

Z's Nutty Ridge Hazelnuts of Commercial Quality



UMHDI March 8th & 9th, 2019' Eau Claire, WI



Photon



NYTCA

Visit us: Znutty.com

By: Jeff Zarnowski

Hazelnut Commercialization Status

- Z's Nutty Ridge LLC – Who we are?

- Started planting in earnest in 1992'
- Goal to find nut trees for our fallow fields.
- Planted hundreds and thousands of walnuts, chestnuts, and hazelnuts
- Concentrated most effort into hazelnuts as they grew like weeds if EFB didn't kill them.
- Initially purchased from Bear Creek, Badgersett and Gordon. The hardiest and EFB resistant was Badgersett. Purchased from most nurseries since.
- Planted many from Rutgers as well.
- 2018' Cross breeding program yielded >3000 seeds



Hazelnut Commercialization

- Z's Nutty Ridge LLC – Who we are?

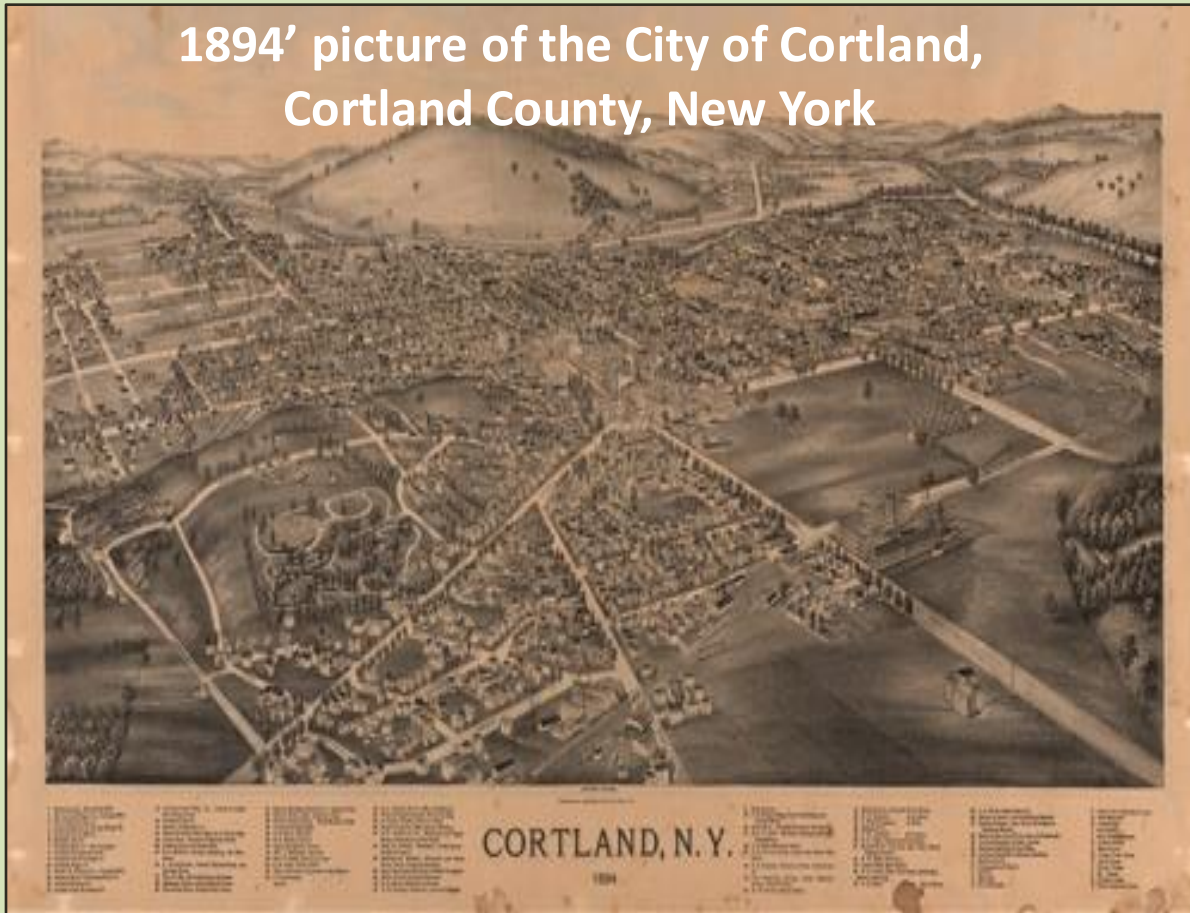
- We are cross breeding the best trees.
- Now Layering in earnest.
- Now we have numerous trees being watched.
- Actively planting out orchards – layering and nuts.
- Was USDA Zone 4a/5b until 2010 and now 5a/5b.
- Very windy WNW facing at 1700' a 600' valley below



Z's Nutty Ridge, Cortland, NY

Nut Tree Production – Why Nut Trees?

1894' picture of the City of Cortland,
Cortland County, New York



Picture overview of the City of Cortland, NY, Year 1894¹ with most all of the surrounding land cleared as far as the eye can see.

In 1890' With over 200 saw mills in the county, 96% of all land was cleared mainly for farming!

This Cortland County example was repeated throughout New York and much of the Northeast USA

Nut Tree Production – Why Nut Trees?

Current picture of the City of Cortland,
Cortland County, New York



City of Cortland,
NY, Year 2016 with
majority of the land
having returned to
trees.

In 2012' only 37%
of the county is
used for farming.

We can see that nature, if given the
opportunity, will repopulate the
Northeast with trees.



Status of Hazelnut Cultivars

Characteristics needed for Eastern clonal orchards

Nytca

USDA Zone # 4 hardy

Kernel Percent 50-55%

Short husk

Very thin shells and round kernels

Tree form/bush form

Very Hardy catkins

Heavy Pollen Producer

Very Hardy wind tolerant flowers

19 years no EFB

Ripe End of Aug. /1st week of Sept.

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USDA Zone # 4 hardy

Kernel Percent 44-48%

Short husk

Thin/Avg. shells and round kernels

Tree form

Very Hardy catkins

Heavy Pollen Producer

Very Hardy flowers

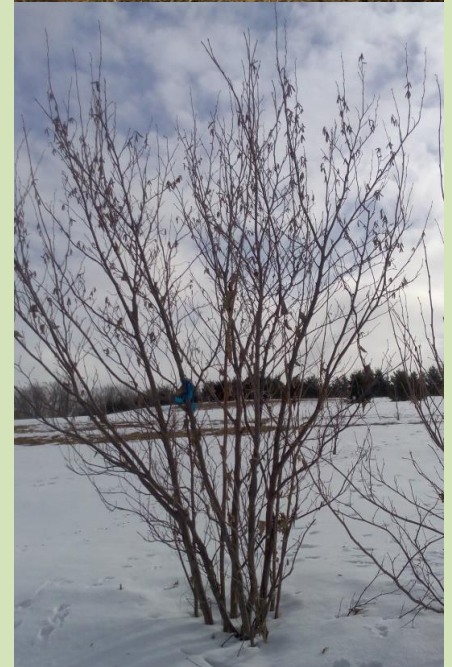
21 years no EFB

Ripe 2nd/3rd week of Sept.



NYTCA™ – Cold Hardy Hazels

- Horticultural Characteristics
 - **Growth habit** – Upright, bush/tree, 15 years and <12' ft. tall
 - **Yield and Efficiency** – Years 12 and 13 produced 5.0 and 7.2lbs in shell, bush form. 510 trees per acre is 2550 to 3672 lbs per acre at year 13.
 - **Harvest time** – Last week in August/first week in September
 - **Catkins/flowers** – Cold hearty, wind tolerant, lots and long pollen shed and flowers remain viable 4 to 6 weeks.



NYTCA™ – Cold Hardy Hazels

- Horticultural Characteristics
 - **Nut Characteristics**– 2014’/15’
 - Well filled, round smooth,
 - 52-55% kernel,
 - 1.1 grams avg.
 - 75-85% pellicle removal,
 - Med. thin to very thin shell.
 - **Poorly filled nuts**– 3%
 - **Blanks** – 6%
 - **Pollen shed** – Early to Mid. With lots of 2.5’ to 4” catkins.

Wait.....



“NYTCA”

NYTCA™– 2018' Z's Nutty Ridge LLC



Trees were fed according to OSU summer 2017' and 2018' nuts were much larger and heavily produced! Do your leaf analysis!

NYTCA™– 2018'

- Nut Clusters
 - Typically 2 to 5 nuts,
 - Terminal bud – loosely held and well formed,
 - Large clusters and nuts were still good size,
 - High producing trees need leaf analysis for real time fertilization.



Photon™ – Z's Nutty Ridge LLC

- Horticultural Characteristics
 - **Growth habit** – Oval/Upright, tree, 15 years and 12' ft. tall, none to few suckers.
 - **Yield and Efficiency** – Years 12 and 13 produced 4.6 and 6.0lbs in shell, bush form. 510 trees per acre is 2340 to 3060 lbs per acre at year 13.
 - **Catkins/flowers** – Cold hearty, wind tolerant, lots and long pollen shed and flowers remain viable 4/6 weeks.
 - **Taste!** - Surrounded by other hazelnut trees, yet rodents, chipmunks, etc. seek out this trees nuts long before they are ripe! Extra tasty and smooth mouth feel! Extra Filbertone?
 - We believe this is our best eating tree!



Photon™ – Cold Hardy & Tasty

- Horticultural Characteristics
 - **Nut Characteristics**– 2014'/15'
 - Round and smooth,
 - 44-48% kernel,
 - 1.0 grams avg.
 - 75-85% pellicle removal
 - Medium shell thickness.
 - **Poorly filled nuts**– 3.3%
 - **Blanks** – 6.67%
 - **Harvest time** – Last week in August/first week in September
 - **Pollen shed** – Early to Mid. With lots of 2.5' to 3.5" catkins.
 - **High producer** mid summer - unable to get all nuts as rodents harvest before ripe. Need tissue culture and hardware cloth the whole tree this year.



“Photon”

Trials and Tribulations



Remaining dead or near dead blighted 15 year old hazels on the left and healthy hazel bushes on the right.

Do not plant previous releases from OSU even if in zones 6B or warmer. Jefferson dies < 3 years, Yamhill barely alive after 11 years produced nuts once. I have planted most all.

Z's Nutty Ridge Hazelnuts Commercialization Efforts

- Photon and NYTCA are not for Sale.
- We can hope in the future!



Looking for a ride to the
MSP Airport, Please!

Photon™ – Cold Hardy Hazels

- Large tasty Hazels now grow well in USDA Zone 4b.
- Hardy hazels will greatly expand the available land by hundreds of thousands of acres in New York alone.
- Selections after 25 years of growing hazels.
- Current breeding lines built upon previous breeders back to Carl Weschcke and others.
- Breeding orchard accumulation of the “best” from most all available nurseries along with their blight (Eastern Filbert Blight –EFB)!



“Photon 1”