



## THE URBAN FARMER TO FARMER SUMMIT

# 2020 Resources Table of Contents

### [Video Meditation pt. 1](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

### [Crop Trials: A Panel Discussion](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

### [Video Meditation pt. 2](#)

[Additional Resources](#)

[Contact Information](#)

### [Rooftop Hydroponics](#)

[Session Notes](#)

[Contact Information](#)

### [Networking and Parade of Misadventures](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

### [Seed Saving](#)

[Session NotesSeed Saving](#)

[Contact Information](#)

### [Vegetable Pests and Diseases](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

## [Tech for Farmers](#)

[Session Notes](#)

[Contact Information](#)

## [Video Meditation pt. 3](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

## [Urban Foraging and Land Access](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

## [Tomato Trellising Experiment](#)

[Session Notes](#)

[Contact Information](#)

## [Season Extension Infrastructure](#)

[Session Notes](#)

[Contact Information](#)

## [Video Meditation pt. 4](#)

[Additional Resources](#)

[Contact Information](#)

## [Mutual Aid and Resource Sharing](#)

[Session Notes](#)

[Additional Resources](#)

[Contact Information](#)

# Video Meditation pt. 1

[Link to view video](#)

## Session Notes

- No access to land, especially for people of color
- No structure in NYC for farming
- 596 acres of empty lots in NYC
- How do you serve your community without infrastructure?

## Additional Resources

- Check out and subscribe to Isa's channel: [Isa Jamira](#)
- [Okofarms](#), @Okofarms

## Contact Information

Isa Jamira  
@isanotissa

# Crop Trials: A Panel Discussion

[Link to view session](#)

[Link to view Ginger Trials powerpoint](#)

[Link to view African Diaspora Crops powerpoint](#)

[Link to view Soil/Tomato experiment powerpoint](#)

## hjkSession Notes

Ginger, Yolanda Gonzalez:

- Why ginger? Why ginger in bags?
  - High value crop that can tolerate part shade
  - Can we grow it in the city, in bags?
- Ordered ginger from “biker dude” certified organic seed (waitlisted)
  - Lesson learned: order early – you can get waitlisted
  - One of the few places to get certified organic seed
- Sprouted ginger in flats
  - ~8 seeds per plug
- Placed ginger seed pieces into 5 gal. bags of DSNY compost
  - About half-filled (50 bags in total)
  - Placed 1 seed piece per bag in 25 bags and 2 seeds per bag in the others
- Amendments per bag:
  - 1 tsp sulfur to lower pH (DSNY compost tends to have high pH)
  - 2 tsp langbeinite potassium fertilizer (O-O-22). Can also use potassium sulfate (usually half the amount)
  - 4 tbs blood meal nitrogen fertilizer (12-O-O)
- Hilled ginger about 2 inches (1 gallon) using DSNY compost that was set aside
- June: hilled ginger using extra compost, fixed irrigation
- July: added sulfur
- November: harvested all ginger
- Results: two pieces in one bag didn't result in larger yields - need space
- Added more sulfur in July – but didn't do much until November
- Harvested ginger November 3<sup>rd</sup>
- Results
  - Biomass was 19 lbs 4 oz for both single plants and double plants
    - It makes sense to use 1 seedling per bag
  - Some double bags didn't sprout
    - 8.13 lbs in single bags
    - 9 lbs in double bags
- Other examples

- Mrs. Anderson, Ohio
  - Can do season extension with ginger or turmeric
  - Notice to harvest when tips are yellow or brown
  - Dig up before harvesting to check if they're ready
- Hellgate farm, LIC
  - Interplanting with tomatoes
- Kelly St Garden, Bronx
  - Instead of plastic, used fabric/grow bags
- Oko Farms, Brooklyn
  - Grew ginger and turmeric
  - Sprouted in aquaponics
  - Supplemented ginger with iron during sprouting
- Lessons learned
  - Order seeds early
  - Incorporate amendments when planting to minimize labor
  - Use clear marking systems for indicating double or single bags (using color flags)
  - Avoid overcrowding (they need space to expand into the bag)
  - Experiment with bigger bags?
  - Sanitizing bags?
  - Ensure clean seeds
- Q&A
  - Can you grow ginger in containers?
    - Yes
  - Did you poke drainage holes?
    - Crop King bags already had drainage holes in them
    - 5 gallon grow bags cost 50 cents each

#### African Diaspora Crops, Renee Keitt

- Crop trials have been done by the enslaved, indentured
- Pigeon Peas
  - Many names!
  - Origins
    - Cultivated for 3500 years, beginning in India
    - It's an annual in zone 7B
  - Session in 2016 Just Food Conference. Mr. Faroze shared knowledge of trial at East New York Farms
    - ENYF gave Georgia 1 crop grown at New Roots because it would have a better chance of surviving with direct sunlight
    - In
  - In 2019 grew it in Kelly St Garden
    - Put it in late season in the front section where there was

- more sunlight
    - Got some growth
  - 2020 it worked better
    - Peas were not as tall in the back as the front
- Jute/Molokhia
  - Has many names
  - Origins:
    - Africa or Asia
    - Contains abundance of antioxidants ...
  - Dissolved on vine
  - 2018 grew as a crop to eat
  - 2020 had 4 plants in July
    - The crop withered on the vine because it was cold
- Bissap
  - Jamaican sorrel
  - Roselle
  - Hibiscus
  - Belchanda in Nepal
- Origins
  - West African
- Leaves and calyx are used as vegetables and have medicinal values
  - Used for making wine, juice, jam, jelly, syrup...
  - Leaves are antimicrobial, and can treat lung disease...
- Trials
  - Lots of leaves
  - Leaves were delicious, but withered on vines
  - Few seeds
  - Will have to plant it sooner
  - Should be easier to get seeds from it
- Also tried Central African Eggplant
  - No seeds this year
- Q&A:
  - Where can you get pigeon peas?
    - True love seeds
    - Or email Renee: [resimke@gmail.com](mailto:resimke@gmail.com)
    - Or email Jeremy from ENYF
    - They were able to harvest about a jar full
  - Can you still harvest leaves of the jute and still grow it out and save its seeds?
    - Yes, but it would be best to have some plants where you will save seeds and others for consumption.
  - With Sorrel (hibiscus)
    - Some seed but relying on bissap growing in the high tunnel

- for seed
  - Possibly can get it from Bakers Creek, Southern Seed Exposure and look under the name hibiscus not bissap.
  - Possibly True Love Seeds
- Recipes for Jute?
  - Same as recipes for Callaloo
  - [See recipe here from Rose Nzapa-Ayeke](#)
- Is there a way to gather and "grow" a NYC community map out where everyone's garden sites are located - so that we can network and visit (when pandemic over)
  - From Wythe Marschall: A geographer and I are working on that map in GIS! If you are interested in making sure your growing space is listed or not listed on a public version, email me: [wmarschall@fas.harvard.edu](mailto:wmarschall@fas.harvard.edu). We have all of the Green Thumb data, but there is a lot of other data to collect.
  - From Mara Gittleman: this map is 10 years out of date but we kept it up because it's a cute snapshot  
<http://gardenmaps.org>

#### Soil compost blends and Tomato experiments, Marisa DeDominicis

- Experimented on ½ acre site
- Intercropping technique
- Started heritage bed project with 9 different cultures working together to show interrelationship of different crops
- Will hold events next year
- Today will talk with one of the apprentices in the program
- Program runs from September to labor day
- Focuses on making compost, compost application, using compost as amendment
- Using compost education, hands on activities
- Interacting with visitors when they drop in on Saturday open hours

#### Soil compost blends and Tomato experiments, Kim Brown

- From Davison Avenue community garden in the Bronx
- Part of 2020 apprentice cohort and participated in soil compost blend experiment
- Chose the tomato plant for study subject because
  - High success rate of germinating in compost
  - As a vine, it lends itself to taking in quantitative and qualitative measurements
  - It's a heavy feeder, and has large nutritional requirements throughout life cycle

- In the fruit stages it requires an increase of up to 60% NPK taken up by plant from soil
  - Plant needs high constant quality soil amendment to meet its nutrient needs
- Tested 4 test categories – added prior to planting, to meet nutrient needs - 3 part soil and 1 part amendment
  - Bokashi: organic matter converted by fermentation into a soil amendment
  - Vermicompost: organic matter converted by earthworms to soil amendment
  - Anaerobic compost: compost that had insufficient aerobic processing
  - Control: no amendments
- Same irrigation and sunlight
- Pruning, and removal of nuisance growth all happened at the same time
- Members of 2020 cohort participated in all aspects of experiment
  - Creating amendments
  - Collecting data
  - Maintenance of plants
- Volunteers on Saturdays also participated
- Results
  - Collected almost every week for 3 months
  - Decided to compare height, number of blossoms, number of fruit on each plant, also a comments column for observations to be recorded such as color, size, or description of any part of plant
  - Each entry sheet was designed to view 1 month of data to make comparisons and draw conclusions about soil amendment effects of plant
  - Discovered at least 2 different varieties of tomatoes growing in 16 pots
  - All plants grown from seeds, and somehow the seedlings got mixed up
  - Data collection was inconsistent
    - Skipped 3 of 12 weeks in care and recording
  - Sun exposure and irrigation was consistent
  - Different people took care of plants and recording data – also led to variability
  - Some weeks there wasn't enough time to perform consistent in depth care
  - Vermicompost soil amendment provided better conditions for plants to thrive most in all areas compared, such as number of blossoms and number of fruit
  - Variables that interfered include rodents burrowing and eating plants
  - Left us with ¾ pots in this category
- Lessons learned:
  - Seedlings need to be the same variety



- Need to ensure we don't skip weeks in data collection
- Allow ample time (1 hour per week) by two apprentices to execute the experiment
- It is good to have different people participating and filling out data sheets each week
- Next year
  - Apprentices were eager to participate because they learned a lot
  - Recommend that this type of experiment is done again
- Recommendations to incorporate
  - Dedicate a full row for each of the 4 soil amendments for the same variety of seed
  - Allocate time in work schedule to gather more consistent results
- Q&A:
  - What type of soil was used as the control?
    - From a soil bank, given by Swale partnership
    - It was a high mineral content
    - Not very much organic matter at all
  - Can you explain Bokashi?
    - 2 weeks of fermentation – then sandwiched it between the mineral layers
    - Actually it's not a compost because it works to convert food scraps with absence of air
    - Compost includes decomposition with presence of air
  - Biggest takeaway?
    - Vermicompost provided best medium for tomatoes to grow
    - Be more consistent
    - More conscious of control measures – had plum, cherry tomatoes
  - Where do the worms come from for vermicompost?
    - No longer buying them
    - Harvest from windrows or 3 bin systems
    - This vermicompost was sourced from indoor worm bin system that had been set up and the pots that were being used were 5 gallon pots
    - Probably had about 5 lbs of vermicompost ... 1/3 of the amendments

#### Overall Session Q&A:

- Other ginger or jute trials?
- Chloe H, Grow NYC:
  - We also grow myoga ginger (so does Earth Matter, we got our plants from them), which is a great container plant. It is perennial in zone 7 and gives harvests of flower buds and young shoots

throughout the season. The flavor is more mild and floral than the traditional rhizomes.

- Ciara S, Randall's Island Park Alliance Farm:
  - We also grow myoga and will be able to divide some next season. Feel free to reach out at [Ciara.sidell@randallsisland.org](mailto:Ciara.sidell@randallsisland.org)

## Additional Resources

- [5 Gallon Poly Grow Bags with Holes | Poly Grow Bags](#)
- [Hawaii Clean Seed](#)
- [Clean Soil Bank - OER](#) Office of Environmental Remediation
- [Support These Black-Owned Seed Companies - Tequia Burt](#) information received for Ysanet Batista of Woke Foods
- [Ultimate List of Black and Brown Owned Seed and Garden Shops - What MI Loves™](#) Found on Facebook group Black Farmers Nationwide
- Baker's Creek: look under roselle '[roselle](#)' ([rareseeds.com](http://rareseeds.com))
- Truelove Seeds for African Diasporic Crop seeds (they don't have hibiscus/roselle) but they have [African Diaspora Collection - Truelove Seeds](#)
- Hibiscus seed ([southernexposure.com](http://southernexposure.com))
- East New York Farms can give out pigeon peas, contact Jeremy! [jteperman@ucceny.org](mailto:jteperman@ucceny.org)
- [How You Can Help #SaveOurCompost](#) (support the Save Our Compost Campaign)
- Sharing Rose's Recipe for Callaloo (sub Jute): [Here](#)
- Community Garden Mapping Initiative: If you are interested in making sure your growing space is listed or not listed on a public version, email [wmarschall@fas.harvard.edu](mailto:wmarschall@fas.harvard.edu)
- More maps that need updating:
  - <http://gardenmaps.org>
  - <http://www.oasisnyc.net/map.aspx>
- Check out the Earth Matter Apprenticeship Program here: [Soil Start Farm Apprenticeship Program](#)
- [The Basics of Bokashi Composting](#)
- [Indoor Composting with a Worm Bin](#) (vermicomposting resource)
- [GreenThumb Videos](#) (Vermicomposting at Home Video)
- Myoga Ginger Offering from Ciara: [Ciara.sidell@randallsisland.org](mailto:Ciara.sidell@randallsisland.org)

- African American Slave Medicine [African American Slave Medicine : Herbal and Non-herbal Treatments \(bengalurubooks.com\)](#)
- Fett, Sharla M. Working Cures
- Lee, Michelle. Working the Roots: Over 400 Years of Traditional African American Healing.
- Ritchason, Jack. The Little Herb Encyclopedia: The Handbook of Natures Remedies for a Healthier Life.
- On November 18, the New York City Community Garden Coalition (NYCCGC), Earthjustice, and 52 organizations submitted From the Ground Up: A Petition to Protect New York City's Community Gardens to New York City government agencies. The petition requests heightened legal protections for New York City's community gardens through designation as Critical Environmental Areas (CEAs).[From the Ground Up: A Petition to Protect New York City's Community Gardens](#)
- [Community Gardens to Be Classified as "Open Space" on City Planning Database](#)
- [NYC Urban Agriculture website](#)

## Contact Information

Yolanda Gonzalez, [Cornell Cooperative Extension](#)  
 @urbanag.nyc  
[yg88@cornell.edu](mailto:yg88@cornell.edu)

Renee Keitt,  
 resimke@gmail.com  
[Kelly Street Garden](#)  
 @kellystgreen  
 Facebook: [Kelly Street Garden Bronx](#)

Marisa DeDominicis, [Earth Matter](#)  
 @earthmatterny  
 Facebook: [Earth Matter NY](#)

# Video Meditation pt. 2

Link to view video

## Additional Resources

- Check out and subscribe to Isa's channel: [Isa Jamira](#)
- [Oko Farms](#), @Okofarms

## Contact Information

Isa Jamira

@isanotissa

# Rooftop Hydroponics

[Link to view session](#)

## Session Notes

Electra Jarvis

- Green food solutions, company running ~4 years
- Growing 60+ varieties on a rooftop hydroponic farm
- We specialize in vertical farming, rooftop hydroponic farming and indoor farms, as well as farm amenities
- We support real estate residential commercial building landscape in incorporating farms and gardens as community assets and not production farms
- Our first location that we started with was in Bushwick at a building called the Denizen
- Before this, we started out as production farmers growing food in a shipping container
- Then we transferred to rooftop greenhouse in Bronx with Sky Vegetables
- Growing food for residents in the building and delivering food around the NYC area
- Mission is to empower a new local food system
- Vision is to see cities flooded with farms providing freshly harvested, nutrient dense, sustainable food
- Every rooftop, residential building, and school could have sustainable food for urban residents
- Showed photo of rooftop farm in Bushwick
- Second year of growing
- The beginnings of starting to grow for a CSA and create this landscape to create integrative pest management
- Have marigolds on top to attract pollinators, release beneficial bugs and allow them to create habitats
- The Denizen is a 900 unit mixed use residential building
- In the beginning there were 10 residents, brand new
- And we installed the equipment using tower garden technology
  - Rooftop hydroponic farm
  - Combination of controlled environment ag and outdoor growing
  - Use a greenhouse to start seedlings, use hydroponic system
  - But also subject to the elements, subject to wind, pests and snow on a roof in Brooklyn
- Stats:
  - Each tower can produce 28 plants

- 79 towers, 28 plants
  - 2212 plant sites in total
  - On a four week cycle: could get 395-790 lbs of yield
  - Assuming we are growing leafy greens
- Great deal of potential for vertical space
  - All controlled with timer system, with pumps
- Every tower has a reservoir, pumps water through center, and it brings it down on plant roots
- Use this timer system to control all the pumps, so they go on at different times
  - For example, rosemary doesn't like to be watered as often
- High tech meets low tech
  - While we use hydroponic systems, electronic components, it's actually a really simple system
  - There is a hose that feeds into bins, full of nutrient solution, and that is syphoned through water pressure, that is fed to gravity tank, that water is by gravity fed and then refills the towers
  - We pride ourselves on reducing the amount of labor we put into managing our farms
- Our first farm manager set this up a few years ago
  - A simple, efficient seedling propagation station
  - Have a table, underneath have 17 gallon buckets with nutrient solution
  - As soon as water level in the first bin goes down because it's being irrigated to the top, it siphons water from the other bins
  - This is how we scrappily put together irrigation without a lot of money
  - Bins cost \$10, table costs \$400, irrigation line is also affordable
- Showed image of cross section of towers
  - Plants are suspended in the air inside the towers
  - Nutrient reservoir in the bottom
- Goals for year 1:
  - Grow as much food as possible
  - It was a way to incentivize renters to move in
  - From July – Nov to wow and dazzle and dazzle people
- Goals for year 2:
  - Grow food for farm to Locavore customers (CSA) using 79 towers
  - Focus on leafy greens
  - Experiment with fruiting crops in hydroponics
  - Squash, tomatoes
  - People want variety
- Goals for year 3:
  - Support others to learn how to grow their own food
  - Super rewarding, also safe in wake of covid
  - Minimizing our contact and exposure going to building in Brooklyn
  - But people were wanting to learn how to grow food

- A lot of the towers in the back of this picture are mismatched, different varieties growing in each tower
  - People can come on own time to grow and manage food
- Worked with youth from SYEP program
  - Had lots of lettuce, arugula, chives, squash, onions (2-3 bunching onions per port)
  - First year with spaghetti squash wasn't as successful
    - Was on the outside getting stepped on
    - When in the back corner, we got zucchini and summer squash
  - Incorporated herb towers
    - Only needed very little herbs
    - Would harvest 2x week with thyme and rosemary which was more than enough for people in the building
    - Tomatoes weren't turning red
      - Farm manager Maya got down to the root of that and found calcium deficiency
      - We were great with greens, but vining crops were needing some trial and error
- Acknowledge green food solutions team, and volunteers
- In year 2
  - Did CSA program
  - Set up in lobby
  - Selling memberships to people and getting them excited about that
  - Grew all kinds of herbs
    - Lemon basil, giant leaf parsley
  - Leafy greens
    - Chard, lettuce, bok choy, kale
- Had problem this year with tomatoes as well...
  - If anyone has tips about that, or some insight into that, it was one thing that we were scratching our heads about
- If you see marigolds
  - We only had to release lacewings about 3-4 times, as soon as we recognized aphids
  - Then we didn't have to buy beneficial bugs
  - At the end of this season the aphids came back and we didn't have to buy more beneficial insects
- To give you an idea of all the things we can grow
  - Cucumbers, tomatoes, basil,
  - One tower alone grows 10 lbs of kale, harvested every ~2 weeks
  - Can grow specialty herbs and greens
  - Lavender
    - Want to trial with it again next year to see if we can be more prolific

- Seeded 2-3 plants per plug
  - And I think we can do more, given that I've seen rosemary and thyme get huge and take up space
  - A lot of trial and error
- Also did a lot of drying of herbs
- Flavor was great
- Shiso was super prolific
  - Apparently it can go for 20 cents per leaf
  - Blows my mind because it grows fast, like a weed
  - Experimented to see how big we could go
  - The reason it got to this size was because we didn't know what to do with it, so we let it go
- Only there once a week, so got lots of different sizes of cucumbers...
- Only running half this year (of 79 towers)
- But made it possible to be there 1x week
- Bitter melon
- Okra
- Tomatoes
- Watermelon
- Q&A:
  - What do you do in the winter?
    - Break down equipment
    - Clean it off
    - When it gets cold, you get icicles...
    - Once broken down, you put a tarp over equipment in winter
  - They are hiring!
    - Farm amenity manager
    - Managing outdoor and indoor farms
    - Hopefully start in January
  - Cost per tower?
    - \$495-\$625
    - All 79 towers plus equipment costs \$44,000
  - Pests on the roof?
    - This year we had aphids, small horn worm problem with tomatoes, and hardly have problems with thrips (problem with indoor environment)
    - Had some mites on shiso tower (plants got old...)
    - Biggest line of defense is lace wings
      - Least expensive
      - Most prolific
      - And they attack the most amount of bugs
    - Tried with ladybugs, but we stopped because mites stuck around
  - How are residents engaged in rooftop hydroponics?



- They have a say in what's being grown
  - We determine what we think people will like
  - But residents get to come up and talk to us
  - We grow, and they harvest
  - We train them and teach them
  - As a company, we are looking to empower others to grow food
- We are creating a software program now to help people create what we do
  - Crop scheduling
  - Customer / tenant managing
  - The idea is to eliminate the distance in which food travels and eliminate distribution – it's all in the building
  - We develop relationships with developer partners, real estate partners
  - In farming, land is a big deal, especially in urban context
  - Important to develop relationship with real estate partner
- Taste difference – how to improve taste of hydroponics?
  - What we have come across is by accident
  - I don't necessarily encourage this, but there is playing room
  - In hydroponic systems, how the flavor gets taken away is from sanitizer....food safe sanitizer for water and roots
  - In our experience it's letting it get a little dirty in the reservoir
  - As well as changing out your reservoir every 4-5 months to ensure it's getting the correct nutrient profile from the solution
  - What happens over time is the nutrient won't be what is catered to your plants
  - Comes down to which nutrients you use – we use Tower Tonics for the system
  - It's one size fits all except for tomatoes
  - There might be some amendment that needs to happen for that
  - Haven't noticed a big difference growing in soil and hydroponics (think I'm better in hydroponics at this point...)
  - It comes down to nutrients and letting it get a little dirty...
- Funding?
  - We do customer financing
  - At the beginning we were growing commercially, in shipping container, hosting events
  - Through the square roots program we were supported in the training and getting that commercial farming experience and sales experience
  - The hard part is not growing the food, the hard part is selling it
  - Getting the background in sales we were able to sell the produce and run events

- Events helped us fund it
- Then we used that money to get the business and fund operations
- For the farm at the Denizen, that is where we worked with the developer to get equipment
- Then we grow for the building
- So they hire us as landscapers to grow the food for them

## Contact Information

Electra Jarvis

[Green Food Solutions](#)

@greenfoodsolutions

[mary@greenfoodsolutions.com](mailto:mary@greenfoodsolutions.com)

# Networking and Parade of Misadventures

## Session Notes

- Bloopers and bad luck
- To the crops we've lost in 2020
  - Tomatoes
  - Cucumbers
  - Basil
  - Kale
  - Galinsoga (just kidding, it'll never die)
- Mugwort strategy
  - Kept knocking it down, but didn't see to stop it at all
  - Clearing it by hand, added compost, set up trials, but then had to abandon until mid-summer (covid), and then the staff bulldozed it, and it all reverted back to mugwort!
- Galinsoga
  - Despite minimal soil disturbance, and other techniques to minimize weed pressure - galinsoga pops up everywhere
  - Seed bedding
  - Flame weeding
  - Mulching with 1+ inches of compost or top soil
  - Persistent scuffle hoe-ing
- Big tropical storm (Isaias) → trellis destroyed, plants couldn't fully recover
- Hidden 'treasure' discovered in the ground
  - We could probably all share the weird items we've dug up
- Okra with yellow/brown edges, leaf margins; then all the leaves drop - mysteriously
- Cucumber beetles
  - Worse on the little islands in the city
- Cat killers - rats and birds
- Chickpea borer
  - Maybe just on the islands
  - Governor's Island
  - Randall's Island
- Severe nutrient deficiencies - most noticeable on hydroponic operations
- Icicles hanging from hydroponic towers that attempted to survive the winter
- Very bad year for rats
  - Maybe because of Covid - closing restaurants
- House got hit by lightning!
- Compost buildup after compost was closed due to covid

## Additional Resources

- Commiserating over the effects of Tropical Storm Isaias:  
<https://youtu.be/A8SbxDpkOoE>
- [‘Guerrilla’ Garden and Compost Site Springs Up in Sunnyside](#)
- [Sunnyside Residents and Property Owner Come Together to Turn Empty Lot Into Composting Site](#)
- [Cornell Cooperative Extension NYC Market Growers Newsletter](#)
- [Northeast SARE \(Sustainable Agriculture Research Education\) Farmers](#)

## Contact Information

[Cornell Cooperative Extension Urban Agriculture Program](#)

@urbanag.nyc

Sam Anderson, vegetable pest diseases and soil management

[swa39@cornell.edu](mailto:swa39@cornell.edu)

Yolanda Gonzalez, lean farming, mushrooms, fruit trees, and food safety

[yg88@cornell.edu](mailto:yg88@cornell.edu)

# Seed Saving

[Link to view session](#)

## Session Notes

- Jeremy Teperman - ENY Farms!
- Brendan Parker - Red Hook Farms
- Why do we care about seed saving?
  - Preservation of heirloom varieties
  - Regionally adapted to our specific climates and soils
  - Seed sovereignty - a small number of corporations control a large number of our seed supply, so good to gain some control of this
  - Sharing efforts with others, reducing reliance on corporate seed companies
  - Getting to know your plants on a deeper level - full cycle
  - Beautiful to see the full cycle of some crops we don't ordinarily get to see go to seed (i.e. lettuce)
  - "To us, seeds are our relatives" - Rowen White (Indigenous Seed Keepers Network)
- How can seed saving fit into your urban farm or garden?
  - Isolation (time or distance) - keep them separated by a certain distance to avoid cross pollination, or if you have multiple successions you can avoid having them cross pollinate
  - Crops that you only grow one variety of
  - Open pollinated varieties
  - Section off part of planting for only seed saving
  - There are exceptions to the rules! (ex. peppers)
- Saved seeds from:
  - Bitter melon
    - Popular East/South Asia, Caribbean
    - [Kitazawa seed company](#)
    - Grown for truelove seeds
    - Started seeds on heat mats in early May
    - Transplant in early June at ~24" spacing
    - Drip irrigation recommended
    - Vigorous plant, but heavy feeder
    - To save seeds harvest fruits that are at least 50% yellow (later, the seeds will be harder to capture)
    - Scrape the seeds and either eat the red jelly coating (yum) or spray it off with a hose on a quarter inch mesh screen

- Leave seeds in a ventilated place on a paper towel to dry for about 2 weeks before storing
  - Flesh is also edible
  - At Red Hook, grew 60 plants, harvested about 2,823 bitter melon seeds!
- Pigeon peas
  - Not originally able to grow in this region, but it has been bred to be able to survive and flower/produce fruit here (short-day plants v day-neutral varieties)
  - Fresh harvesting when pods are green and plump (not ideal for seed saving at this stage)
  - Seed harvesting is ready when pods are brown and dry, seeds should rattle inside the pods, and the peduncle turns brown
  - Let dry in pods for a few days before shelling
  - Seeds will be auburn/amber color and hard (if the seeds are light tan they may not be viable, but still can try!)
- Long beans
  - Takes a lot of attention to grow and harvest well (can get leathery quickly) - easier to get to seed stage than the eating stage
  - Some of the long beans have pithy/leathery inside, but they taste quite similar to the ones without, so should still be good
  - Best to wait for pods to dry to harvest for seeds
- Callaloo (Amaranth)
  - Grown for Truelove
  - Let the plant go to flower (seed heads) - shake and see if they fall loose to test for ripe seed
  - Then cut whole seed head and allow to dry
  - Scrub seeds to loosen from chaff
  - Can use screens, wind, or other methods to blow off the chaff
- Red “bully” lima beans
  - Reclaim Seed NYC - community seed library and garden in Jamaica, Queens
- Jamaican Pumpkin
- Hot and Seasoning Peppers
  - Peppers have perfect flowers, so they can self-pollinate
  - Even though they can cross-pollinate, many pepper flowers will pollinate before the pollinators come and risk cross pollination
  - Seeds seem to stay true to type

## Contact Information

[East New York Farms!](#)

@enyfarms

Jeremy Teperman, ENY Farms!

[jteperman@ucceny.org](mailto:jteperman@ucceny.org)

[Red Hook Farms](#)

@redhookfarms

Brendan Parker, Red Hook Farms

[brendan@rhicenter.org](mailto:brendan@rhicenter.org)

# Vegetable Pests and Diseases

[Link to view session](#)

## Session Notes

- Poll results
  - Hardest hit crops by pests & diseases:
    - Brassicas (56%)
    - Cucurbits (49%)
    - Nightshades (32%)
  - How much did you stress about pests/diseases this year?
    - A little bit (41%)
    - Quite a bit (29%)
    - One of my top two or three stressors on the farm (17%)
- Pests and disease of NYC vegetable crops
  - Especially common in 2020
    - Twospotted spider mite (tomato, cucumber, eggplant, beans)
    - Green peach aphid and other spring aphids
    - Thrips, especially onion thrips
    - Fusarium wilt (tomatoes)
  - Especially damaging in 2020
    - Twospotted spider mite (mild winter, didn't get killed off)
    - Bacterial canker (tomato)
    - Black rot (brassicas, especially kale/collards, cabbage)
    - The combined army of things that eat kale/collards: cabbageworms, flea beetle, whitefly, harlequin bug, cabbage aphid
  - Biggest puzzles to solve:
    - Twospotted spider mite
    - Bacterial canker (tomato)
    - Whitefly (brassicas)
    - Pigweed flea beetle (callaloo) - limited research as it isn't considered a major crop by USDA
  - Especially common in 2019
    - Basil downy mildew
      - Doesn't survive winter
      - Travels by wind
      - Can destroy basil in a mere number of days
      - Thai basil is more resistant
    - Powdery mildew (cucurbits)
      - Happens every year, everywhere
      - Recommendation for resistant varieties



### ■ Black rot

- Chart on common pests (see slide)
- Olivia Gamber, Urby @ Staten Island
  - Rats - unique compared to previous years, despite the fact that compost was better maintained this year
  - Trying tromboncino squash as a resistant variety to squash vine borer - but not as delicious
  - Check out fruited seeds for info on squash vine borers (plant varieties that are too skinny for the vine borer, or plant in July to avoid first generation)
- Jane Zhu
  - Student run-farm, high school program
  - Fungal issues due to poor drainage
  - Blossom end rot
  - Whiteflies
  - Cedar apple rust
  - Monk parakeets
- Sheryll Durant
  - Kelly St, New Roots
  - Aphids - especially on collards and kale, and milkweed but that's less concerning
  - Whiteflies
  - Squash vine borer, despite 3 years of not growing summer squash
  - Spider mites - especially on tomatoes
  - Harlequin bugs - all over the brassicas for the first time
  - Advocate of companion planting
  - Powdery mildew - cucumbers
- Brendan Parker
  - Multiple successions of summer squash to deal with squash vine borers and cucumber beetles
  - Plant faster than the pests!
  - Clear the plants as soon as there is evidence
  - Preference for selecting black rot-treated seeds
  - Switching from overhead to drip irrigation minimized issues with black rot, too
- \*NEED to schedule a separate zoom call for a larger conversation on pest & disease\* - this is in the works, stay tuned!

## Additional Resources

- [Squash Vine Borer management information](#)

- [GreenThumb Growing Food Toolkit](#)

## Contact Information

[Cornell Cooperative Extension Urban Agriculture Program](#)  
@urbanag.nyc

Sam Anderson, vegetable pest diseases and soil management  
[swa39@cornell.edu](#)

# Tech for Farmers

[Link to view session](#)

## Session Notes

- Leanna Mulvihill (she/her)
  - Former farmer
  - Switched full-time to tech
- Farm Generations
  - A national farmer-owned cooperative
  - GrownBy, online sales platform - live in app store later this month (Dec 2020)
- Tech for Farmers ... Tech with Farmers
- Participatory design
  - Users (farmers) and technologists design together
- Online Direct-to-Consumer Sales
  - Definition
    - CSA
    - Pre-order
    - E-commerce
    - In person retail
    - Farmers' markets
    - Farm stands
    - Giving food away
    - Etc.
  - Critique
    - Some customers want home delivery - trouble with capacity to do so - hard to manage
    - Everyone wants home delivery
    - Hard to get new customers - discoverability, local
    - How to make reaching customers less labor intensive
    - Accepting different types of currency - not always accepted on platforms
    - Spending too much time at the computer
    - Management of farm stores - inventory, etc.
    - Hard to unload a lot of one product at one time (ex when crops are ready but markets aren't open yet)
  - Fantasy
    - What would be ideal?
    - Faster distribution, less time on computer
    - Everyone comes to you to purchase, don't need to go anywhere

- Who is your ideal customer?
- Easier to follow up with customers based on products they purchased (i.e. bought squash seedling, later in season reach out about squash vine borers and row cover, etc.)
- “Follow up” as a product
- Minimizing work involved in farm store management - maybe more successful integration between crop planning, crop info, and sales platform
- An easy way to unload a lot of one product at one time (ex when crops are ready but markets aren’t open yet)
- Food rescue for donation and sales where people are connected to sources and needs and transportation is covered
- Implementation
  - What resources do you need to make this a reality?
  - What would the tech look like?
  - May or may not be a tech solution
  - Tapping into existing networks - partnering with existing groups
  - Render ideas
  - Leanna is a resource for helping brainstorm

## Contact Information

Leanna Mulvihill  
@fourlegsfarm

# Video Meditation pt. 3

[Link to view video](#)

## Session Notes

- Slave labor legacy
- Any work done for free is slave labor
- American capitalism built on slavery, continues

## Additional Resources

- Check out and subscribe to Isa's channel: [Isa Jamira](#)
- [Oko Farms](#), @Okofarms

## Contact Information

Isa Jamira  
@isanotissa

# Urban Foraging and Land Access

[Link to view session](#)

## Session Notes

Nathan Hunter

- Nathan is a Parks employee, as are many others at Concrete Plant Park
- It's a series of edible gardens
- Off 6 train, near Hunts Point in the Bronx
- Introducing the concept of a Foodway
  - When started this role 3 years ago, the foodway was being built
  - Holding space for intersections between varied histories and cultures
  - Grateful to have access to an incredible team
  - Eastern woodlands, land stolen from Lenape tribes
  - Adjacent to the Bronx River also known as Akawahon
  - Filling in a narrative of what the foodways of the Bronx River look like
  - Foraged snacks, indigenous crops
- History of the park
  - Was a concrete factory closed in late 80's
  - In the 90's there was a push to reclaim the space
    - Youth Ministries for Peace and Justice, the Point CEC, and early phases of Bronx River Alliance
  - Showed before and after photos ...
  - It was opened up in 2009 and has taken more shape
  - In 2016 we met Swale
    - They are the inspiration behind the Foodway
    - The floating barge was the launching pad for the concept of the foodway
    - Mary Mattingly created the barge as a way to talk about foraging and the lack of access to public lands
    - There is a prohibition of foraging on public lands, for fear of liability risk, but also policies that keep indigenous people off land to starve them and then policies that were applicable in Jim Crow era
    - Swale did a good job of talking about this, as well as the idea of food access and land sovereignty in meeting communities where they are at
    - A lot of the young people who built the food way were from Swale
- The idea of the Foodway
  - Not just a food forest

- But mapping out 3 sites
- There is a food forest consisting of:
  - Fragrant pollinator garden
  - Nut grove and understory trees
  - Moves into berry walk
  - Small orchard
    - Leans on principles of permaculture and agroecology
    - Imitating nature's ways of doing things
  - A wild native meadow
    - A space to cultivate a wild foraging area
    - We know the space is safe because we've imported the soil
  - And a demonstration garden where we can plant crops in a cooperative manner
- We cooperatively grow food as a community
- All spaces are open 24/7 365, no fences
- Urban foraging of familiar foods
  - The idea of foraging or harvesting found objects
  - People gravitate toward things that are familiar
  - Apple mint, chocolate mint, blueberries, strawberries
  - But service berries are becoming familiar
  - Pumpkin blossoms first came from compost piles and pumpkin smash, but people now plant their pumpkin seeds
- Foraging unfamiliar edibles
  - Teaching the public and myself
  - Journei Bimwala gives foraging tours through Foodway
  - Share the benefits of dandelion, nettles
  - Chestnuts were nearly extinct in the US due to a blight
- Rules to Foraging
  - Gives some structure to support foragers and keep people safe
  - Developed by Stuy Cove Park
  - The health of the soil is important, near the highway, in the asthma corridor
  - For people to guide themselves and connect with Earth
  - Top rules:
    - Positively ID plant, health of site and plant
    - Understand how to harvest properly – don't damage perennials
    - Quantities – not over harvesting
    - Knowing local laws
  - In NYC concrete plant park is the only place you're allowed to forage legally
  - The foodway is a space to teach folks
  - Other food forests are on private land or organized by non-profits (Solar One: Stuy Cove Park)

- This is the only city land where it is permissible to forage
- Maintaining a space with no fence and always open to the public?
  - Most maintenance happens through coalition of individuals
  - Intervine is a workforce development group with the Hope program and has provided incredible individuals
    - Train in horticulture for positions in Parks
  - Student leadership, local schools leading projects
  - SYEP, paid student work
  - Committed volunteers
  - Concrete friends – a group that has taken a lead on advocacy of the food way, and take leadership in ways that parks employees are not able to
- Issues:
  - Folks using park as bathroom
  - Plant vandalism
  - Sex paraphernalia – sex work is real and should not be shamed
  - Parks can highlight failures and issues where systemic failures come together
  - People who struggle with mental health
  - People without homes
    - We encourage people to seek food here
    - I don't have a solution, Parks is looking to figure out solutions
    - But we can organize trainings with DOHMH
    - Approaching everything with compassion and kindness
    - People are caught in systems
    - People are inherently good, and life makes things bad...
- Looking ahead:
  - Winter work days
    - Friday, December 18
    - Saturday, January 9
    - Saturday February 6
    - Saturday, March 6
  - Winter zoom planning sessions, open to public
    - Plan out season and look for intersection and collaboration
  - Winter workshops and panels
    - Details TBD
    - Going to be busy this winter
- Q&A
  - Since transplants need about 2 years of consistent irrigation before they become established, how are the plantings watered, and how often? Do Parks and/or Bronx River Alliance staff water or do volunteers?
    - Parks gifted a gardener
    - This year, staff and volunteers handle watering



- How did the Foodway navigate/work with government organizations responsible for the park given this unique land use. Especially since you mentioned foraging is technically illegal.
  - We are an exception to the rule
  - It's a point of contention for other parkies
  - The Bronx river alliance is responsible for parks along the river
  - We are responsible for the park in many ways, it comes down to collaborative cooperative effort for all these task lists – making sure everything looks good to picking up garbage
- Are there any plans or ideas about expanding this concept to other public spaces in the city?
  - When we started, Foodways were already existing around the country
  - Seattle is a leader with Beacon food forest, Atlanta...
  - In NYC, outside of Stuy Cove Park, privately owned by Solar One, there is no other space
  - This is a pilot project for parks department, troubleshooting all these issues
  - There are not any proposed new food forests for public lands, but we have some grants that we've submitted to create foodways on schools, like with Fannie Lou Hamer
  - Ways to work with these ideas – berry walks, orchards, -- what foods are popular, so what else can we offer
  - This foodway isn't perfect – and orchard trees are something to take care of
  - When we devise and come up with these designs, I want young people thinking about what foods they want to eat and how do we do this with lowest effort
  - Really interested in fruit, like raspberries – people go nuts for them
- Are there plans to organize to eliminate the anti-foraging laws and expand NYC's urban agriculture laws in connection to public and private land?
  - Haven't heard anything, but am talking with some politicians about their food policy
  - There is nothing kind of radically happening
  - But I will say that there is a demand that is coming about, and I've been approached by developers who are trying to build food forests at luxury housing around the city
  - Some of my transparent concerns are these ideas getting coopted for luxury or private spaces
  - But thinking about the complexities of that for access
  - This was designed by young people, designed by an artist

- A grassroots story in grassroots park
  - I've been approached by corporate folks
  - But also folks from schools like Fannie Lou Hamer are giving me energy
- Would the Foodway be interested in talking about or growing edible mushrooms? There are some really easy varieties that could work in the Foodway
  - Yes!
  - Believe it or not, it's a giant raised bed...
  - Giant 3 feet of soil on a slope
  - The wood that surrounds the garden is starting to fall apart, and mushrooms are taking over
  - So hopefully want to find stones to take over and then inoculate the logs with good fungi
  - It makes me nervous about look a likes and people getting sick
  - Certain varieties do well in soil and won't need a lot of irrigation...
- If you have identified a site for a potential new NYC park, how can a non-parks employee assume the role of principal designer/planner for a hybrid garden/park on city-owned land? What agency would be the first to reach out to?
  - There is resistance to getting food on land for rats and liability
  - It has not been greenlighted on a larger scale
  - This is a pilot project
  - I think it's exciting because its large
  - I think it takes a community to change the law and then we can go forward
  - I think it's important to figure out that maintenance factor
  - If you have a strong maintenance agreement, or concept around tackling unknowns around education, maintenance, the benefits to the area
  - Then you can sell your idea
- Do you have plans for adding composting?
  - We did build a giant windrow ... halted with covid and it's a giant shed
  - It's in an area where its only accessible to staff
  - We would like to do it more, but we are redirecting to gardens
- You mentioned thorns of urban foraging, how much could be mitigated through proper signage?
  - Some of the problems like the biggest issues, are bathroom, needles, and sex
  - I think needles is really hard, that's a wicked problem beyond me
  - We have tried to get containers in the park, and then if you get containers then kids can access the needles

- I give my staff and volunteers as much info as possible about these things and approach it with compassion, so folks aren't triggered or triggering others
- And not distancing those who are on the margins of society within our park
- Our park is a refuge for those folks
- I don't ask anyone to pick up human defecation
- But I do ask them to scout - I do ask them to scout before leading a program
- Aspects of demonstration garden haven't hit the ground running
  - Thinking about a cooperative model for the space is something we are trying to move into
  - Ways I can back out and community members can take over
  - Recognizing land access – we don't own it – so how can we use public lands we can access in honest, democratic ways
  - Concrete is a special place, an anomaly in our parks system, but it's possible in other places
- Where else does this exist, other than Seattle?
  - Philadelphia, fruit forest and orchard
  - Atlanta, Baltimore
  - Starting to pop up
  - I did a tour of Seattle's Beacon food forest, and I also saw orchards in public lands and you can walk in and they are amazing

## Additional Resources

- [NYC Food Policy](#)
- [NY Food 2020: Visions, Research, Recommendations for Food Systems During Covid 19 and Beyond](#)
- [Growing Food Equity in NYC](#)
- [Urban Guide to Farming in NY - Cornell Small Farms](#)
- [The Community Food Forest Handbook by Catherine Bukowski](#)
- [A Guide to Finding and Accessing Land for Gardening](#)
- When starting a garden, identify which agency has jurisdiction and ask for a license agreement to garden there. Find out jurisdictions at [OASIS Map](#)
- Gardening organizations
  - [New York Restoration Project \(NYRP\)](#)
  - [GreenThumb](#)
  - [Brooklyn Queens Land Trust](#)
  - [Manhattan Land Trust](#)
  - [National Young Farmers Coalition](#)

- Community Land Trust
  - [New Economy Project](#)
- [USDA Urban Agriculture](#)
- [USDA Launches Office of Urban Agriculture and Innovative Production at NRCS](#)
- Grant Programs
  - [Urban Agriculture and Innovative Production Competitive Grant](#)
  - [Community Compost and Food Waste Reduction Project Cooperative Agreements](#)

## Contact Information

[Bronx River Foodway](#)  
[foodway@bronxriver.org](mailto:foodway@bronxriver.org)

Concrete Plant Park  
Nathan Hunter  
@nathan\_hunter

# Tomato Trellising Experiment

[Link to view session](#)

## Session Notes

Justin and Brendan from Redhook Farm

- Session overview:
  - Why we chose this system
  - How to construct it
  - The maintenance you need
- We represent a youth centered urban farm in Red Hook Brooklyn
- So young people can work with land, and address food access issues in the community
- For the tomato trellis, there's not a lot going on:
  - You need T posts that go into the ground
  - Conduits go across
  - Tomahooks are hooks with strings, with the twine
  - PVC pipes at the top help hold them in place
  - That's the basic construction
- Why did we use this system?
  - We researched different options of tomato trellises
  - We had issues growing tomatoes in the past
  - We have 2 feet of light growing medium, mostly compost based
  - Any system where you pound a post into the ground, we hit asphalt after about 1.5-2 feet
  - So tomatoes grow up and then flop over
  - We were looking for something that could support the weight over the whole season
  - We also wanted something we could sanitize, something that wouldn't rot, and since we work with youth, we think of them in designing any aspect of the farm
  - Youth could construct it and maintain it
  - We also used this for cucumbers, pole beans and bitter melon
- Materials needed
  - Works out to roughly \$175 for a 120 foot bed
  - Need 6.5 T-posts and a pounder to pound into ground
  - Space every 8 feet
  - 1 ¼ PVC tees on top of each t post (\$30)
  - Conduits – metal bars that the tomahooks attach to
  - To avoid issues with bending, use ¾ inch conduits
  - ½ inch metal conduit connectors

- Tomahooks (with at least 15 feet of twine) for each plant, for when the tomato grows then you can wrap it and get rid of slack so it stands up straight
  - Need zip ties to hold tomahook in place
  - Trellis clips to attach twine to each plant
  - Zip ties help slide them across
- 2020 tomato program
  - 4 120' rows, each planted 1' apart in rows 5' apart. Roughly 480 plants
  - Interplanted after planting with bush beans and radish
  - 12 varieties
  - Producing roughly 2500 pounds of fruit
- The maintenance
  - We grew on single stem
  - Pulled away any suckers that would make the plant grow bushier
  - So we would have low hanging fruit and they wouldn't be touching side to side
  - They grow straight up
  - Prune away some of the leaves so you can see fruit easier, more airflow
  - And then when we have about 3-4 inches of growth on the top, you take the trellis string then you wrap it around the stalk of the plant
  - The part you prune all the suckers off
  - That took about 2 hours with only 3 farmers
- Issues and lessons learned
  - It's 2020, so of course there will be issues
  - Not everything was rainbows and butterflies
  - Disease pressure started in August
  - More and more bacterial speck and bacterial spot
  - Sunscald on tomatoes
  - Potassium deficiency that we learned about as Sam Anderson was taking leaf tissue samples
  - But we learned a lot about how to maintain the system
  - Building our soil so plants are more resilient to pests and disease
  - Some out of our control, but overall we learned that in particular the 5.5 foot height of trellis – one of the issues I the fruit that's lowest, once the plant reaches the top and we lower it, the fruit would sit on the ground
  - So we are going to use a system in the future where there's more tension on the line and it won't allow the fruit to sit on the ground
- Plans for next year
  - Put our tomato trellis system in the greenhouse
  - Reduce pests and sun scalding
  - More heat
  - Multiple successions
  - More space, so fruits don't touch and transmit diseases

- Different hardware on tomahook conduits so they can slide more easily
- Q&A
  - Did you do blossom pruning? Or just suckers and leaves
    - Kept all our blossoms
  - Please talk more about pruning the tomato plant. If you're pruning all the suckers, where is the fruit growing from?
    - You often see small fuzzy flowers growing along the main stalk that you choose
    - You choose the main stalk and prune the suckers off that
    - You see flowers that look like suckers but they flower and bud and eventually they turn into tomato plant
    - And you see flowers growing off of main stalk
  - Did you use any sort of velcro/twine to make sure the tomatoes grew along the twine?
    - We used twine, we put it on the tomahooks – need 15' worth of twine so it can grow up and wrap around the main stalk
    - But when it grows tall enough you wrap it around
  - Is there another option besides using PVC?
    - Steel cable

## Contact Information

[Red Hook Farms](#)

@redhookfarms

Brendan Parker, Red Hook Farms

[brendan@rhicenter.org](mailto:brendan@rhicenter.org)

# Season Extension Infrastructure

[Link to view session](#)

## Session Notes

Nick Storrs, Ciara Siedell, Ben Flanner, Chloe Lazarus

- Ciara – urban farm manager for Randall's Island Park Alliance
  - Most of our infrastructure are things that anyone can do with things they have around community garden
  - Smaller spaces
  - Raised beds
  - Not bigger hoop houses or greenhouses
- Chloe – work down the road at Project Eats Wards Island farm, farm manager there and at a rooftop farm in the Bronx
  - 5 high tunnels, row cover
  - For rooftop farm we have a heated greenhouse that helps extend the season in both directions
- Ben – Brooklyn Grange
  - 3 different rooftops that we lease out and total 3-4 acres of vegetables
  - All outdoor in green roof system
  - In terms of season extension we have a hoophouse and small greenhouse, and a 5,000 sq foot greenhouse in sunset park
  - Happy to talk about what we do with all of them
- Challenges?
  - We started with reemay
  - Now I'm cynical with reemay on roofs
  - We put it down and put staples in it and after we planted some seeds...it's fine as long as wind is average or normal
  - When you get a stronger wind day it's 20-30% stronger and kills all the plants when it starts blowing
  - We put a decent amount of effort into a low tunnel
  - We have about 10 inches of soil and below that is drainage system, below that is a roof
  - We had a clever system of anchoring it
  - But we had one of those weekends with gale force winds and with accelerated speeds on the roof it shredded the plastic
  - We have low tunnel bars, 8 feet across
  - Put a layer of reemay to protect it, but the plastic got shredded
  - Made me feel challenged, need a different product
  - Had good luck with hoop houses



- Ciara – sent the photo from Monday with a storm over last weekend. Where was the weak part here?
  - This was impacted by the excessive winds that we had about a week ago
  - There were certain structural points that I knew were poor and didn't have staff on site to fix it in advance
  - Hoops themselves were not sturdy – we dug them into ground but didn't secure them
  - Can purchase brackets and attach to beds then secure hoops to those
  - Using guidelines could also help
  - And any draft that comes through the bottom of the plastic will affect it
  - None of these plastic pieces were cut for these beds
  - Kudos to Chloe who donated these plastic pieces ... mostly they fit but weren't in the right shape
  - If a corner was loose it doesn't have an impact
  - But if there's a wind storm, it pushes everything over
  - We stapled one side to the beds and the wind was strong enough to pull the staples out
- Chloe – you're using low tunnels as well?
  - All of the low ones are using row cover, not plastic
  - I think it's better at taking in the wind
  - But we did have similar issues with high winds and the hoops popping out on outside beds
  - But on the inside, so far they haven't come out
- All of you have larger structures as well? Ciara – are you using polycarbonate greenhouses on RIPA?
  - Nick used to manage the farm I'm currently managing
  - Over the years this greenhouse sat empty for the majority of the season. We start most seedlings in another
  - So this is 10x8 greenhouse, and it's fancier than backyard greenhouses
  - Sturdy, made of polycarbonate
  - This year we brought in compost
  - Able to grow tomatoes all season long
  - Now we are growing collards and spinach and it's working so much better than low tunnels over raised beds
  - Open the door and everything is safe and sound, nothing blowing away
  - Requires less daily staffing
  - We have the resources for this, it was on site already
  - But allows us to attend to plants
  - I will access crops in the greenhouse this winter
- Chloe, your high tunnels allow you to move outside of the classic farmers market season. How important is that? What is the benefit of getting into extra seasons?

- It allows us to continue growing food in months that most markets are closed and most people don't have access to fresh local produce. It continues the mission of the project and there isn't as much consistency, but there is something running through the whole year
  - There's a chance to be first and last to market with the tunnel
- Does that help you, Ben, selling your produce on a commercial scale?
  - We use indoor structures of infrastructure more than season extension
  - The hoop houses at each farm are around the 36x14
  - But after experimenting with them, we found that the core value is to get our starts going, keep them heated once February or March comes and we start the earliest seedlings
  - We set up benches in them
  - So were not doing any traditional season extension in the ground
  - Built benches, do starts, and some amount of microgreens on the benches as well
  - In sunset park, the 5,000 sq ft greenhouse is split 50/50 with benches and hydroponics
  - We set up two benches each, about 5' wide. So you can put 3 sets of 520's...
- Germination chambers are one of those things that I'd say for anyone starting their own seedlings – the one thing I recommend
  - The greenhouse inside the greenhouse
  - Provide amazing predictability and consistency
  - Good germ rates and know exactly when they are going to germ
- These are (an image of) Ben's germination chambers here. What troubles did you have with these, Chloe?
  - I've had a lot more luck with DIY than purchased chambers
  - The one I found this year, it was challenging, when living in a city where commuting is hard
  - The window of opportunity to pull out a tray at the right time is so small
  - It was becoming more trouble than it's worth when we had a heated greenhouse that is temp controlled
  - That had more reliability
  - But at another farm with DIY chamber, and didn't have access to a greenhouse, then it was a dream
  - Being consistent about monitoring and being at the chamber, that makes the difference
- Ben:
  - Microgreens are more forgiving. They can get leggy and its ok
  - But if kale is in germination chamber, as soon as it pops out you need to get it into light
  - It's a learning curve and you lose a couple of trays

- With microgreens, and Solanaceae like tomatoes and peppers, then we see the value
- I would say making that work well requires good notes
  - You can do trial trays in December and in general they will germinate on the same schedule that putting trays in March will
  - We try to keep notes...especially when you have a new variety
  - You see when they start to pop
  - Once I know that number, I can pull them out even before they have fully germinated, pull them out into the table
  - I like those chambers a lot
- Making your own germinating chambers
  - Retrofit a Bakers rack to fit 10-20 trays
  - Stuck a crock-pot underneath, attached to a thermostat and it works fantastically
  - Something this size will germinate 30 trays at a time
- As you do more season extension work, what does this do to your labor? Do high tunnels take more labor than crops growing in an open field? Where do you see justification if so?
  - Chloe: I think inevitably since you are extending season, you have more job opportunities for people who are seasonal or shifting to part time
  - But I think there can be a substantial upfront investment getting plastic, row cover, sandbags, getting hoops, wire, chain – it can all be expensive
  - You can DIY to an extent, but once the system are in place, it's not an especially expensive tool to have, because you also have the added benefit of more food for longer periods of time
  - There is additional labor where if we didn't have tunnels we wouldn't have to vent them, open row cover, we would do more office work, but it comes with other benefits too
- What's the benefit of doing something automated, less DIY?
  - Ben: more expense upfront, you can use it for a long time, which is a challenge in the city to have longer leases
  - As long as you have that, its allowed us to create set processes, fill up space, and keep it heated
- How much land tenure do you need to make it worth it?
  - For a structure like ours, at least 10 years, maybe longer
- Ciara, do you have any desire to install larger structures or retrofit the ones you have? If you can wave a magic wand and make anything happen, do you have a vision for where to go?
  - The DIY structures that we have that can work well in community garden spaces are great
  - We decided on a whim to do it
  - In the future I want to extend the seasons and make it easier for ourselves to do so

- I think permanent structures can bring that ease
- I want to design more cold frames
- The ones I have take up a lot of space and are not permanent
- That picture shows ones where I used to work with Harlem Grown
- They are great, in the summer we could keep them in place and take off tops, but we ran into a few challenges with the glass breaking...
- For Randall's Island urban farm, instead of cold frames or semi permanent structures I'd want to think about larger greenhouses to use the land we have
- Or permanent cold frames lining the perimeter of the farm
- Thinking of designs now
- Ben:
  - My experience with cold frames is minimal, especially if you can build them higher and they don't block as much light as reemay does
  - Makes sense to use polycarbonate which won't break and can insulate
  - And then you can take it off and it's a formal bed like in a community garden
- Ciara:
  - This year we threw things together, you can see the warmth that the ones in the cold frames are getting is more than the hoops
- Did you need to vent them regularly?
  - So far we are doing ok, for this time of year with lettuce
  - If I had a different crop in there, I would want to vent it more
  - My goal was to get it out around now, then transfer cold frame for something heartier
  - We do have to take them off the second the warmer weather hits
  - Need two people to lift them. They are fairly light
  - One is a 4x8 frame and one is half of that
  - The two sitting next to each other is more structurally sound
  - The other one got pulled off by wind
  - Hard to stack in summer
  - So splitting it and putting it on bed worked out better
- How has covid affected the way you use cold frames and season extension?
  - Ben: at a macro level, the virus has shifted our farm quite drastically
  - Restaurants wer 60% of sales until March 16<sup>th</sup>
  - We were doing a lot of microgreens and different varieties going out as a solid income stream
  - So we shifted a bit, and shifted restaurant food to CSA and food relief and pantries
  - In terms of the greenhouse, with extension, right at the beginning we had a huge demand from retail customers for clamshells and salad mixes
  - We were going through hydroponics set up and clipping every leaf into clamshells for retail

- The mix of how people were eating from restaurants to everyone eating from home
- We shut down microgreens operation but after a few months we restarted it growing pea shoots for retail
- More affordable microgreen to get to consumers, and easy for us to streamline
- Doesn't tend to have a lot of diseases and whatnot
- Chloe, how did covid shift Project Eats?
  - Chloe: the whole mission of project eats is to provide affordable food to communities that don't otherwise have access to fresh produce
  - So we focused on same communities we've been working with, and started offering free food, working with food bank and other orgs in the city
  - And didn't start any sales until September
  - Still in conjunction with free food
  - I don't think season extensions were affected by covid, but more food we grow in winter months will go to covid initiatives
  - We normally switch to restaurant style in winter
  - So it will stay focused on free food
- Ciara, I'm sure covid had an effect on education programs. Did those adapt or change, and the make-up of who uses the farm?
  - Absolutely. Unlike project eats or Brooklyn grange, we are mostly educational. All our produce was used in education programs and used in classes. Kids would harvest and cook in classes
  - On occasion over the summer we would distribute to a soup kitchen
  - This year we had to cancel all our programming, just about the time our crops were going in the ground and getting things ready to go
  - So we were able to think critically about growing more and growing for production
  - And while we certainly are not a production focused space, we were able to grow more this year
  - Thankfully to this tiny greenhouse, we grew 20 tomato plants, which can grow a significant amount of food,
  - I know that we produced 1000 lbs more food in total than last year
  - That had to be in part because of extending the season in both directions. At this time last year we were not harvesting, when this year we are
  - That's important for us, to distribute to food pantries and other food distribution networks in our area more intensely than in years in the past. We're looking to grow to match that need
- Q&A

- I'm seeing \*so\* many restaurants buying small (expensive) greenhouses for their outdoor dining. How do we ask them to donate them to urban farms and community gardens post-pandemic??
  - Nick: It's a great opportunity to form a relationship with a lot of these restaurants through an ask like that
  - As these spaces are no longer needed by restaurants, it can be great to approach a restaurant manager and find out who can make decisions in that restaurant and introduce yourself as a food producer
  - Get a season extension project out of it but develop a relationship that can turn into sales channel or mutually beneficial relationship
  - Ciara: our greenhouse is the place we make all our transplants and seedlings for 100 raised beds
  - With a community garden we relied on getting transplants, but these small greenhouses can do a lot to start your own seeds, and accessing restaurants is a way to get them
- Does stacking the trays like that in the chamber not compress the soil or disrupt the sprouts? Never worked with a germination chamber so just interested in the dynamics of it.
  - We have to be really careful stacking. As soon as the seeds start to germinate we have to get them unstacked and out of the chamber into the sun. It works a bit easier with microgreens than with cell trays with starts. Or as Nick said, it can be smarter to pull them out just before they begin to germinate. If you have the number hours dialed in.
- Can you share plans and designs for the germination chamber?
  - Ben can create them
  - Michael Philpatrick has a short class that goes into how to build one. Will share a link.
- Has anyone measured actual consumption of urban farm produce to see which of them are utilized by consumers to the fullest and which end up in compost/landfill due to spoilage? I'm thinking herbs vs salads
  - Haven't seen anyone working on that

## Contact Information

[Randall's Island Urban Farm](#)

Ciara Sidell

[ciara.sidell@randallsisland.org](mailto:ciara.sidell@randallsisland.org)

@ciarasi

[Project EATS](#)

@projecteats

Chloe Lazarus

@chloe.lazarus

@harlemhens

[Homegrown Nurseries](#)

@homegrownnurseries

Nick Storrs

@nstorrs

[Brooklyn Grange](#)

@brooklyngrange

Ben Flanner

@benflanner

# Video Meditation pt. 4

[Link to view video](#)

## Additional Resources

- Check out and subscribe to Isa's channel: [Isa Jamira](#)
- [Oko Farms](#), @Okofarms

## Contact Information

Isa Jamira  
@isanotissa



# Mutual Aid and Resource Sharing

[Link to view session](#)

## Session Notes

- Moderated by Emily
- Lou:
  - Started Astoria Pug
  - Dropping off thousands of lbs of food scraps
- Henry Opisbo from Born Juice:
  - From the Bronx, happy and grateful to be here
  - Food activist, food justicer for about 7-8 years
  - Creating initiatives here in the Bronx around food access and healthy food
  - Started farming as a child in DR and have been farming ever since
  - My family is Ponunco, an indigenous word for a small part of land
  - As a teen all these feelings about growing food came back to me
  - I've grown food in a hydroponic system, and that's where I launched most of my initiatives here in the South Bronx
  - One is Bronx salad initiative and created partnerships with local universities and Montifiore hospitals
  - Everyone from schools and intuitions could source food from hydroponic and other initiatives
  - Another initiative is called reborn food initiative that started in covid
  - That came out of not knowing what to do, and realizing that the veil of the reality of the system was lifted
  - This was to aid people in NYCHA, public housing,
  - People like Daniel with his community fridge
  - And other groups of people we did planting with
  - This initiative comes out of my company Born Juice, which is to bring access to the community, which is our main mission
- Dan, co-creator / co-organizer of Mott Haven Fridge
  - One of 10 community fridges in the South Bronx
  - I think there are something like 70 food fridges in NYC
  - The Mott Haven fridge is just one small piece of a much larger city wide movement and global movement of people coming together, neighbors helping neighbors to find a way to make food more accessible during a very dire time
  - I want to make a brief disclaimer that my voice is just one of many in the community food movement and don't want to speak for anyone else in

this movement. I am not a representative and I don't know if there is one.

- Most of the organizers are young women of color and that is important to point out
- I'm new to the community food movement and one of the commitments I've made is to step back and allow for other important voices to take center
- Raina Robinson, worker / owner at Woke Foods – a culinary and educational worker owned coop, also a co-owner of Café Forsaken in Ridgewood
  - During pandemic times I lost my job and was supported by woke foods
  - That really showed me where I need to be putting my energy
  - When the corporations let us go, the cooperative and the community can carry us through that
  - I wanted to do more
  - I started making meals for people
  - I reached out to my network
  - Met Ciara at Randall's Island
  - Met people in Brooklyn to create Café Forsaken and made thousands of meals since March
- Successes?
  - Lou and Rocky:
    - We are proud to say that we have become a staple of sorts in the Astoria composting community. We are able to collect people's food scraps in a reliable and consistent fashion.
    - That is incredibly important because it means that we are saving 3,000 pounds of food scraps that would be in landfills. We are incredibly proud of that
    - We are touched by all the partnerships we are able to build along the way.
    - Ciara is a great example because thanks to her, we were able to secure a place for 300 lbs of food scraps, especially early on when we were struggling about where to take food scraps week after week
    - That and the way that community gardens started coming together to help this initiative was at a time when community gardens were shut down and composting was defunded
    - That has all been inspiring
  - Henry:
    - There are so many successes
    - Just getting up and focusing on a bigger picture is already a success, especially during lockdown

- Having that sense of freedom and being able to go to a place where you could be in a meditative space, where farming and gardening, harvesting was already a big deal
- To be able to be in the space that was outside of my home
- The big successes were the partnerships that we organically formed with NYCHA and a couple of the community fridges
- The general community in High Bridge that we started supplying also
- I would say that the NYCHA aspect was one that we wanted to really get right because there are so many, as we know, realities of NYCHA so to be able to connect to people there was a big deal, and to be able to bring fresh produce to many of those families was one of the major successes of the project
- In general, the partnerships with the organizations and other gardens that heard about what we were doing, crating this hyperlocal movement that was aimed at restructuring the food chain, that's at the core of this initiative
- It's a food chain that is not built for us, especially here in the Bronx
- It's not in our image, let's say
- That was in many ways the beginning of a blueprint, of a bigger idea that we are developing
- The negatives – need to find creative ways to keep growing over winter months
- Dan:
  - Successes were awesome – grassroots support from partners like Henry and Ciara
  - So many nonprofits and other partners that just stepped up and donated food and other resources
  - Also our interfacing of community members in Mott Haven with the fridge, and the ways community members have been directly empowered when they may have been ignored in the past
  - Tangible ways that community members of Mott Haven have benefitted
  - Families using the fridge still volunteer to clean the fridge, or help receive deliveries, stock the fridge
  - Whereas often times a family goes to receive food from an institutional nonprofit, there is sometimes a hierarchy where people feel like they can't be part of the process and receive a handout
  - But what's awesome about the community fridge movement is that it's a level playing field
  - It's neighbors helping neighbors

- Another success is crowdfunding
  - We've raised almost \$30,000 in less than 2 months
  - Challenges – how to be empowering and uplifting of all the voices behind the movement
  - A challenge of having a fridge network in a more cohesive way beyond group chats on signal
  - We are run by volunteer drivers picking up and dropping off food
  - Different feelings about working with people who contribute to gentrification ...
  - Just autonomous fridges so bound to be lots of different voices and perspectives
- Emily:
  - Happy to talk about walk-in fridges with Mutual Aid NYC
  - If anyone is doing aid work and is not a non-profit, we have someone who is willing to have the conversation to use their 501c3 status
- Raina, successes and challenges:
  - Some successes or positive things is neighbors helping neighbors, a community coming out of hardship
  - Not just partnerships but friendships with the people I collaborate with
  - That is so important to the foundation of doing this work and being able to continue doing it
  - It's knowing and deeply caring about the people you collaborate with
  - It's like networks of care, real care about who you do the work with
  - I have gained a lot of clarity, losing day job and doing real work
  - I feel like some of the things I'm coming up on now is that weather is changing...and I know there's food out there, but having a hard time trying to get it and get it to where it needs to go
  - Ingredients are quieting down but there are still people who are hungry
- Are you receiving food donations that have been bought?
  - It's all close to expiring food
  - Our missions are trying to reduce food waste
  - There is more than enough food in this city to feed everyone
  - I don't want to buy food, I want to access what is missing
- Astoria Pug, you're in composting which is a different wheel house. I want to talk about everybody's plans going into winter. For Astoria Pug, we're at a tough time because the composting budget has been cut. So I would love to hear what all has unfolded:

- Lou:
  - I talked about our successes because I needed to take a deep breath because I am focused on challenges ahead
  - We are collecting about 3,000 lbs a week
  - We've been able to establish a reliable routine
  - But on 12/31, where we take all our food scraps, Big Reuse, is going to be evicted by Parks because they want to build a parking lot in a place where we process our food scraps
  - Commissioner Silver, who calls himself an ardent composter and supporter is ignoring over 1,000 phone calls and emails that he is getting because he is set on turning it into a parking lot
  - What that represents to us, and many others, so many organizations involved, if we lose that site, our ability to grow is completely halted
  - So it will be back to June and July ... where are we going to take our food scraps?
  - We were thinking that we have the funds to launch a 24/7 drop off, or a few of them in the neighborhood
  - But where do we take all the food scraps?
  - There are other micro-hauling operations that want to expand their service but really can't
  - So we are at a crucial time. Every organization has a huge issue.
  - Now that we've been operating for a few months, Big Reuse reopened in September and is about to be shut down
  - I urge everyone to go on Save Our Compost and see what you can do
  - Go on Astoria Pug to see the steps you can follow to help us out
  - We want commissioner Silver to have to answer questions to City Council
- Henry, you've been working with community gardens, and many gardeners will not be active, what are you thinking now and what are your next steps?
  - The weather is obviously a big hurdle
  - Also brings an opportunity, which because there are less people farming or gardening, there could be more space for community farming for Reborn Food initiative
  - There is also a reality, so many realities, and many of the local gardeners usually garden for themselves and their households. Even with that, there is an issue of waste
  - Because there is an art to gardening and it is therapeutic, but there is food that is not tended to and going to waste
  - I've noticed that and it's an issue across most community gardens
  - So they're approaching those that are already farming and putting it on the table, you know there is waste, so can you give us, I would say, a commitment, to harvest it and have an abundance of food for the season

- Now there is room where we can use those beds and spaces that aren't being used
- And scale within the project or idea
- That is what we are looking at now and proposing that to several gardens in the Bronx and outside to see how we can come for an agreement to use it for the season, and their regular farmers can come back to it later
- Those are two ways we are thinking of engaging in the season and navigating with the weather
- Dan, farmers may not be using their fridges over the winter, so that can be a resource. What are some things you will be going into the winter with?
  - We have been lucky with partners so we don't just rely on urban farms and community gardens. One of our partners that distributes to the fridges is RAP for Bronx, and they provide us with the food to family boxes. We expect that to keep going
  - We have another partnership with east side settlement house, and they are powered by a grant from unilever and can keep sourcing food for us
  - We'll see...I have faith that we'll still have some food in the fridge
  - And we have pantry partners that we work with, that provide nonperishable goods
  - It might be a strategy of relying less on fresh produce and more on nonperishable goods
  - There are opportunities for churches and other local groups to step up in that regard
  - Run canned food drives on behalf of community fridges
  - Overall, I'm still hopeful
  - And there have been many times when the fridge is filled by individuals and families
  - It will be sad to have to wait until spring to get fresh food from local community gardens and farms
- Raina, what do you see going into winter? You mentioned figuring out how to source food a little differently. Can you speak on that and other things you see moving forward?
  - For the winter, I have noticed that since March, what was available at distribution places and gardens that we received donations from, I have noticed that donations are dwindling due to weather
  - I think I'm going to expand my network, to draw more, and let more people know who we are
  - We do not have as many connections as we could.
  - So doing more outreach so people know that we are doing what we are doing and we can distribute food and cook with it
  - I'm still figuring that part out

## Additional Resources

- [How You Can Help #SaveOurCompost](#)
- [Indoor Composting with a Worm Bin](#)
- [Guerrilla' Garden and Compost Site Springs Up in Sunnyside | Sunnyside Post](#)
- [Sunnyside Residents and Property Owner Come Together to Turn Empty Lot Into Composting Site](#)
- [Committee on Parks and Recreation - NYC Council](#)
- [NYC Community Fridges Map](#)
- [Community Fridges Feeding the Hungry Weather Growing Pains](#)
- Political representatives
  - Corey Johnson, Speaker of the City Council, District 3
    - [SpeakerJohnson@council.nyc.gov](mailto:SpeakerJohnson@council.nyc.gov)
    - In his district there are numerous sites though he relies on Hudson River Park Trust, Matthew Palmer Park, Lower East Side Ecology Center
  - Antonio Reynoso, [Committee on Sanitation and Solid Waste Management](#) (Chair)
    - [areynoso@council.nyc.gov](mailto:areynoso@council.nyc.gov)
  - Mitchell Silver, Commissioner of Parks and Recreation
    - [mitchell.silver@parks.nyc.gov](mailto:mitchell.silver@parks.nyc.gov)
  - Sam Biederman, Systems Commissioner for community outreach and partnership development at New York City Parks
    - [Sam.Biederman@parks.nyc.gov](mailto:Sam.Biederman@parks.nyc.gov)

## Contact Information

Raina Robinson  
@cafeforsaken  
@wokefoods

Lou Reyes and Caren Tedesco Cardoso  
@astoriapug

Henry Obispo  
@bornjuice  
@sustainablepapi

Daniel Zauderer  
@mothavenfridge