

Urban Tree Nursery Project

USDA – SARE Research and
Education Grant

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Sustainable Agriculture
Research & Education



Agenda

- Year One - Review from Growers (15-20 min)
 - General feedback from research team
 - Year One Data Review/ Analysis (20-30 min)
 - Any other data folks are interested in? (Soil, insects, public perception)
 - Interest in helping collect data
- Year 2 goals (20 min)
 - Start pawpaw / persimmon seeds
 - More grower participation: plant care/ watering
 - Field trip location: Meyer, Oikos, Nash, other?
 - Tree nursery license interest? (5 min)
- What do you want to do with your trees after? (5 min)
 - Keep Growing Detroit
 - Sell / donate?



Overview

- Address tree canopy shortage and edible tree fruit supply
- Grow pawpaws & persimmons from seed/root stock
- In-ground and containers at 4 sites (DPFLI, DFC, L&LB, CUG)
- 3-year study: data on tree size, root vigor, survival rate, inputs, value of 3-year-old trees



Farmer Roles

Role	Description
Site Prep	Select cultivation site; Support with bed prep
Plant Care	Water and monitor plants on a weekly basis; monitor for pests, water needs, plant health, and other monitoring
Data Collection	Support with measuring root length, fibrosity, tree height, biomass, tree caliper; Document labor/time/financial costs to tree care
Programming	Host Field Day Annual; Share experience with community and other farmers in video and print media
Plant Distribution	Help package, sell, and/or transition plants to buyers

Methods: Plant Selection

Seed propagation

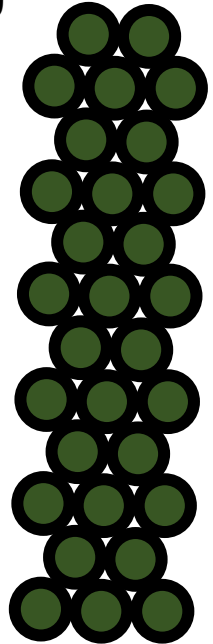
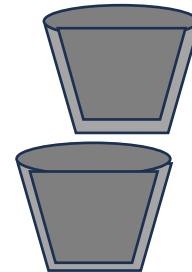
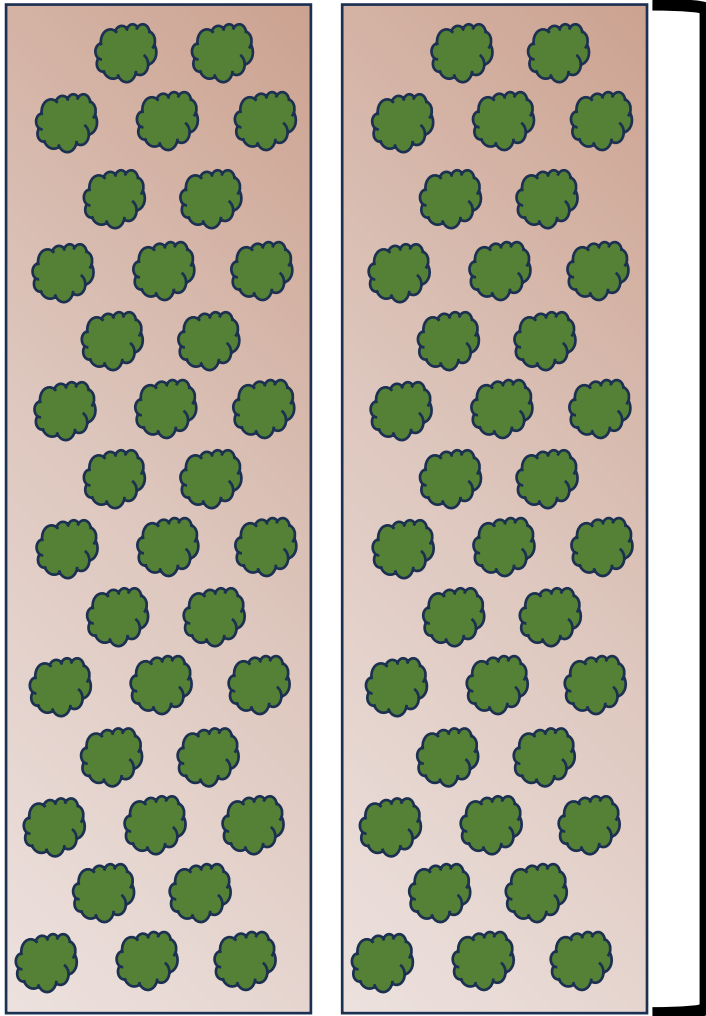
- 750 Pawpaw seedlings (6-12") purchased from Alpha Nursery
- 750 American Persimmon 1st-year seedlings purchased from WildType
- Pawpaw seedlings are slow to sprout (~July). Higher probability of successful start and efficient project initiation if seed starting is handled by a professional business.



Methods: Site Layout

- 300 each species @DPFLI = 600
 - 150 each species In-ground = 150
 - 150 each species Air prune = 150
- 150 each spc @ 3 other sites = 900
 - 75 each species In-ground = 150
 - 75 each species Air prune = 150

(42 in x 50 ft)
rows
100 plants/row



Engagement / Outreach

- Installation days?
- One site visit per week
- One watering per week
- Monthly / Quarterly check-in with Farmers
- Field days: One per site / per year
- Field Trips to Michigan nurseries and orchards
 - Greening of Detroit
 - Oikos
 - WildType
 - Roger's Reserve
 - Nash Nursery



Data

Year 1 (Late Summer / Early Fall):

- **Thin (30%) if necessary**
 - **Transplant into in-ground row or additional air prune bed**
- **Photograph and quantify root vigor (length and fibrosity)**
- **Measure height (soil to highest leaf)**
- **Leaf and Bud count**
- **Stem diameter if greater than 0.5 cm or ¼ inch**
- **Pests + other observations**

Year 2 & 3 (Late Summer / Early Fall):

- **Mortality, Pests, other observations**
- **Measure stem length**
- **Leaf and Bud count**
- **Stem diameter if greater than 0.5 cm or ¼ inch**

Year 3 (Late Summer / Early Fall)

- **Randomly sample another (30%) of each group for root measurements**
- **Compare transplanted roots with never disturbed roots and yr 1 w/ yr 3**

Partners / Collaborators

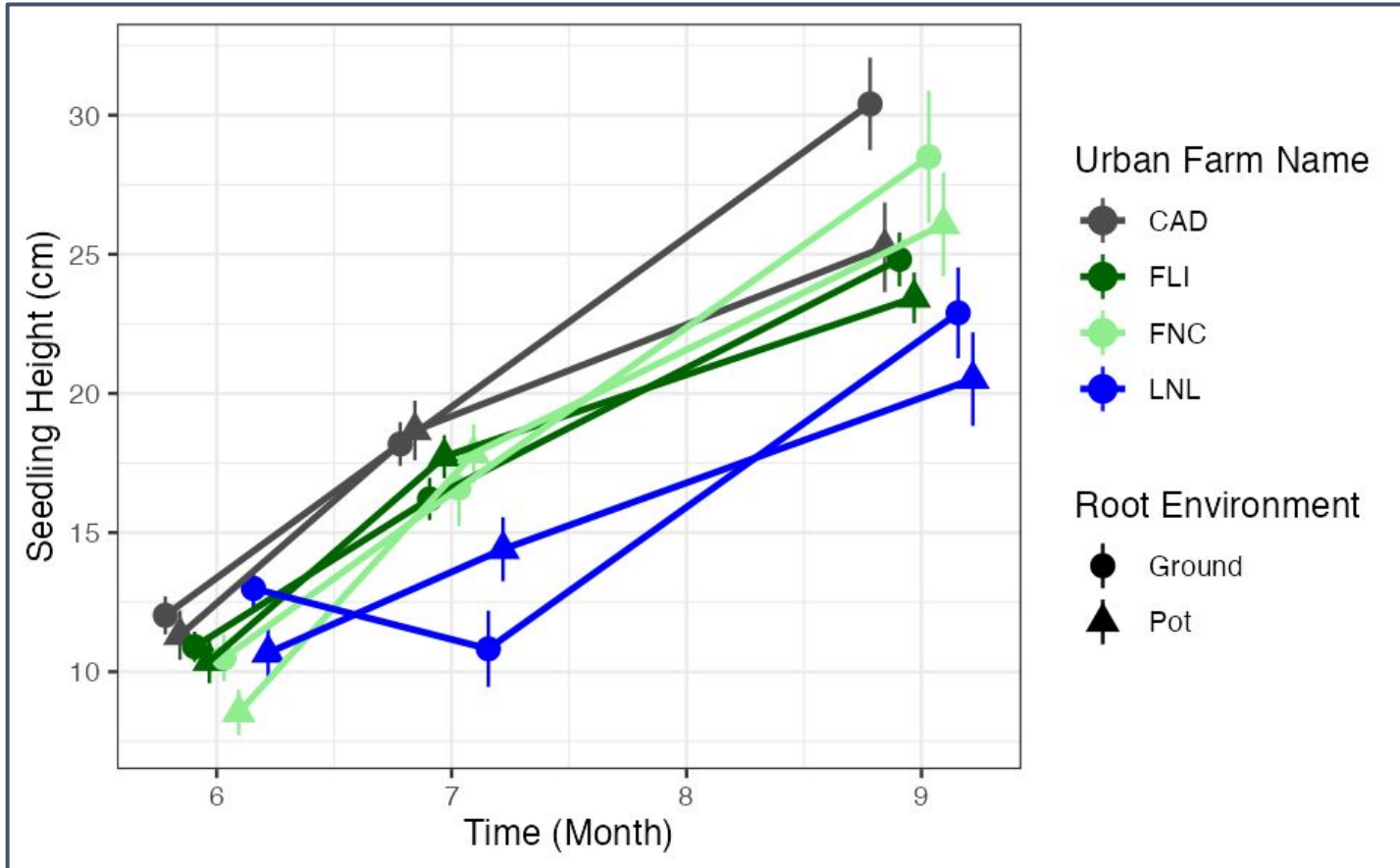
Sites

- DPFLI
- Love and Labor Botanicals
- Cadillac Urban Gardens
- Detroit Farm and Cider

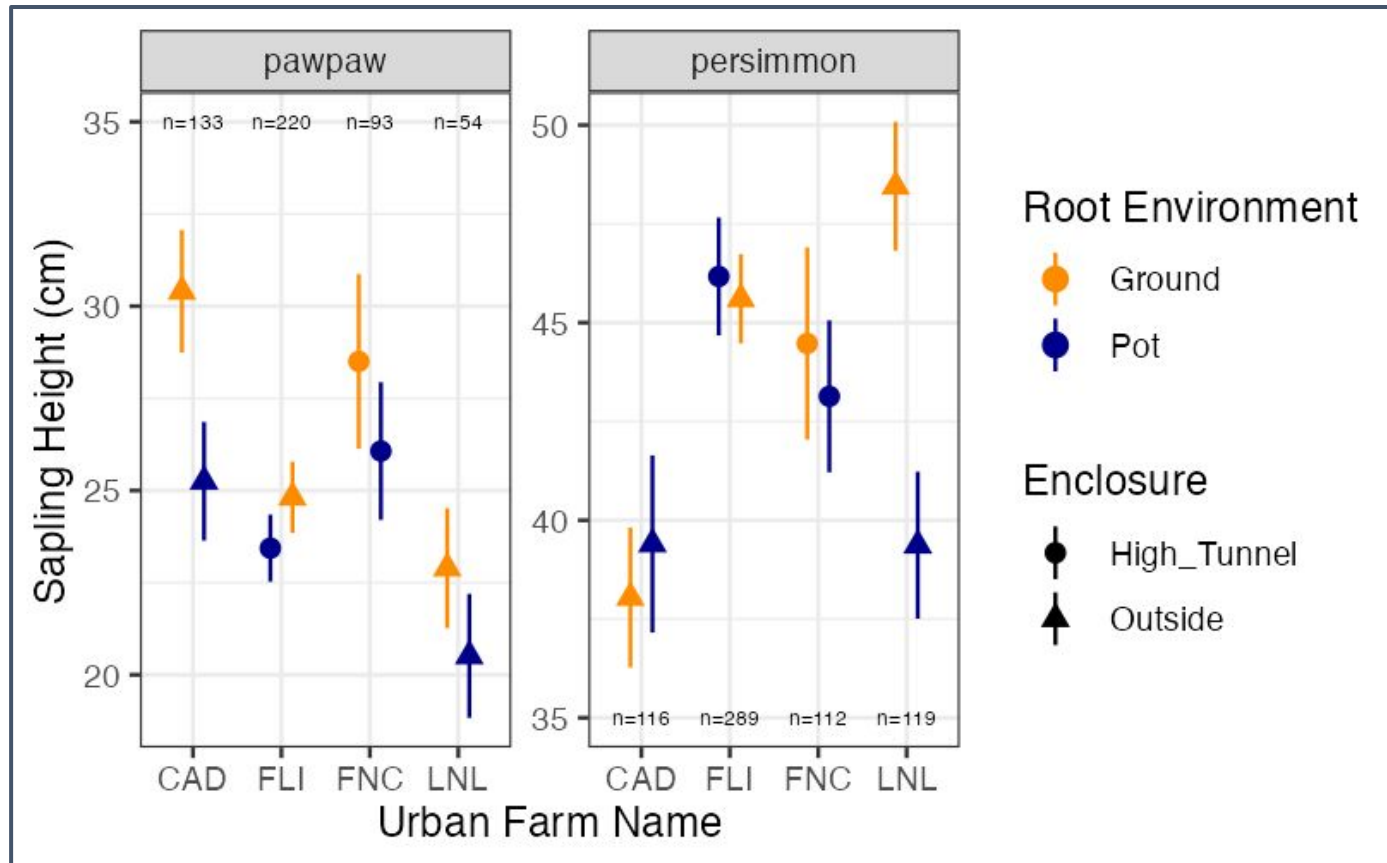
Collaborators

- FOGGS / George Vidas
- Management
- Workshops / Education
- Nicholas Medina

Results – Pawpaw Height in 2025



Results – Seedling Height Sept 2025



Root environment
had **significant**
effect
($P = 0.02$)

Farm and Enclosure
were nearly signif.
($P = 0.1$)

Results – Pawpaw Mortality

