

# Growing Hazelnuts in Ontario

Linda Grimo, Grimo Nut Nursery

# History

- Tobacco lands
- Ferrero
- Steering Committee
- Ontario Hazelnut Association - 2013



# OHA Comprehensive Goals

<p><b><u>Best/Suitable Cultivars</u></b></p>	<p><b><u>Outreach to Growers</u></b></p>
<ul style="list-style-type: none"> <li>▪ Eastern Filbert Blight Resistant</li> </ul>	<ul style="list-style-type: none"> <li>▪ Training, Knowledge, Experience</li> </ul>
<ul style="list-style-type: none"> <li>▪ Cold Tolerant plants and catkins</li> </ul>	<ul style="list-style-type: none"> <li>▪ Factsheet Development</li> </ul>
<ul style="list-style-type: none"> <li>▪ New Cultivars bred in Ontario for our climate and conditions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Symposia/Workshops/Training/Tours</li> </ul>
<p><b><u>Financial Feasibility of Hazelnuts in Ontario</u></b></p>	<p><b><u>Research and Development Plan - Future</u></b></p>
<ul style="list-style-type: none"> <li>▪ Cost of Production Analysis</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hazelnut Varieties trials - from USA</li> </ul>
<ul style="list-style-type: none"> <li>▪ Production Data</li> </ul>	<ul style="list-style-type: none"> <li>▪ Efficiency of Supply, Yield, Production</li> </ul>
<ul style="list-style-type: none"> <li>▪ Aggregation - Receiving and processing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Quality, Nutrition, Differentiation, Products</li> </ul>
<p><b><u>Getting Trees to Market</u></b></p>	<p><b><u>Managing the Market - Future</u></b></p>
<ul style="list-style-type: none"> <li>▪ Micro-propagation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Business leadership, Experience, Plan</li> </ul>
<ul style="list-style-type: none"> <li>▪ Nursery Engagement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Grower Plan, Realistic Expectations, Targets</li> </ul>
<ul style="list-style-type: none"> <li>▪ Encouraging Grower Participation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Incentives, <u>Agri-Insurance</u>,</li> </ul>

# Orchard Establishment



Who is planting  
hazelnut orchards?



# Orchard management



Hazels are low maintenance,  
but not no-maintenance

Single stem form

Weed control

Grass lanes



# Harvest









Super Jolly 4x4

Super Jolly 4x4

 **CORPORAZIONE  
MACCHINE  
AGRICOLE**  
Via ...  
Tel. ...  
Fax ...

# Aggregation...Who, When and Where?



# Small Aggregation



An old furnace blower and boxes makes a nut dryer.

# Aggregation

- Receiving Stations and Processors
- Several people have expressed interest in becoming aggregators but the crops are not plentiful enough yet
  - Co-ops?



Someday in Ontario ..... 😊



# Marketing

- “World Crop”
- Fresh Market
- Health attributes of the raw nut & oil
- Kernel market – Ferrero and others
- Development of value added
  - oils, beer, candied...
  - New Ontario products

Hazelnuts are rich source of minerals like manganese, potassium, calcium, copper, iron, magnesium, zinc, and selenium.

Vitamins		
Folates	113 µg	28%
Pyridoxine	0.563 mg	43%
Thiamin	0.643 mg	53.50%
Vitamin C	6.3 mg	10.50%
Vitamin E	15 mg	100%
Electrolytes		
Sodium	0 mg	0%
Potassium	680 mg	14%
Minerals		
Calcium	114 mg	11%
Copper	1.725 mg	192%
Iron	4.7 mg	59%
Magnesium	163 mg	41%
Manganese	6.17 mg	268%
Phosphorus	290 mg	41%
Zinc	2.45 mg	22%

# The demand is increasing... 😊

- Demand in Ontario for local hazelnuts increases yearly
- Hazelnuts are the 4<sup>th</sup> highest grossing nut world wide
- Ferrero doubles its need every 10 years
- Consumption is going up due to increased Chinese consumption and worldwide confectionary demands



# Ongoing Research

- EFB – Ag Canada / Rutgers University
- DATA & MORE
  - Temperature – Air and Soil
  - Irrigation & Moisture sensors
  - Plant Phenology across Ontario – diff zones to compare
  - Yields outside of Simcoe
  - Cold Hardy Trials – get started
    - Catkin hardiness
    - Productivity





# Cultivar Selection for Northern Growers

- EFB resistant cultivars
- Winter hardiness
- Catkin Hardiness
- Nut Quality
- Pollinizers

# Catkin Survivability





# Research in Ontario - Simcoe

- Field Trials 2008 & 2009
- Field Trials 2015 & 2016



# Cultivars - Oregon



# Ontario Cultivars



Note I do not have photos of Norfolk and Chelsea, both Martin Hodgins selections.

# Ontario – Grimo Cold Hardy Cultivars



# Yields for 9 and 10 year old trials in Simcoe Ontario

**3 year average weight in pounds for some of the 9 year old trees**

<b>Alleles</b>	<b>Cultivar</b>	<b>Weight</b>
unknown	Alex	9.0
<u>1</u> <u>20</u>	Chelsea	4.6
<u>1</u> <u>15</u>	Delta	2.4
<u>2</u> <u>10</u>	Gamma	5.8
<u>15</u> 23	Gene	9.9
<u>15</u> 23	Gene (2nd field)	10.2
<u>1</u> 3	Jefferson	4.6
<u>12</u> 25	Norfolk	5.8
<u>1</u> 23	Slate	7.6
<u>8</u> <u>26</u>	Yamhill	3.8



# Interesting Findings in 2 year old Trial Planting (Simcoe)

## 2 Year Orchard Overall

- 5 of 9 cultivars prod.
- 16 of 101 trees prod.
- 998 g nuts in total
- Av 62 g/prod. tree
- Av 23 nuts/prod. Tree

## Northern Blais

- produced on 63% of N.B trees
- N.B. produced 65% of total yield (648 g)
- Av 93 g/N.B. tree
- Av 33 nuts/N.B tree

Reporting only on currently selling cultivars in Ontario

# Findings in 3 Year Orchard (Simcoe)

## Overall

- 19 of 21 cultivars produced
  - 12 cultivars have at least 10 plants
- 92 of 168 trees produced
- 1393 g in total
- **16 g/producing tree**

\*When there are at least 10 of a given cultivar (12)

## Producing Tree Stats

- 7 trees produced over 50 g
  - 4 trees produced over 100 g
  - 2 trees produced over 200 g
  - 1 tree produced over 300 g
- 
- \*2 cultivars produced on 100% of their trees
  - \*5 cultivars produced on 75% of their trees
  - \*6 cultivars produced on 50%

## 'Aldara'

- 3 of 17 trees produced
- 208 g/tree
- 90 nuts /tree

## 'Linda'

- 12 of 12 trees produced
- 375 g/ tree
- 113 nuts/tree

## 'Marion'

- 12 of 12 trees produced
- 73 grams /tree
- 22 nuts/tree

## 'Yamhill'

- 10 of 12 trees produced
- 145 g/ tree
- 75 nuts /tree

# Moving Forward

- Continued recommendations from variety trials
- Expand variety trials –cold hardy cultivars for zone 4-5
  - Cold Hardy trials in MN, WI, IA, Northern Ontario and Quebec
- Micro-propagation
- Sensory data tracking
- Extension materials / training / field tours
- Industry partnerships with Niagara College, University of Guelph, and others
- OMAFRA taking a strong role with the hazel industry





# NNGA meeting in Iowa

July 2019

Iowa, here we come!



# Northern Nut Growers Association

- **Established 1910**

The Northern Nut Growers Association, Inc. (NNGA) is a national non-profit organization with members throughout the US and 15 foreign countries to share information on nut tree growing.

Our members include beginning nut culturists, farmers, amateur and commercial nut growers, experiment station workers, horticultural teachers and scientists, nut tree breeders, nursery people, and foresters.

- **Follow on Facebook for engaging conversations**





# Quebec 2018



# Meeting Highlights

- NAFEX & NNGA joint meeting
- Graduate Hotel in Iowa City, Iowa
- July 28-31



Here's a partial list of the confirmed presenters:

- Phylicia Murray, Agricultural Marketing
- Eric Wolske, Black Currants
- Suzan Erem, Sustainable Iowa Land Trust
- Jerry Lehman, Persimmons
- Roger Smith, Chinese Chestnut Cooperative in Iowa
- Jim McKenna, Butternuts
- Jason Fischbach, Hazelnuts
- Adam Howard, Arbor Day Foundation hazelnut project in Nebraska City,
- Sandra Anagnostakis, Species of chestnuts and what they look like
- Mike Gold (and MO PhD students) Agroforestry and hazelnuts
- Jeff Jensen, Trees for Life; Hazelnuts in Iowa

# Tours



# Nutgrowing.org

When you join NNGA, you receive the following benefits:

**An invitation to our annual meeting** which is held at a location of special interest to nut growers. Here you may join in discussions and see exhibits of standard and promising cultivars, equipment, grafting demonstrations, hulling, curing, shelling – and visit important local plantings. We have family trips for spouses and children as well as social events for all in attendance.

**Access to the NNGA cultivar inventory** which will help you to find those who grow nuts in conditions similar to yours. The cultivar inventory contains grower submitted information such as zone, pH, terrain, type of nut tree, cultivar, number of nuts grown and comments about the quality of the nuts and production volume. This information is especially valuable to newer growers and to those growers who are experienced but want to venture into growing a different type of nut or who are looking for advice on growing different cultivars.

**THE NUTSHELL and THE ANNUAL REPORT**, which are mailed and also available online in the Members Area. *THE NUTSHELL*, is a quarterly publication which contains articles about nut tree growing, news coverage of importance to nut growers such as quarantines, and announcements of current interest to members of the Association. *THE ANNUAL REPORT* contains the proceedings of the latest annual meeting which include the most recent data and authoritative information on all phases of nut tree growing. The importance of these reports is attested by the many standing orders from libraries and other institutions for copies of each volume as published. *THE ANNUAL REPORT* is now included in *THE NUTSHELL* in four installments.

**One FREE classified advertisement** per calendar year in *THE NUTSHELL*.

**A lending library** of books and periodicals on nut tree culture as well as back issues of NNGA publications is available to members.

**Access to a network of experienced nut growers** who can provide advice relating to nut growing.

# Questions?

