Sustainable Pest Management for New York Urban Farmers

Acknowledgements

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  - Judson Reid, Sam Anderson, Lori Koenick, Yolanda Gonzalez, Mallory Hohl, Caitlin Tucker
  - Carol Glenister, Amara Dunn
- Collaborating farms
- SARE Project 2021-2024

City	Farms
Buffalo	5 Loaves Farm
	Common Roots Urban Farm
	Journey's End Refugee Services Farm
	Massachusetts Avenue Project
	Urban Fruits and Veggies
	Westside Tilth Farm
Rochester	Foodlink Community Farm
	CCE Monroe- South Lawn Farm
New York City	Red Hook Farms
	ENY Youth Farm
	Pink Houses Community Farm
	Edgemere Farm
	Kelly Street Garden
	New Roots Community Farm
	Snug Harbor Heritage Farm

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NORTHEAST SARE Sustainable Agriculture Research & Education

The Project

- Needs Assessment
- 1:1 Farm Visits
- Scouting
- Demonstration Trials
- Workshops
- Farm Tours
- Urban Farm Pest Management Factsheets

Urban Ag in New York State

- Soil-based
- Non-soil based
- For profit
- Non-profit
- Non-commercial
- Commercial

40+ commercial urban farms
800+ community gardens

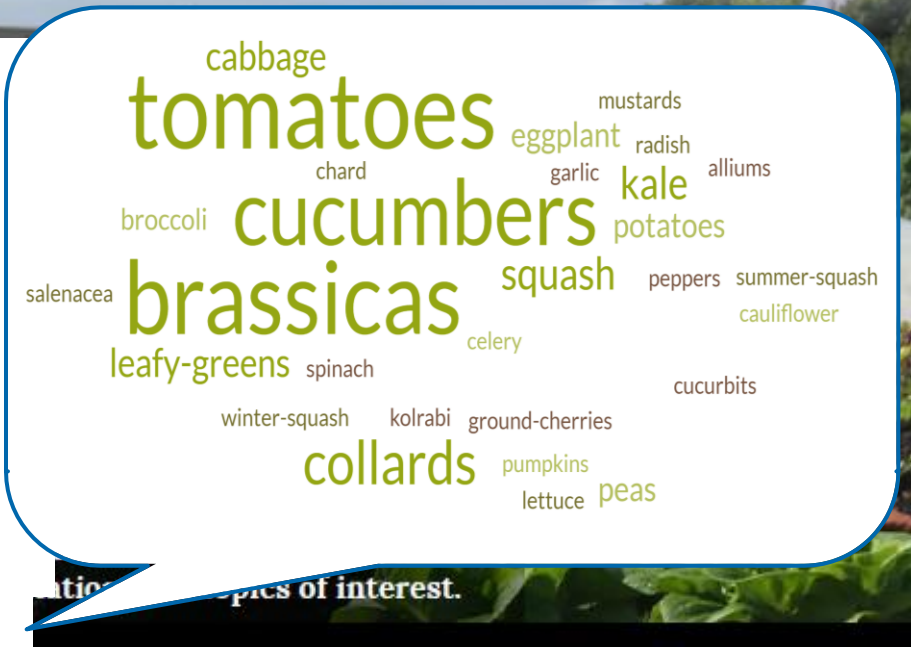
Urban Agriculture in New York State: A Study of New York's Urban Agriculture Landscape and Recommendations for Administrative and Legislative Action, CCE Harvest NY 2023

New York State

Urban Growers Pest Management Needs Assessment

- Predominate pest and disease issues
- Current pest management practices
- Barriers of implementation
- Topics of interest

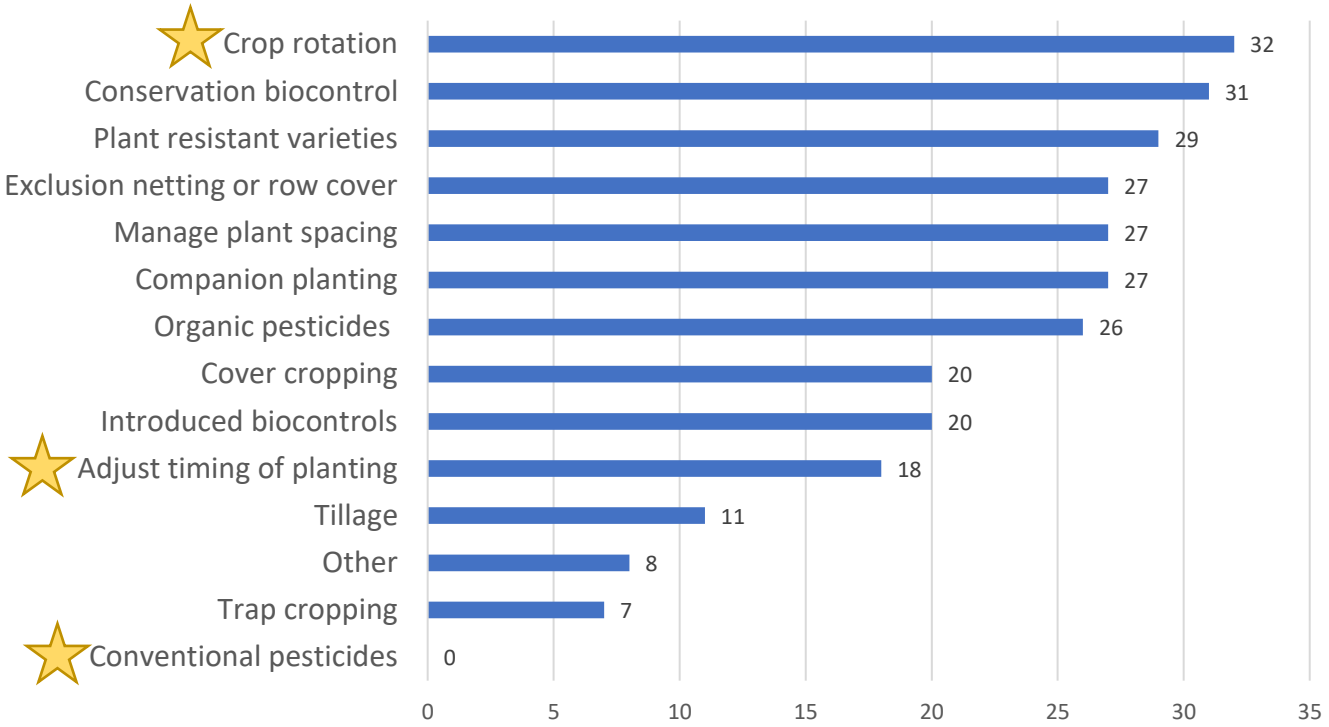
- 43 responses
  - Grower experience: 1 to 55 years (10)
  - Farms established: 1 to 22 years (8)
  - Size: 150 sq ft to 6 acres
    (1 acre)



What crops do you have most difficulty protecting from insect pests or diseases?

NYS Urban IPM Survey

What practices do you use on your farm to manage insect pests and/or crop diseases? Select all that apply.



Demonstration Trials

- Releasing biocontrols and other tactics to manage aphids
- Using insect exclusion netting to manage cucumber beetles
- Using row cover and entomopathogenic nematodes to manage flea beetles
- Swede midge management

Buffalo, Rochester

- Releasing ladybeetles to manage cabbage whitefly
- Adjusting soil pH to manage pillbugs
- Taking a "Brassica Break" to reduce pest pressure
- Resistant cucumber varieties for Downy Mildew
- Spotted lanternfly management

NYC

Metrics to evaluate success

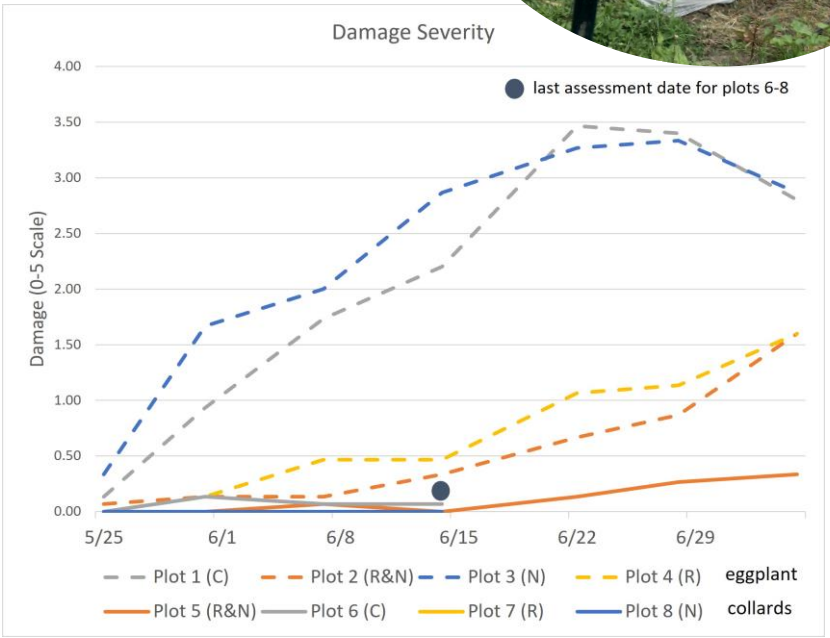
Profitability

- Yield - quantity, quality, length of harvest time
- Labor time

Contribution to social mission

Flea Beetle Management Trial

- Driven by farmer interest
  - Collards and eggplant
  - Row cover and nematodes
- Damage assessment, sticky card counts, harvest data
- Whole system impact- more than just pest management benefits
- 37.65 lb eggplant yield increase with row cover
- Community engagement: trial sign, youth workshops



C: Control R: Row cover N: Nematodes

Swede Midge (SM) Management

- Routine scouting showed SM present on majority of farms in Buffalo and Rochester
- Top pest concern- regularly causes **reduced marketability** and **crop loss**
- Farms report 100-1150lbs ($700-$15000) crop loss
- *Contarinia nasturtii*
- Larvae feed on Brassica growing tips
- Symptoms: brown corky scarring, abnormal plant growth, blind heads, multiple heads, puckering, crinkled, twisted leaves
- Frustration with lack of management strategies

Swede Midge (SM) Management

- Management:
  - Crop rotation
  - Population monitoring *
  - Insect netting *
  - Ground barriers
  - Variety selection
  - Strategic planting time to crash the population
  - Start with clean transplants
  - Timely post-harvest crop destruction

Lessons Learned

- Top pests of concern and emerging pests
- Importance of education, community engagement, scouting and correct pest identification
- Management practices have whole system impacts, there can be unexpected effects and trade-offs
- Adaptive metrics to evaluate success
    - Profitability- yield (*length of harvest time*, quantity, quality), labor time

Urban Farm Pest Management Factsheets

- Disease Resistant Crop Varieties
- Row Covers
- Releasing Natural Enemies
- Taking a Brassica Break
- Translated into Spanish, Arabic, and Chinese

Thank you! Questions?

- Lori Koenick

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- Cornell Cooperative Extension
  - Cornell Vegetable Program
  - Harvest New York