New Alley Cropping Trial in the Mid-Western USA with Multi-Layer Nut and Fruit Tree Rows


PhD Student
University of Illinois at Urbana-Champaign
Central USA

99.99%

0.01%
Silvoarable “Standard”
Improvement 1: Include multiple species
Tropical Multi-Species Agroforestry
Maintain Row-Alley Configuration

- Canopy Trees: Chestnut, Pecan, Persimmon
- Medium Trees: American Hazelnut, Apple, Pawpaw, Saskatoon
- Shrubs: Currant, Elder, Aronia
- Forage: Grass & Legume
Example Multi-Species Silvoarable Designs

(a) within-row diversification
(b) between-row diversification
(c) undercrop
(d) multi-layer
Improvement 2:
Include fruits & nuts
Two Central Crops

Chestnut
“Maize on Trees”

Hazelnut
“Soy on Trees”
UIUC Research Site #1
Est. 2012 — 2 hectares — 0.2 hectare plots

Hazelnut  Raspberry  Apple
Chestnut  Currant  Grape
Chestnut
Hazelnut

30'
30'
15'
15'
7.5'

- Maize/Soy rotation
- Hyper-Diverse 10-species
Est. May 2015
12 hectares
0.4 hectare plots
9m wide alleys
Modeling!
(Hi-sAFe)
Commercial Example: Chestnut + Currant

5 hectares

Alley Crop
(Clover, Asparagus, Pollinator)

Chinese Chestnut
(Castanea mollisima)

Machine-harvested
Black currants (cassis)

Hand-harvested
Red currants (groseille)
Breeding/Selection for Cooperation: Shade Tolerance in Black Currants (cassis)

40 cultivars – 5 shade levels
Demonstration & Research On Farms
Please stay in contact...
We want to collaborate!

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I plan to be in Spain 1-2yrs starting summer 2017.

I want to learn from you!

savannainstitute.org
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