Pawpaw Patch Management as a tool to facilitate woodland restoration: Effect of Forest Structure on Fruit Yield

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Pawpaw Tree
Pawpaw Tree

Pawpaw fruit

Patch of pawpaw trees
Wild Pawpaw Problems

• Low yields
• Variable quality
• Hard to harvest
Pawpaw plot with down tree
Potential of Pawpaw

Jackie O’s Beer and Integration Arce's Pawpaw Pulp

http://jackieos.com/brews/pawpaw-wheat/

https://integrationacres.com/products/frozen-pawpaw-pulp-pawpaw-pleasures-p-44.html?osCsid=ee72c080dec80218ed0f9897a1e0c714
Research Objective

- Monitor 5 field sites
- Tease out similarities
- Implement plans for increasing stand production
Wild Pawpaw Patches
Picking Pawpaw Patches

Figure 3: Project monitoring design. Pawpaw trees are shown as colored circles. Those selected for analysis of flowering and fruiting effort are shown in dark green. Different patches are surrounded by a colored oval. There must be > 10 m between groups of pawpaw trees for them to be considered separate patches. Overstory trees are shown in green. Monitoring plots consist of a 20m diameter circle centered on the patch. Canopy cover transects are shown as dashed lines, stars represent soil sampling locations.
Data Collection

Pawpaw Fruit with disease
Phyllostica - Common

Larvae of the Pawpaw Peduncle Borer – Uncommon

Pawpaw flower
Plot-level Fruit Production Over Time

(g)
Wild Vs. Cultivars

Wild

Cultivars

Length x width (cm)

Mass (g)
Probability of Pawpaw Producing Fruit
Flowering and Fruiting Relationship
Controls on Tree-Level Fruit Production
Controls on Pawpaw

- More likely to have fruit on smaller trees if in the open
- Light availability
- Moisture and nutrient competition
Management

Before management

After management
Profit open vs. closed canopy

- 0.38 Acres = 5 plots, 2 hrs/plot harvest, $11/hr---$110 labor
- 100 miles transport, @ .40/c, $40 transport
- $100 boxes

$1000-110-40-100=750/0.38=1,973/acre based on piketon closed
Future Management

- Grafting
- Hand pollination
- Thinning clusters