

What is Happening in New York?

New York Tree Crops Alliance (NYTCA)
Cooperative

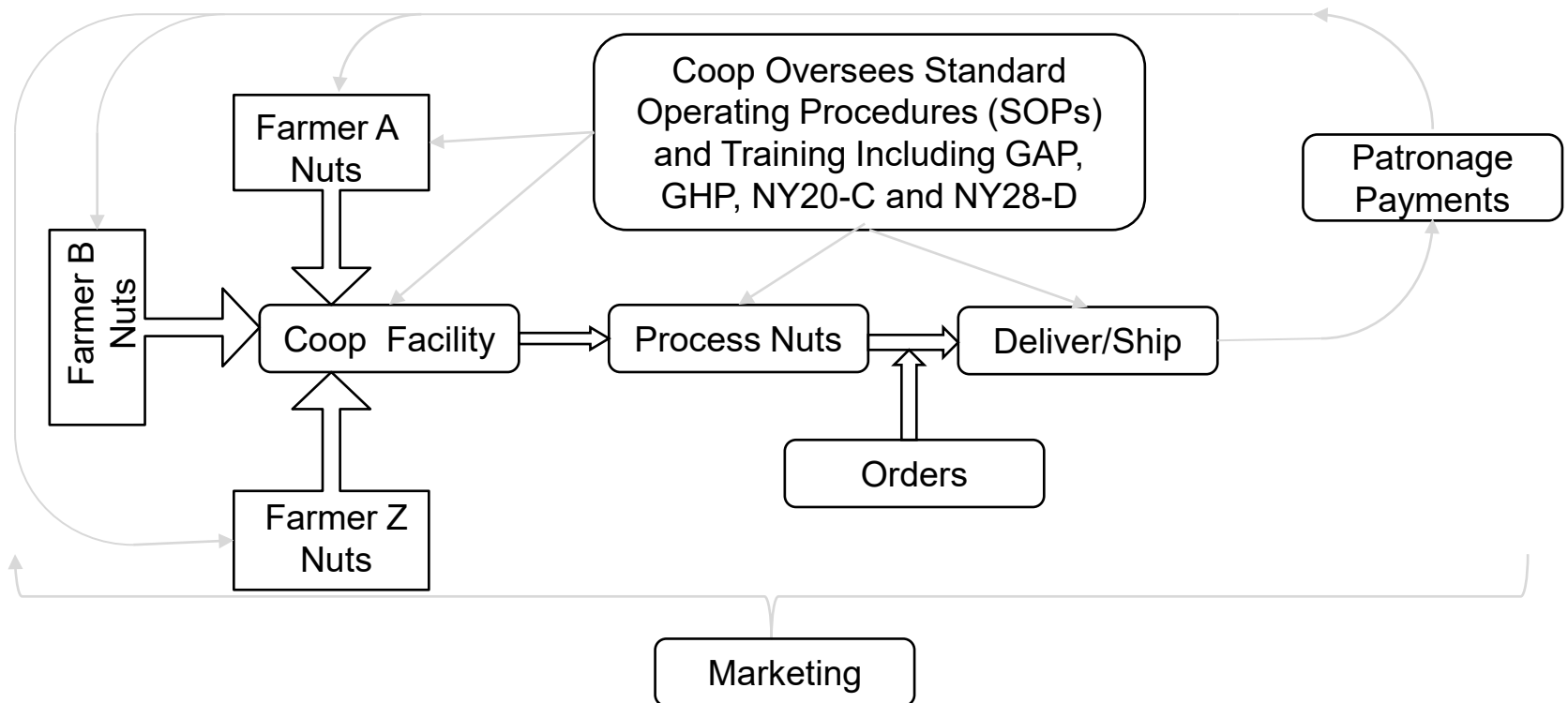
NYTCA



Presented By: Abigail Gilson

NYTCA Cooperative

- Started by Jeff Zarnowski (Z's Nutty Ridge) and a half dozen other growers in 2019
- GROWER cooperative for tree crops, focusing on hazelnuts and chestnuts first

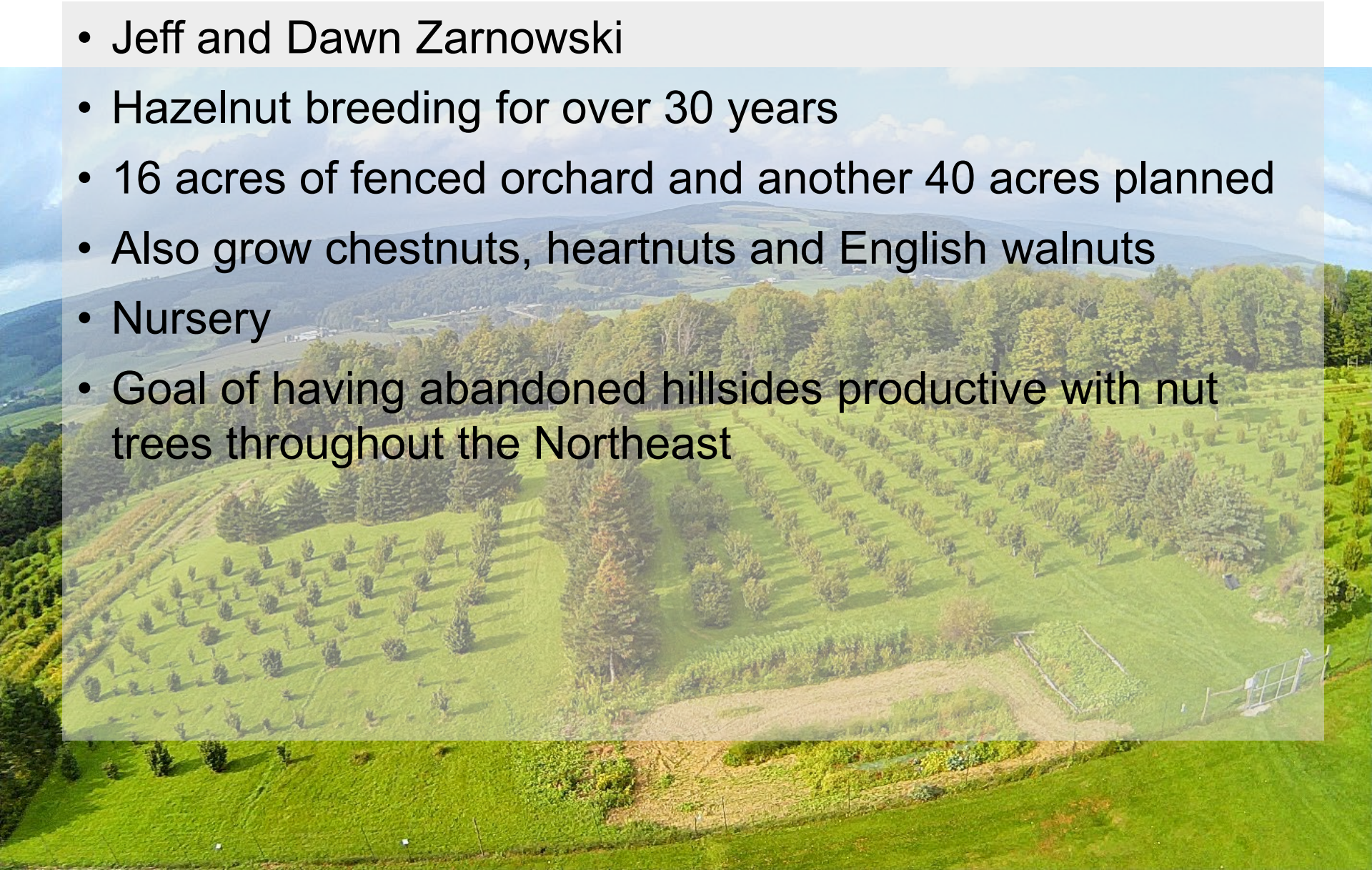


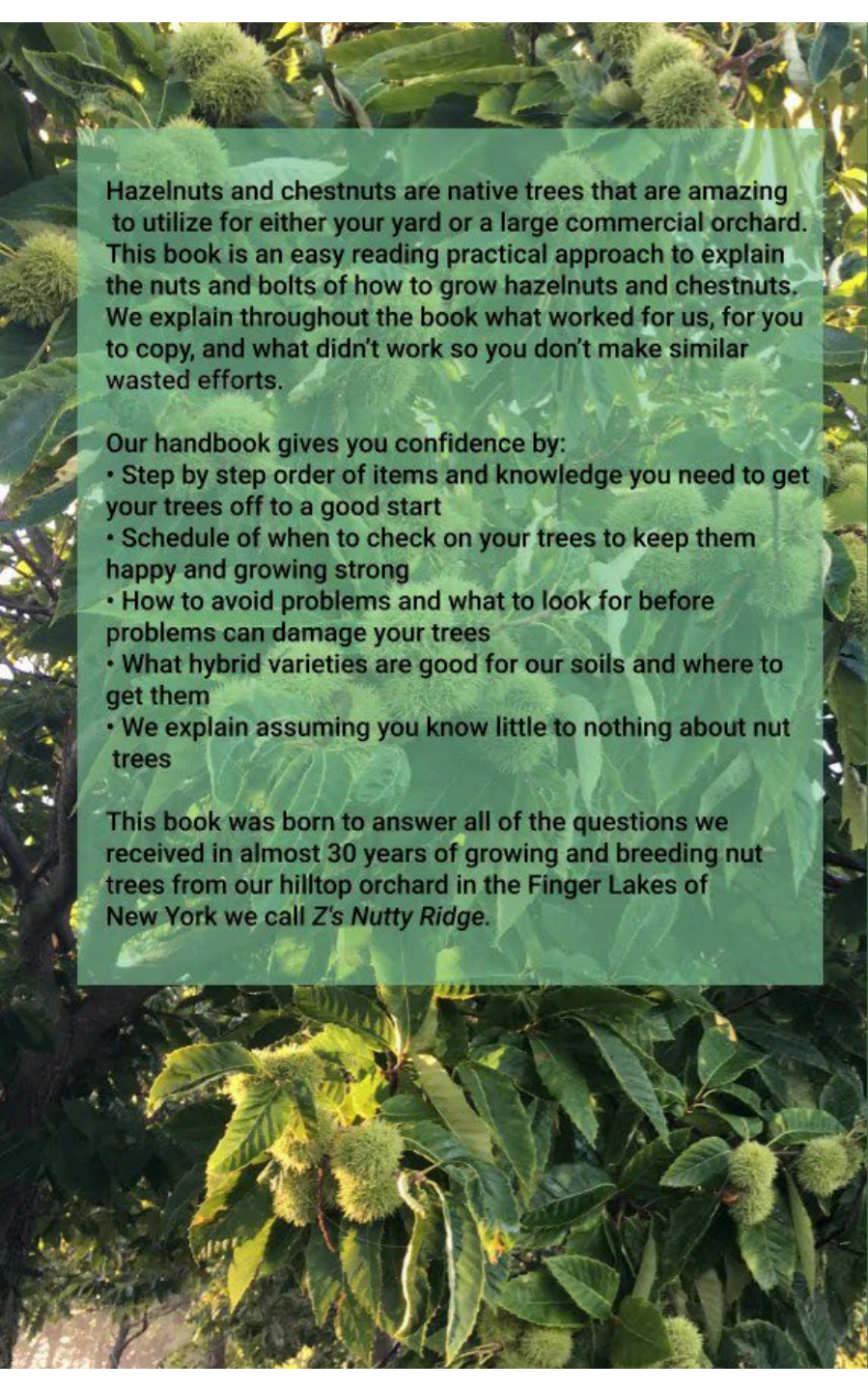
Who We Are

- We believe tree crops benefit the world and humanity
 - Builds rather than depletes soil, prevents erosion
 - Carbon sequestration
 - Provides habitat
 - Can replace annual crops for staples such as flour and oil
 - Tree crops are a healthy alternative to other types of annual crops
- Mission: to produce high quality nut products and to promote the cultivation and consumption of tree crops.
- www.nytca.org

Z's Nutty Ridge (McGraw)

- Jeff and Dawn Zarnowski
- Hazelnut breeding for over 30 years
- 16 acres of fenced orchard and another 40 acres planned
- Also grow chestnuts, heartnuts and English walnuts
- Nursery
- Goal of having abandoned hillsides productive with nut trees throughout the Northeast





Hazelnuts and chestnuts are native trees that are amazing to utilize for either your yard or a large commercial orchard. This book is an easy reading practical approach to explain the nuts and bolts of how to grow hazelnuts and chestnuts. We explain throughout the book what worked for us, for you to copy, and what didn't work so you don't make similar wasted efforts.

Our handbook gives you confidence by:

- Step by step order of items and knowledge you need to get your trees off to a good start
- Schedule of when to check on your trees to keep them happy and growing strong
- How to avoid problems and what to look for before problems can damage your trees
- What hybrid varieties are good for our soils and where to get them
- We explain assuming you know little to nothing about nut trees

This book was born to answer all of the questions we received in almost 30 years of growing and breeding nut trees from our hilltop orchard in the Finger Lakes of New York we call *Z's Nutty Ridge*.

ZARNOWSKI

The Hazelnut and Chestnut Handbook



The Hazelnut and Chestnut Handbook

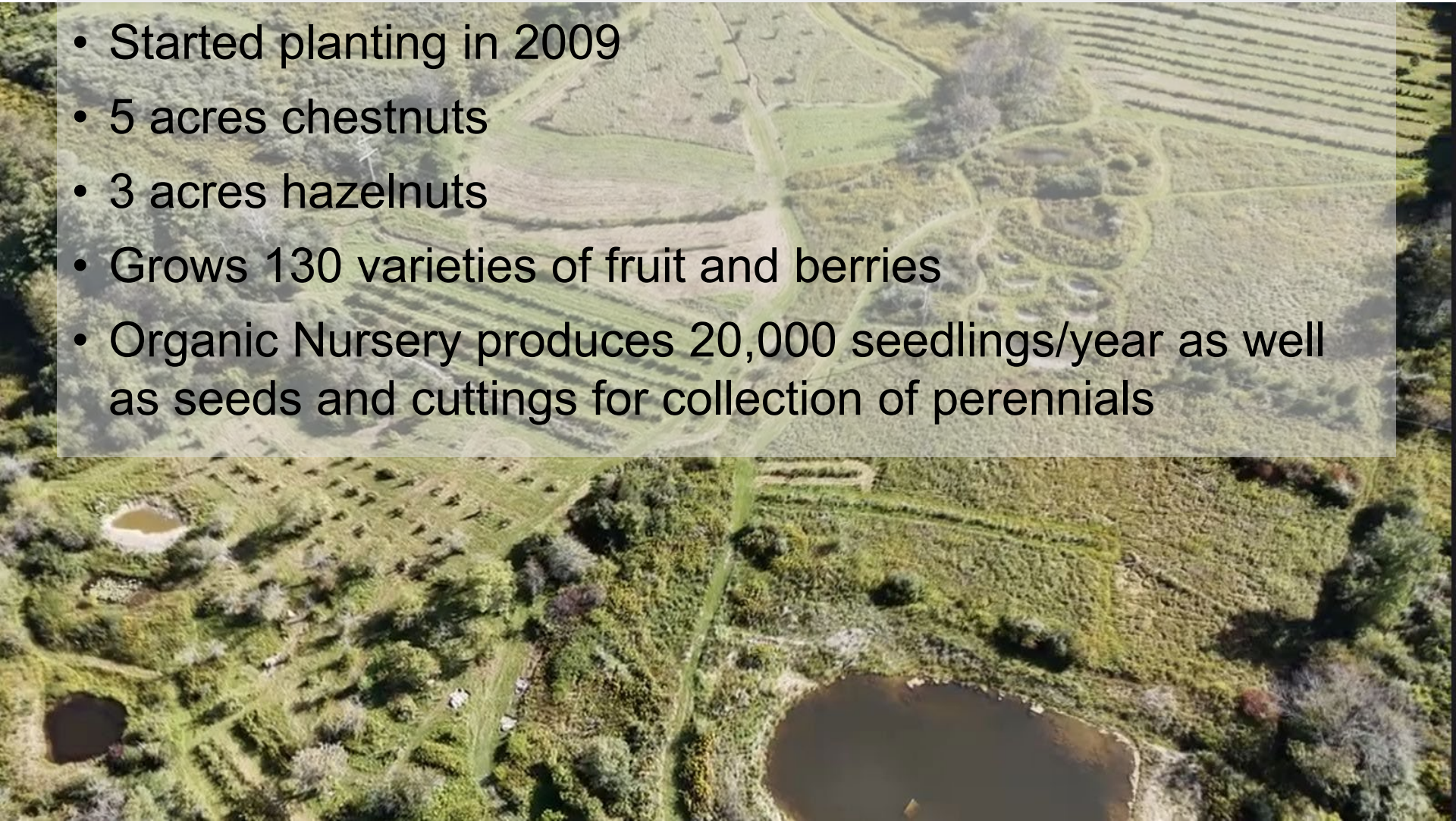
ALL YOU NEED TO KNOW TO GROW HAZELNUTS AND CHESTNUTS FROM 2 TO 20,000 TREES



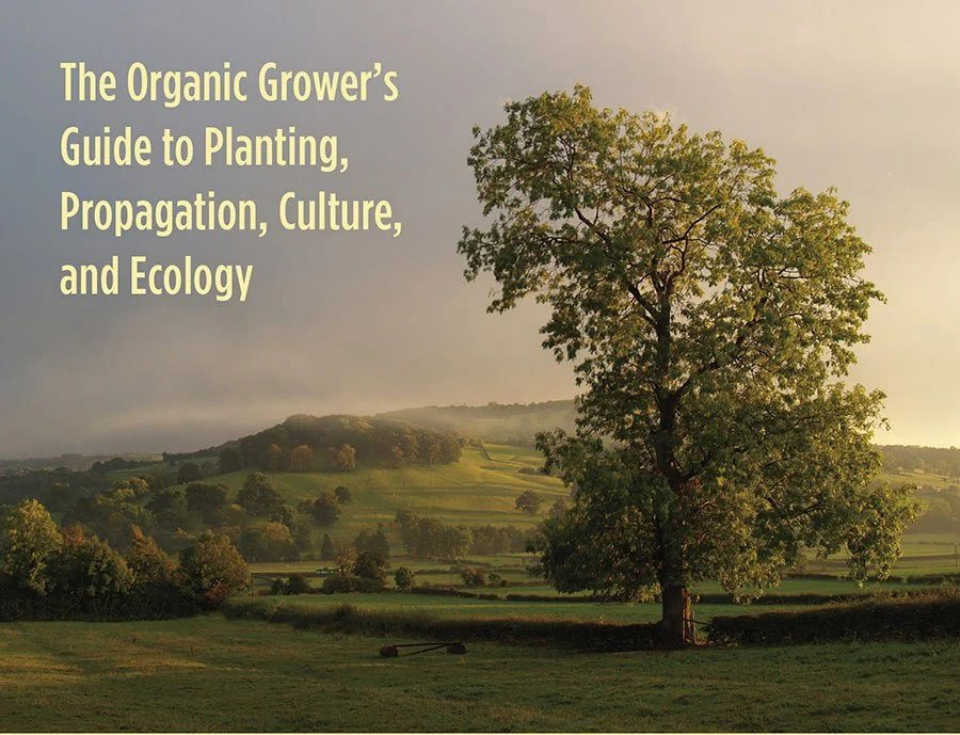
Jeff and Dawn Zarnowski of Z's Nutty Ridge LLC

Twisted Tree Farm (Spencer)

- Akiva Silver
- Started planting in 2009
- 5 acres chestnuts
- 3 acres hazelnuts
- Grows 130 varieties of fruit and berries
- Organic Nursery produces 20,000 seedlings/year as well as seeds and cuttings for collection of perennials



The Organic Grower's
Guide to Planting,
Propagation, Culture,
and Ecology



Trees of Power

Ten Essential Arboreal Allies

Akiva Silver

foreword by Samuel Thayer



- Chestnut
- Apple
- Poplar
- Ash
- Mulberry
- Elderberry
- Hickory
- Hazelnut
- Black Locust
- Beech

Iraddell Rd., Ithaca

A close-up photograph of a hazelnut tree branch. The branch is covered in vibrant green, serrated leaves. Several developing hazelnut husks are visible, showing their characteristic papery, layered structure. The background is slightly blurred, showing more of the tree and a glimpse of a green field under a bright sky.

- Katrina Rudmin and John Walsh
- ~750 hazelnuts and 200 chestnuts on 3 acres
- ~2,000 hazelnuts on 7 acres in future
- Raspberry, currants, woody perennials, black locust
- Manage to accommodate wildlife/ no spray/no till

Hemlock Grove Farm (West Danby)

- Brian Caldwell
- Started planting chestnuts in 1977
- 1.5 acres chestnuts
- 1 acre hazelnuts
- 1 acre apples, pears, and persimmons
- Certified Organic
- 7+ more acres chestnuts and 1 more acre of hazelnuts in future
- Nursery production
- 80 acres of managed woodlot

Conrad Hill Farm (Cincinnati)

- Graham Savio
- Started planting chestnuts in 2018
- 2.5 acres chestnuts
- 1 acre hazelnuts
- 3 acre apples
- Silvopasture (sheep)
- “Excited to support small-scale farming that enhances rural economies, sequester carbon and provides other ecosystem services along with delicious food for the community.”

Chestnut Paradise (Willseyville) and Harmony Fruit Farm (Truxton)

- Karl Gesslein
- 35 acres of chestnuts
- 4.5 acres of fruit and nut trees (½ fruit, ½ nut)
- “We don’t put anything on our trees that we would not directly eat or drink”
- Uses Elaine Inham’s soil food web
 - Make compost
 - Use microscopes
 - Microbe farmers first, but grow trees for food

Shepherd Ridge Farm (Lansing)

- Abigail Gilson
- Started planting in 2017
- ~450 hazelnut trees, ~80 chestnut trees in ~4 ac orchard
 - Evaluating potential cultivars
- ~1,200 hazelnuts on 5 more acres in future
- Cattle for manure, milk and meat
- Hazelnut seedling sales starting this Fall
- Black locust planting/harvesting
- ~20 ac of managed wood lot
- All manure-based fertilization

NYTCA Staff Member Jonathan Bates



- Food Forest Farm
 - ~1 acre nut and timber alley cropping system on 10-acres
 - Whole systems design and education
 - Edible plant nursery
 - Silvopasture (sheep, geese, chickens)
 - Foodforestfarm.com



NYTCA Staff Member Jeff Piestrak



- FLX Agroforestry Solutions
 - Nursery of native trees and shrubs for agroforestry
 - For-hire agroforestry services

- Member of “Farming with Trees” collective
 - www.farmingwithtrees.org

Mission Statement: “To support and promote sustainable livelihoods in and beyond New York’s Finger Lakes region through the cultivation of equitable agroforestry-based value chains.”



Working toward an industry

- Farmers paid commodity prices for crops (\$1/lb hazelnuts)
- Economically challenging for small scale producers
- Value-added products
 - Ferrero Rocher pricing at \$260/lb (\$3/lb chocolate)
- If grower's cooperative can produce VAPs, growers can benefit
- Philanthropic reasons for growing tree crops will not sustain an industry
- We must have an industry for large impact
- Growing **MUST** be profitable to sustain an industry
- Priority: High purchase price for nuts from farmers

Cooperative Successes

- 2019 - Oil press funded by crowd sourcing
- 2020 – Specialty Crops Block Grant (with CCE)
 - Documenting superior genetics for hazelnuts and chestnuts
- 2021 – Edwards Mother Earth Foundation Grant (with CCE)
 - >\$200k for equipment purchases
 - Value-added product development through Cornell Agritech
- 2023 – USDA Climate Smart Commodity Grant (with TNC)
 - Rental of processing facility for 5 years
 - Two employees for 5 years
 - Business and Marketing Plans
 - Marketing funds

USDA Grant Goals

- Build regionally-sized processing facility
 - Quantify facility costs
 - Quantify production costs for VAPs
 - Quantify how much acreage can be served by facility
- Produce instructional materials:
 - Food safety
 - Processing facility set up, maintenance and operation
 - Harvesting
 - Hazelnut and chestnut economics
 - Value added product development and sales
- Provide outreach and engagement events
- **Goal:** make replicable regional model and provide tools for replication

Regional Processing Facility in Cortland, NY

- NYTCA-branded products
 - Members and public sells in-shell nuts to NYTCA
 - NYTCA processes, packages and sells NITKA products
 - Profit goes back to cooperative members after operational costs paid
- NYTCA members can use space for processing for an hourly rate to package own products
- Growers in other regions can bring in-shell nuts to facility and have NYTCA process/package for them to sell for an hourly rate
 - Requires NYTCA personnel to be present to oversee and operate equipment
- Open to other tree and perennial crop processing possibilities

NYTCA Cooperative-Owned Equipment

- Nut drier
- Pendragon nut sizer
- Borrell Cracker
- Universal Cracker
- Pendragon aspirator (separator)
- Sorting tables
- Roaster
- Oil Press
- Chestnut peeler
- 2-step flour mill
- ~12' x 30' Cold Storage
- Bag Filler
- Bag Sealer
- Forklift
- On-farm weevil dip tanks
- Hasatsan Harvester

NYTCA Processing Facility Layout



The "Nut Hub"



Learning through Processing

- Genetics matter
- Quantifying processing efficiencies will advise new plantings



Commercially Viable Nuts



NYTCA Available Genetics

- The “Nitka” cultivar
 - Avg 19 mm, range 15-22 mm
 - Very thin-shelled, 1.1 g avg. kernels, 52-55% kernel percentage
 - Precocious, high yields, can pollinate Raritan
 - Currently in tissue culture (first batch supposed to arrive soon)
 - Can purchase from Z’s Nutty Ridge and other coop members in future
- Z’s Nutty Ridge Seedlings
 - Avg 17 mm, range 13-23 mm
- “Prodigy” Seedlings currently being evaluated for potential cultivars
- Superior NYS genetic “database” currently being collected through SCBG

Prodigy Seedlings



Payment for Ecosystem Services (PES)

- CCE Tompkins County
 - Graham Savio (NYTCA member)
 - Gabriel Smith (Agroforestry Educator)
 - Jenna DeRario (PES Educator)
- Financial “bridge” for transitioning perennial cropland to agroforestry systems using hazelnuts and chestnuts
- Farmers paid for ecosystems services such as:
 - Carbon sequestration
 - Improved soil health
 - Reduced greenhouse gas emissions
 - Improved water retention capacity (for increased flood resiliency)
 - Decreased nutrient run-off
 - Increased biodiversity
- Measurement/monitoring verification
- 2022-3 Pilot program with beginning/BIPOC regenerative farmers
- Transitioning to “implementation pilot” in 2024-5

Farming for Climate

- Grants like the USDA's "Climate Smart Commodities" shows that public sentiment is shifting toward prioritizing the health of the planet
- Programs like PES can help farmers shift from annual cropping without financial loss
- Grant-funded processing facility support can help industry growth anywhere hazelnuts can thrive
- **There has never been a better time to plant hazelnuts!**



THANK YOU!

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