cut lettuce shall be treated as any other raw produce as required by the Wisconsin Food Code. Produce once harvested shall not be considered ready to eat pending proper washing and handling as required by Code. The equipment, procedures, process logs and any related equipment should be made available during the inspection process for the location where the hyrdroponic growing equipment is maintained.

The City of Menasha Health Department has had a long standing relationship with you and your staff. The food service program has always demonstrated good food safety practices, detailed HACCP documentation and very high standards.

Please consider this letter an approval to use this product as a raw produce source for the Menasha Joint School District food service program based on the equipment and procedural review conducted. If there are any changes in procedure or produce products grown please notify me.

If you should have questions regarding this information please do not hesitate to contact me.

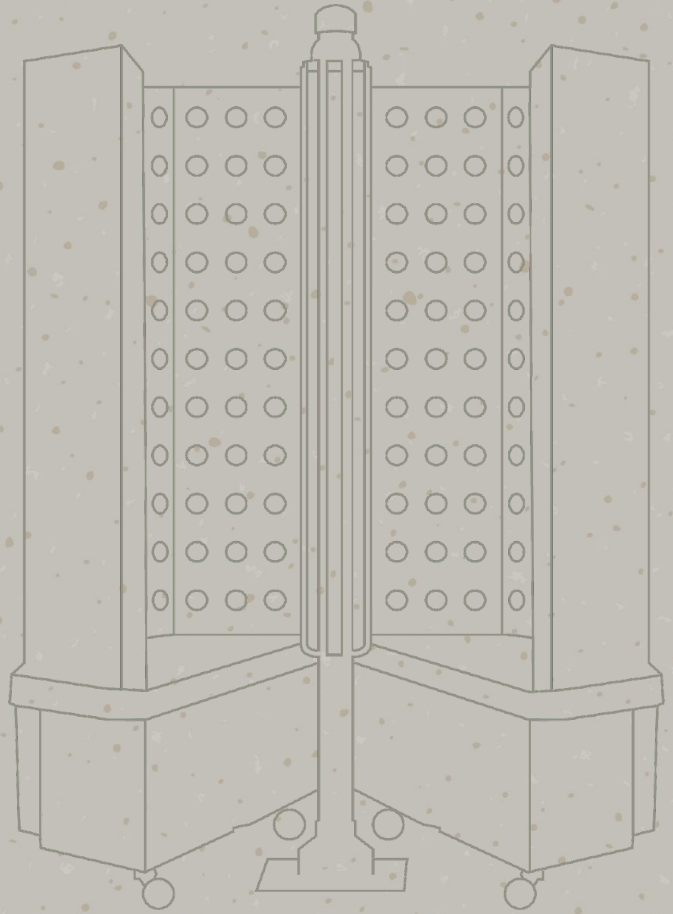
Sincerely,

Todd Drew, BS, RS
Environmental Health Supervisor
City of Menasha Health Department

1 Flex Farm can grow you…

- **25 pounds of edible portions**
- **300 ½ cup servings**
- **every 28 days**
- **for under $0.12 per serving**
- **Same quality product as Little Leaf Farms**
  - What other local foods could you procure with your savings?
- **Nutritional value of greens is tied to freshness, not necessarily growing method**
  - It doesn't get more local than grown-on site!
- **Agency at your district**
  - Marketing your program + District Collaboration

JUST ASK ONE OF OUR 25+ PARTNERS IN MASSACHUSETTS FOOD SERVICE!

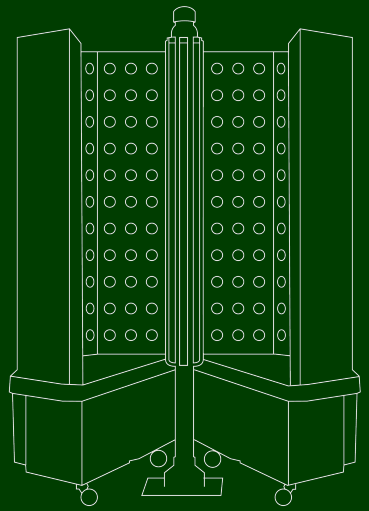


Funding & Ordering

How do I get one?

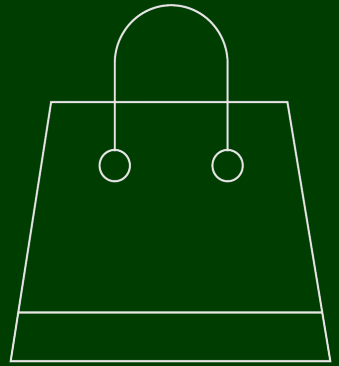
- Most are funded directly from Food Service or District budget
- Grants
  - MA FRESH, USDA, Equipment, Local
- We accept direct PO’s
  - Not required on our end
  - I can assist in entire design, procurement, and implementation process
- No supply chain issues
  - Made in the USA
  - Ship within 5 business days

How It Works

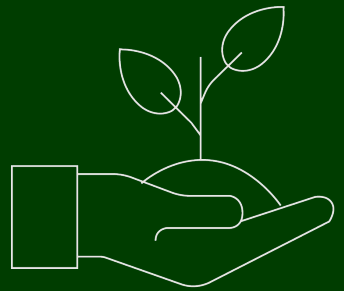


FLEX FARM

FARMATIVE



FARM SUPPLIES



FREE SUPPORT

Morgan Hill Unified Nutrition
October 14 ·

FarmTECH Friday - one of our first collaborations is with El Toro Elementary School. Principal Joe and Science TOSA Sara, together launched a Fork Farm to demonstrate the growth cycle of lettuce. Then her team of young science students harvested lettuce for their very own salad bar that day. WOW! High tech Farm to School at its best!!

#sobratoffa #morganhillffa #friendsoftheearth #farmtoschool #eatrealcertified #forkfarms

13 5 Comments 2 Shares

farmative™

Grower community

- Collaborate with other growers
- Helpful tips and trending topics
- Searchable Q&A

Learning resources

- Growing guides, videos and more
- Standards-aligned K-12 curriculum (44 lessons)
- Programming resources

Farmative™ store

- Simple supplies purchasing
- Save on recurring orders
- Exclusive seed bundles

K-12 Curriculum

Features:

- 44 lessons tailored by grade band
  - Instructor guides and decks
  - Student workbooks
- Aligned with Next Generation Science Standards
- Bonus short activities, journals, coloring books, and more
- Included with Flex Farm purchase

Example: Teacher's Guide

Partner Support

WE ENSURE YOUR SUCCESS FROM ASSEMBLY TO HARVEST

- Assembly & Installation Support
- Self-Guided Onboarding
- Technical & Food Service Guides
- Dedicated Live Support: Chat, Phone, & Email
- Your Partnership Development Team Member

Carver, Massachusetts

FOOD SERVICE + STEM EDUCATION

“We understand that students learn best when they are given real-world projects that provide them with the opportunity to develop their skills, and harvesting their own crops allowed them to do exactly that. By giving our students this experience early on, we are fostering knowledge and skills that are needed to make healthy and informed decisions that can be applied throughout their time in Carver and beyond.”

- **Scott Knief**, *Superintendent*

Questions

Questions?

ADDITIONAL RESOURCES & LEARNING OPPORTUNITIES

- Mass Farm to School Conference March 21 & 22

  LAST DAY TO REGISTER IS MARCH 10th

Scan the QR Code to Register!

- Mass. Farm to School - www.massfarmtoschool.org - Subscribe to our newsletter and stay up to date on upcoming webinars and other professional learning opportunities

Photo credit Green Schoolyards America

STAY IN TOUCH!

Visit us online: www.massfarmtoschool.org

Contact Information

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Danielle Sprague, Chef & Food Service Director - Dr. Franklin Perkins School, Lancaster

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