

UMHDI Updates

March 7, 2020



Extension

UNIVERSITY OF WISCONSIN-MADISON
BAYFIELD COUNTY

Upper Midwest
Hazelnut
Development Initiative



UMHDI Updates

1. Nuts From Pioneer Plantings
2. Hazelnut Processing Accelerator
3. New Plant Material
4. New Funding!

Pioneer Plantings

A photograph showing a field of green bushes and tall grass. The bushes are arranged in rows, and the grass is growing between them. The sky is overcast with grey clouds. The text "Near Barneveld, WI" is overlaid in white at the bottom center of the image.

Near Barneveld, WI

WI Growers – 2010 Survey

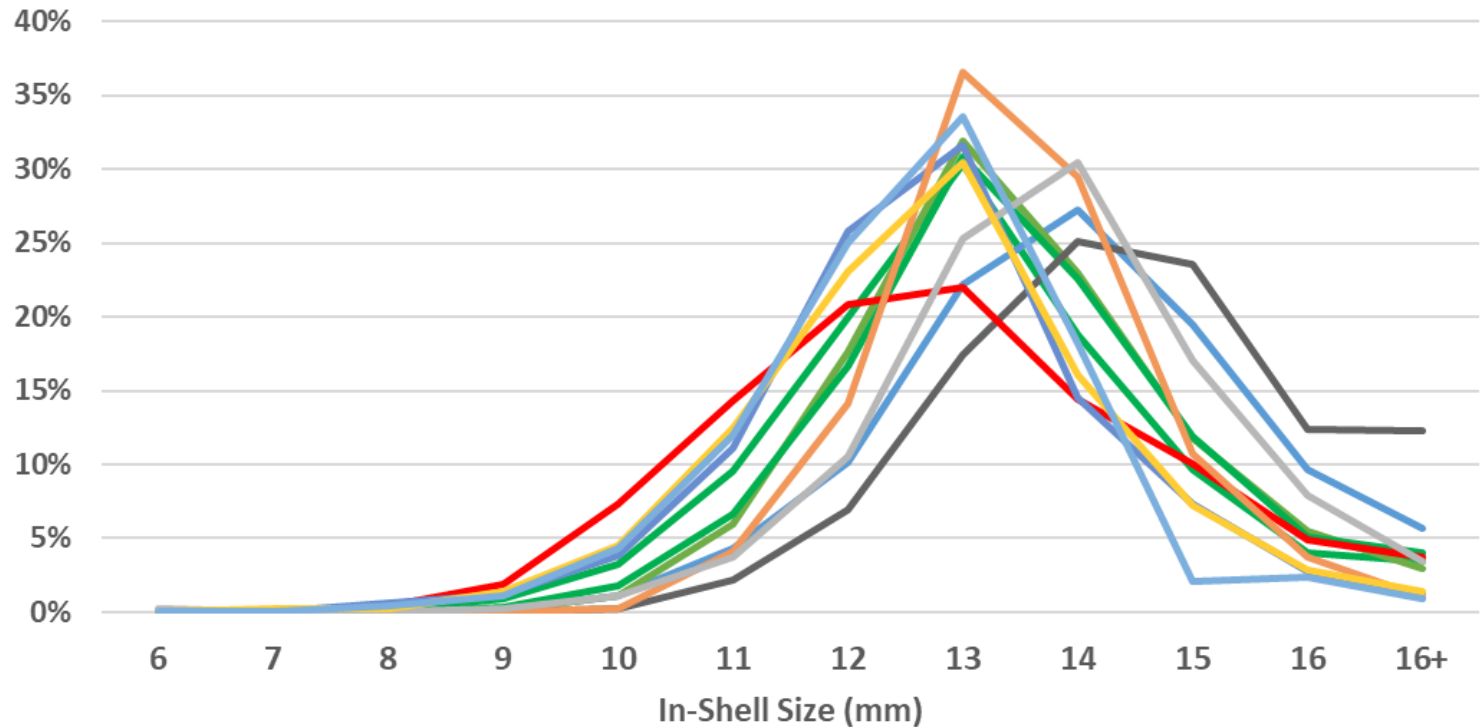
County	# of Plants	County	# of Plants
Adams	5	Monroe	19
Ashland	890	Oconto	40
Bayfield	1465	Ozaukee	121
Buffalo	35	Pepin	23
Columbia	20	Pierce	213
Crawford	253	Polk	112
Dane	53	Portage	150
Door	9	Racine	20
Douglas	10	Richland	7975
Fond du Lac	35	Sauk	321
Grant	18	Shawano	48
Green	75	Sheboygan	61
Jackson	15	St. Croix	12
Kenosha	46	Vernon	4340
Kewaunee	8	Waukesha	18
La Crosse	40	Wood	3
Marathon	161	Not Specified	725

Figure 2. Number of hazelnut plants by Wisconsin County.

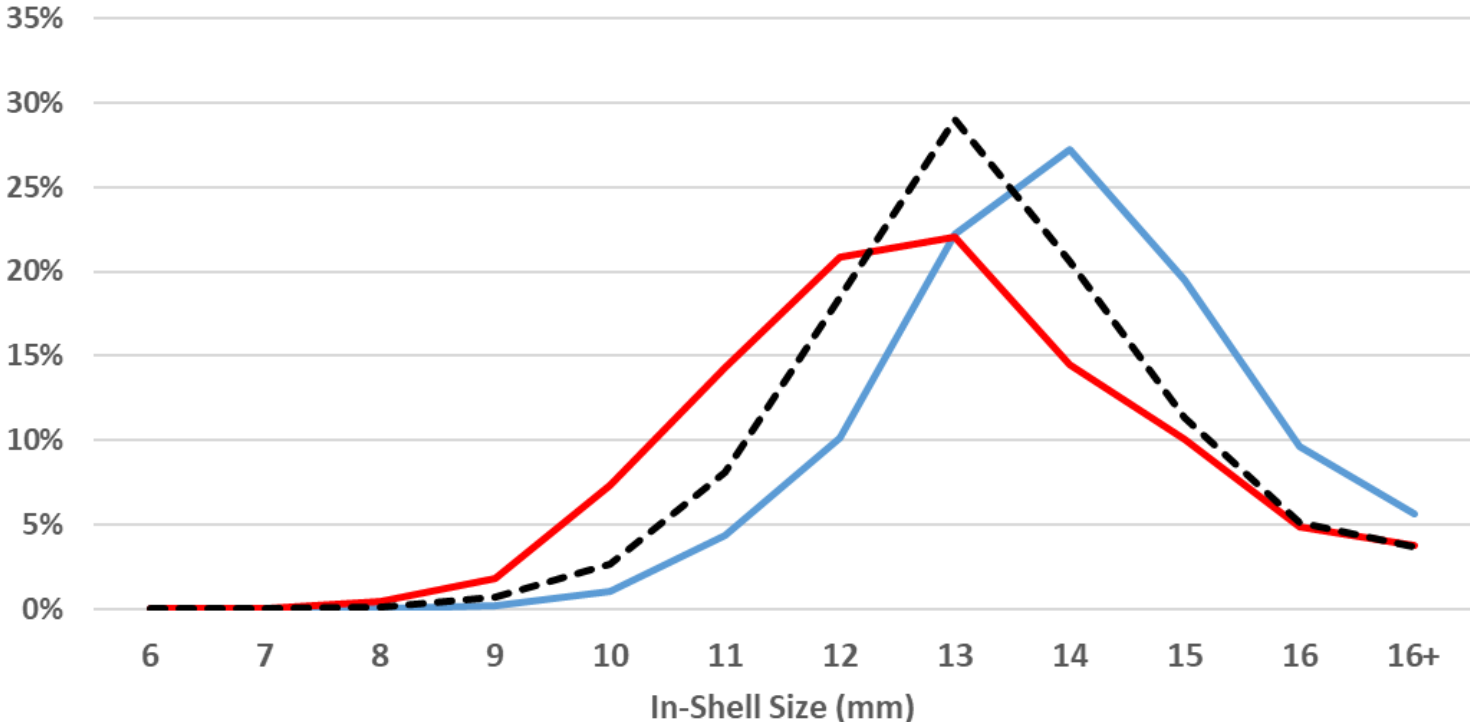
**Nuts Evaluated
From 10
Plantings in 2019:
5248 lbs (to date)**



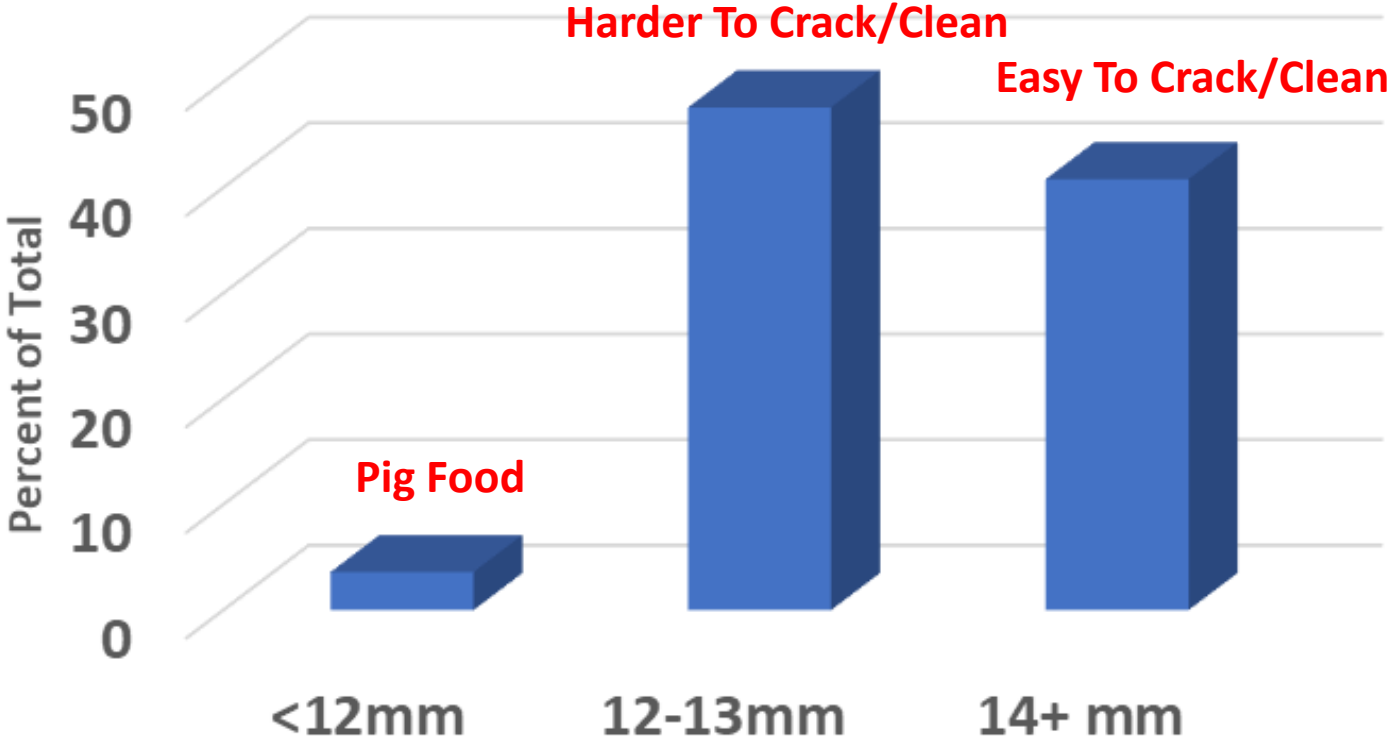
In-Shell Nut Size Distribution



In-Shell Nut Size Distribution



2019 In-Shell Nuts By Size Class



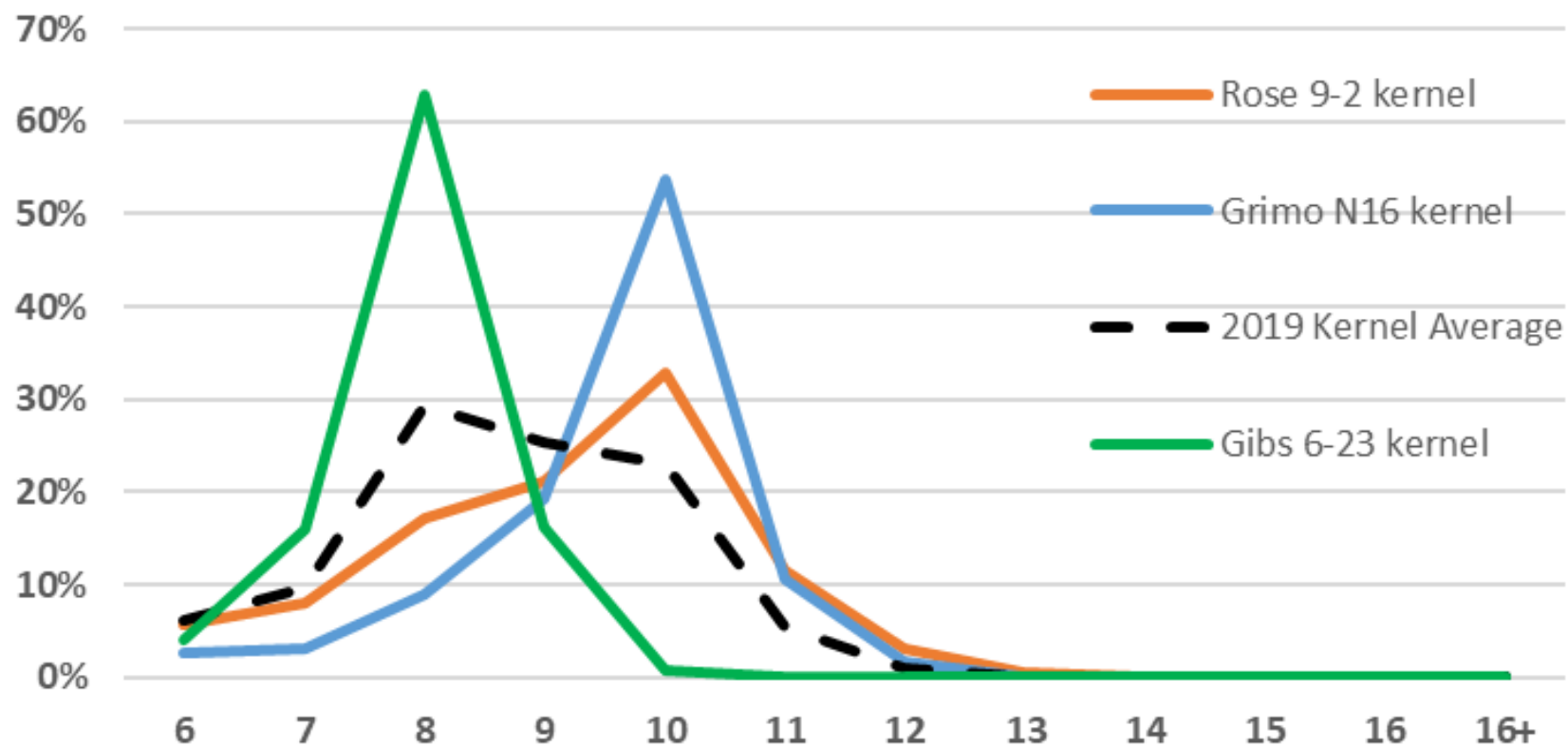
	Viroqua	Barneveld	Siren	La Crosse	West Bend	Viola	Marengo	Finley	Lake City	Viroqua
% blank:	3%	3%	8%	5%	3%	7%	12%	7%	7%	16%
% deformed or shrunken:	3%	4%	1%	7%	10%	6%	6%	11%	6%	9%
% with mold:	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
% <12mm in-shell	6%	9%	2%	24%	19%	17%	18%	5%	14%	4%
% in-shell nuts w/good kernel:	94%	93%	91%	88%	87%	86%	82%	80%	80%	75%

Average

% blank:	7%
% deformed or shrunken:	6%
% with mold:	0%
% <12mm in-shell	12%
% in-shell nuts w/good kernel:	86%

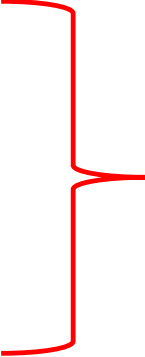
~3200 lbs from 10 different plantings

Kernel Size Distribution (minimum diameter (mm))



Size Classes for Oregon Kernels

- Extra Large (14+ mm)
- Large (13-15 mm)
- Medium (12-14 mm)
- Small (11-13 mm)
- Whole and Broken



Top selection range
8-12 mm

Next Steps For Pioneer Plantings

- Shared/subsidized harvesting in order to harvest more nuts
- Optimized small-scale processing for farmstead sales
- Nut aggregation for business viability
- Subsidized in-shell to kernel processing

Aggregating Existing Production

- 2010 Survey Report
 - Estimated 12.6 tons of in-shell nuts across 127 plantings
 - Projected yields for 2015 of 21 tons across the Upper Midwest

How much do we actually produce and what would it take to aggregate it?


Hazelnut Processing Accelerator




ACCELERATOR GOALS

- Identify and evaluate different technologies
- Provide an incubator facility to enable product and market development
- Outreach education





**Upper Midwest
Hazelnut Development Initiative**







Hazelnut Processing Accelerator
Research • Outreach Education • Business Development • Processing Incubator



A private/public partnership to support the emerging hazelnut industry in the Upper Midwest:
Project Coordinator, Jason Fischbach, Food and Energy Woody Crops Specialist, jason.fischbach@ces.uwex.edu, 715-373-6104



HULINGS RICE
FOOD CENTER

Ashland, WI

Soft
Ground



Aspirator



Drum-sorter



Universal nut cracker



Material Mix of Size Class 14 Nuts After Cracking, Aspirating, and Drum-Sizing (32 lbs)



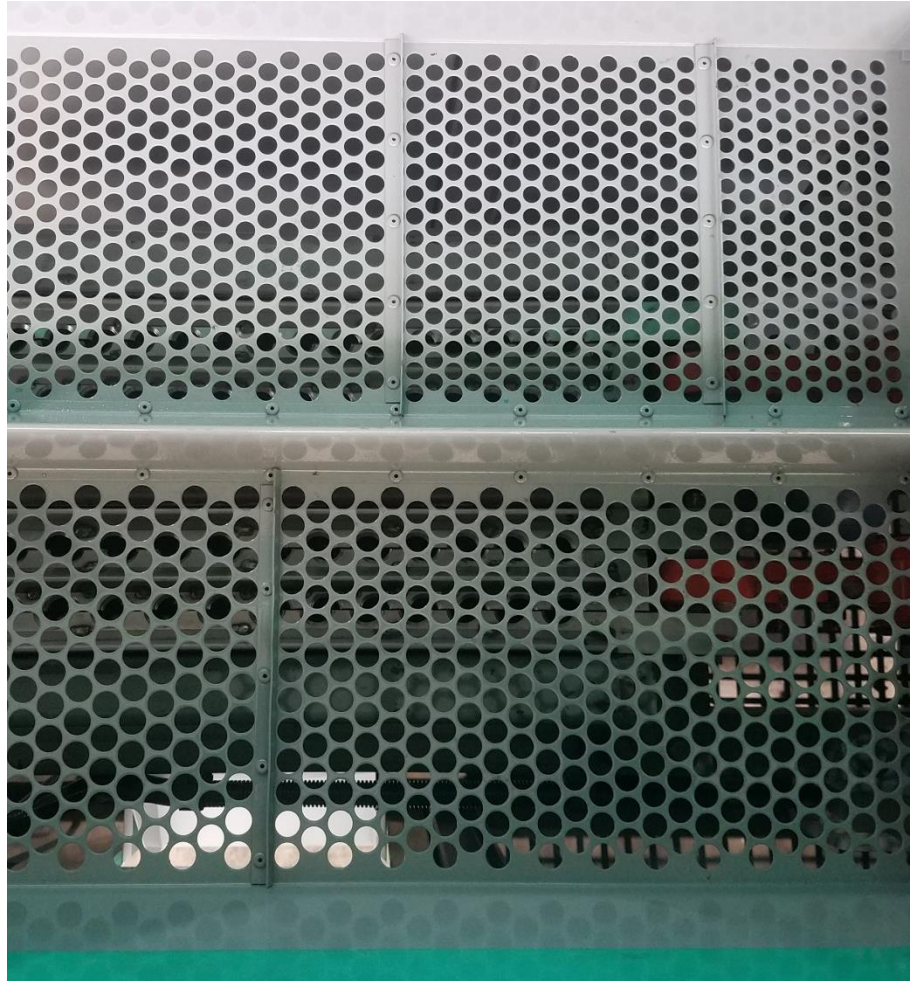


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BORRELLUSA





Interchangeable 3-Drum Sizer



Barrel Husker



Hasatsan



Pendragon X12 Husker



Optimizing Straddle-Harvesting

New Plant Material For Growers

UMHDI 1st Generation Selections



1st Gen Joint Performance Trials

Established
2018/2019



To Date

Arb 4-3

Shep Rosy

Rose 9-2

SPC-2D5

Cuddy 2-28

Gibs 5-15

Price W41

OSU 541.147

Grand Traverse

Frank

Marion

Aldara

Andrew

Northern Blais

West Madison Agricultural Research Station – Oct 2019





HAZELNUT NURSERIES

The following businesses sell hazelnut plants for growers in the Upper Midwest. The UMHDI and its University partners make no claims, assertions, or endorsements as to the quality of the plants or businesses practices of the listed suppliers. To be listed on this page as a plant supplier contact [Jason Fischbach](#).

For information about hazelnut plants and updates on new cultivars being developed check out: [UMHDI Hazelnuts 101 - Choosing Plants](#).

[Forest Agriculture Enterprises, LLC](#) - Viola, WI

[Forrest Keeling Nursery](#) - Elsberry, MO

[Grimo Nut Nursery](#) - Niagra-On-The-Lake, Ontario

[Red Fern Farm](#) - Wapello, IA

[St. Lawrence Nurseries](#) - Potsdam, NY

[Twisted Tree Farm](#) - Spencer, NY

[Z's Nutty Ridge, LLC](#) - McGraw, NY

Watch the website, get on our mailing list to stay informed about availability

www.midwesthazelnuts.org

**Carrying on the
Badgersett/Forest Ag
Vision of Seedling
Plantings**

Half-sib plants from
the 1st Gen Selections
(2020-2021)

Eventually full-sib
families



New Funding!

New Funding!

- \$3.8 million from the USDA-SCRI program
- \$1.2 million matching from Grantham Foundation
- Collaboration of UW, UMN, NGOs
- 2020-2024

USDA-SCRI Funding

- Establish more 1st Gen Selection trial plantings
- Hasten 2nd Generation breeding
- Develop rapid screening tools for flavor
- Understand insect pests
- Implement agronomic trials (plant size, establishment density, fertilization)
- Use metabolomics to figure out tissue culture
- Establish grower networks

Grantham Foundation Funding

- Establish 40-acre research “go-first” farm
- Hasten 2nd Generation breeding
- Implement carbon sequestration study
- Assist with processing accelerator

Grower Networks

- Establish grower clusters to gain critical mass in geographic areas
- 7 initial clusters in Upper Midwest
- Goal is a supply chain and processing node in each



NW Wisconsin Example

- A core group of passionate early-adopter growers/advocates
- Plantings of seedling hazelnuts to start learning in 2020
- 1st Gen seedlings in 2021
- Clonal plantings when material is ready (2021-2023)