



CGA Annual Market Survey 2020-2021

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The Center for Agroforestry
University of Missouri

A Global Center for Agroforestry, Entrepreneurship and the Environment

CGA Market Survey

- Conducted annually since 2010 (except 2020)
- Survey CGA members (includes past members too)
- Purpose: To provide CGA Members with updated information on chestnut production, harvesting, markets and market trends.



Overview of U.S. Chestnut Imports - 2020

- The import value of chestnuts coming into the USA was **\$11.6 million**
- The import volume was **2.82 M (metric tons)** or **~ 6.2 million pounds**
- **\$1.88 / lb.**

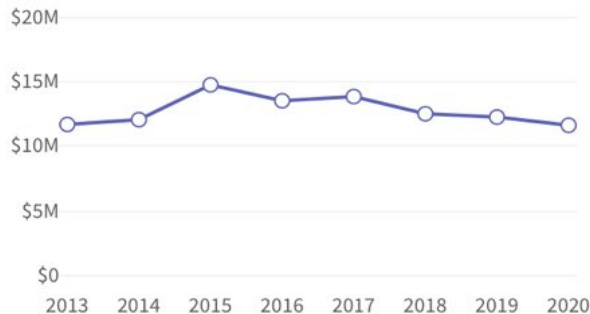
Import Value

in 2020

\$11.6M

USD

1Y **-5.14%**
3Y **-15.98%**
5Y **-21.13%**



Import Volume

in 2020

2.8M

MTs

1Y **+0.19%**
3Y **-11.4%**
5Y **-48.87%**



Imports have dropped from over 5 million M to under 3 million M over the past 5 years

Top Import Origins - 2020

TOP CHESTNUT IMPORTS TO THE USA - 2020

Country	% of market share	\$ Value (millions)	
Italy	70.8%	8.23	
S. Korea	10.9%	1.27	
China	9.8%	1.13	
Portugal	6.8%	800,000	
Chile	1.3%	156,000	
Hong Kong	0.4%	40,500	

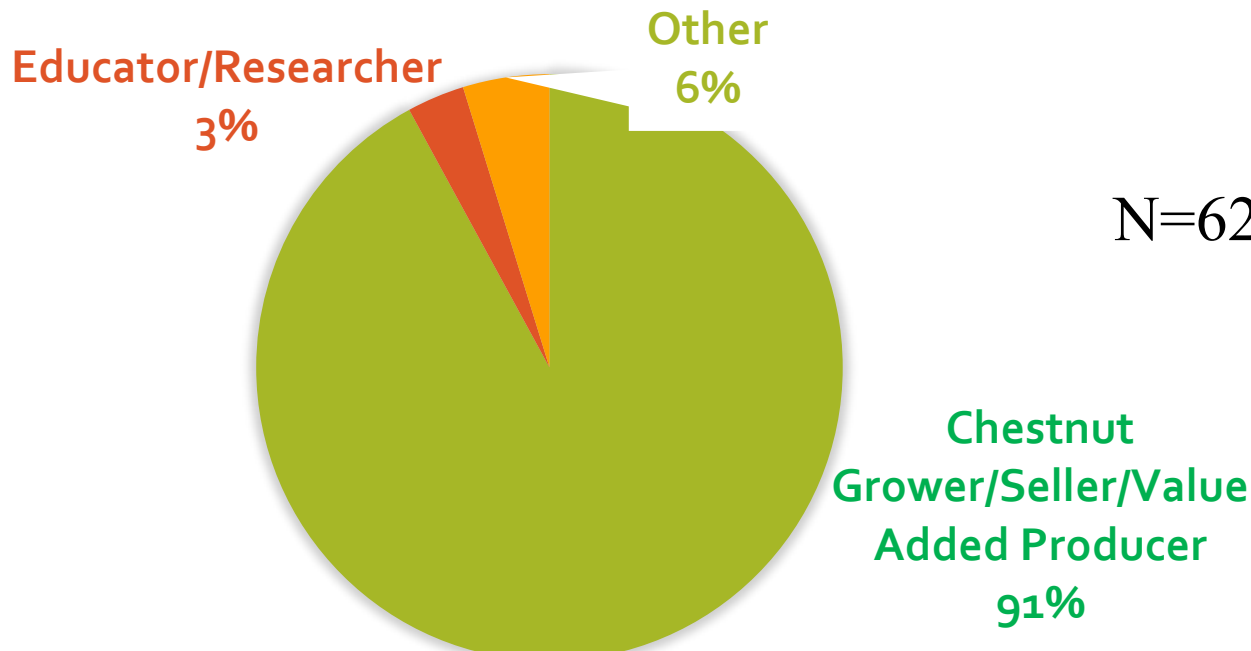
Top Import Origin Trends – Past 5 Years

Partner	Share in Import in United States 2020	Import Value 2020	1-Year Growth in Import Value 2019-2020	3-Year Growth in Import Value 2017-2020	5-Year Growth in Import Value 2015-2020	Import Quantity 2020	1-Year Growth in Quantity 2019-2020	Unit Price of Import 2020	1-Year Growth in Price 2019-2020	Share in Import in United States 2020
Global		11.63M	-5.14%	-15.98%	-21.13%	2.82K	+0.19%	4.13K	-5.32%	
Italy	70.78%	8.23M	+6.3%	-5.02%	+2.91%	1.16K	+2.48%	7.10K	+3.73%	70.78%
South Korea	10.89%	1.27M	-18.78%	-1.74%	-39.84%	313.68	-38.45%	4.04K	+31.97%	10.89%
China	9.76%	1.13M	+13.66%	-64.08%	-54.61%	1.15K	+27.36%	988.31	-10.76%	9.76%
Portugal	6.87%	799.23K	+11.82%	+38.71%	-12.98%	123.57	+13.06%	6.47K	-1.1%	6.87%
Chile	1.34%	155.75K	-47.49%	+467.93%	+2583.96%	60.50	+62.57%	2.57K	-67.7%	1.34%
Hong Kong	0.35%	40.51K	+28.56%	+84.55%	+69.16%	12.77	+118.59%	3.17K	-41.19%	0.35%

Source: <https://www.tridge.com/intelligences/chestnut/US> (to see the data, you have to register on the website)

Survey participants-Activities

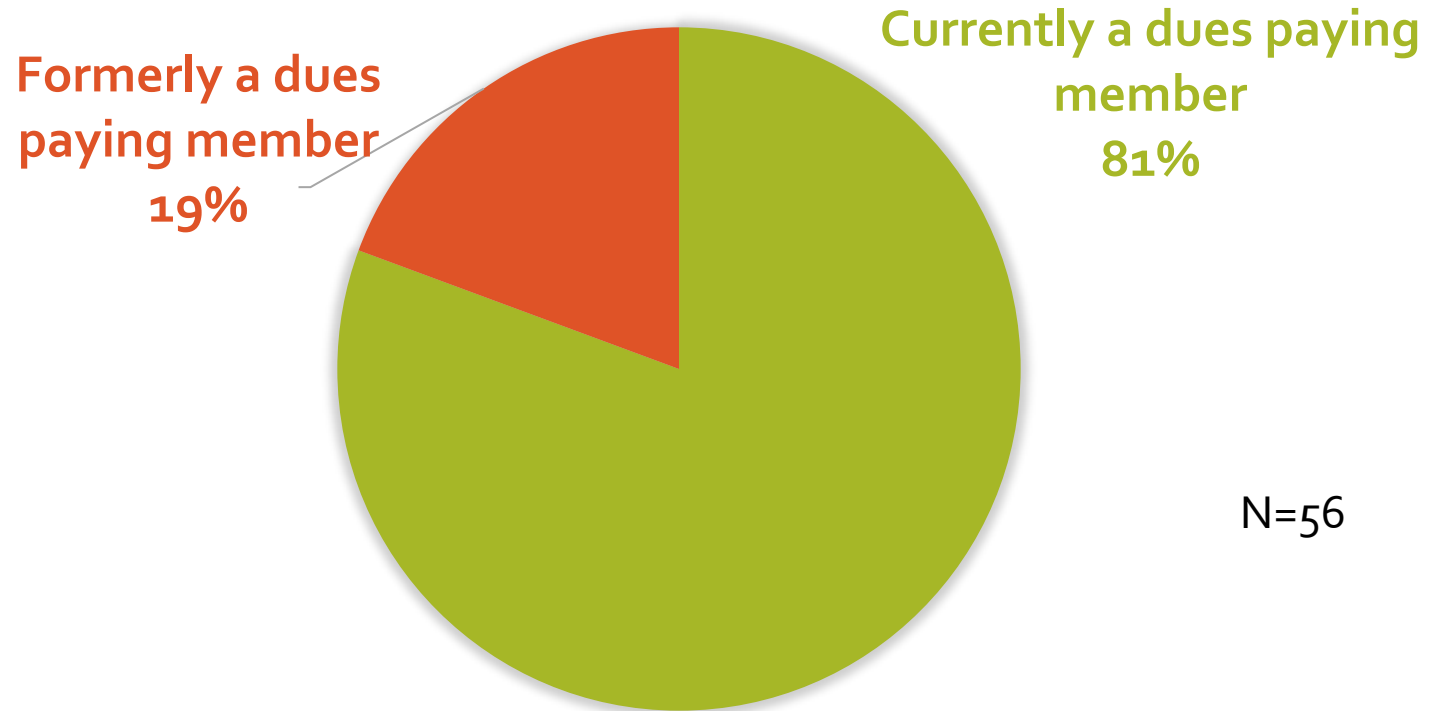
WHICH OF THE FOLLOWING BEST DESCRIBES YOU?



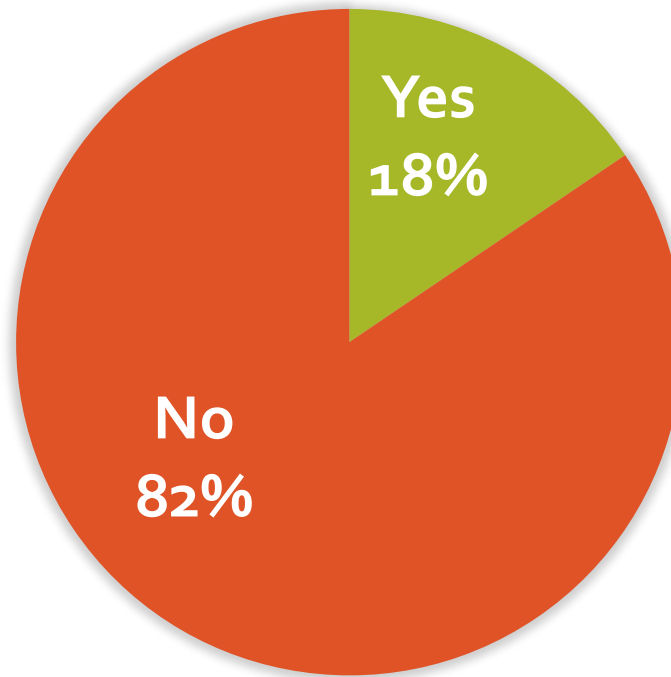
N=62 (total respondents)

	2020-2021	2018-2019	2017-2018
Chestnut Grower/Seller/Value added Producer	91%	92%	96%
Educator/Researcher	3%	3%	0%
Other	6%	5%	4%

Membership - CGA



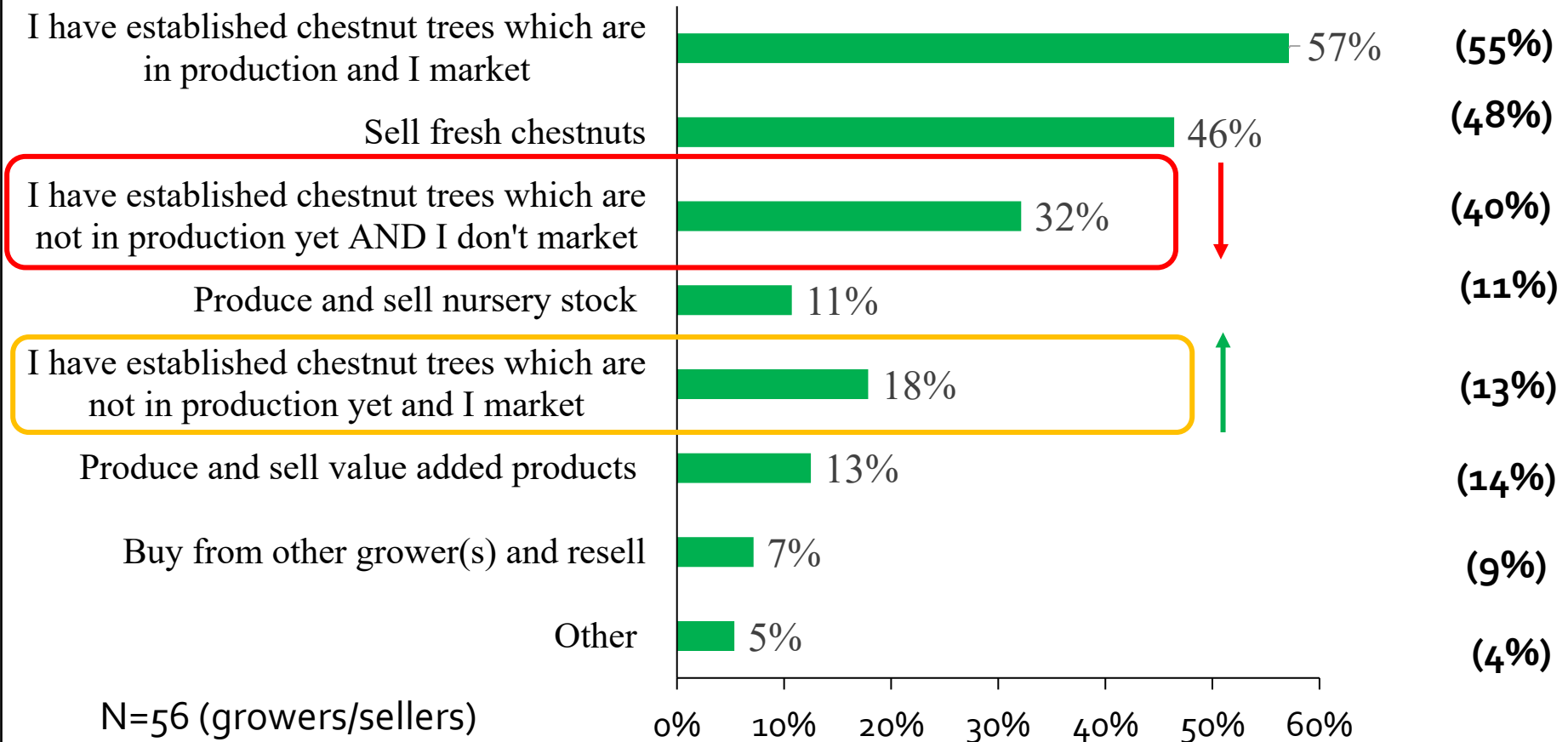
Membership - Chestnut Cooperatives



N=56

- Chestnut Growers, Inc. (5 respondents)
- RT 9 co-op (1)
- Prairie Grove Chestnut Growers (3)

Survey participants-Activities



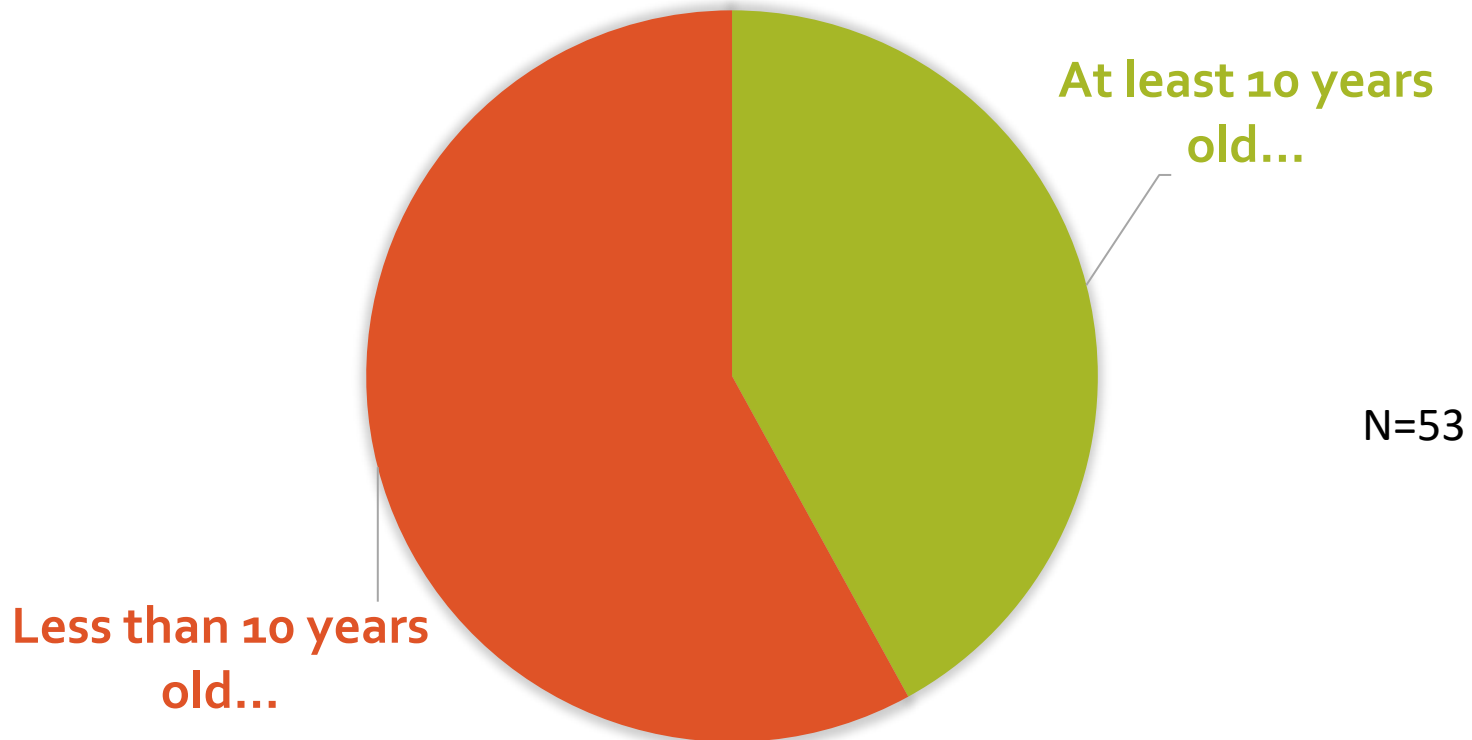
Numbers in parentheses are averaged results from past surveys conducted in 2017, 2018, and 2019.

Survey participants – Orchard Location – 22 States

State	# of orchards	State	# of orchards
IA	8	CA	1
IL	6	FL	1
MI	6	GA	1
NC	5	IN	1
MO	4	KS	1
SC	3	KY	1
MS	2	MA	1
NY	2	MN	1
OH	2	OK	1
OR	2	PA	1
WA	2	VA	1
		Total	53

Production operation: Orchard Age

HOW OLD IS YOUR ORCHARD?



✓ Coop members tend to have more mature orchards compared to non-coop members

Co-op members (N=10)

- 40% less than 10 years old
- 60% at least 10 years old

Production operation - 2020/2021

- 703 acres of chestnut reported in 2020 survey
 - 253 acres (36%) are at least 10 years old
 - 274 acres (39%) are from co-op members (27 acres per co-op member)

	2020-2021	2018-2019	2017-2018
Total acres planted in chestnuts	**703 ac	**824 ac	**663 ac

**Year to year variation in survey responses and respondents results in variation in reported acreage

Overall US Chestnut Industry

Table 31. Fruits and Nuts: 2017

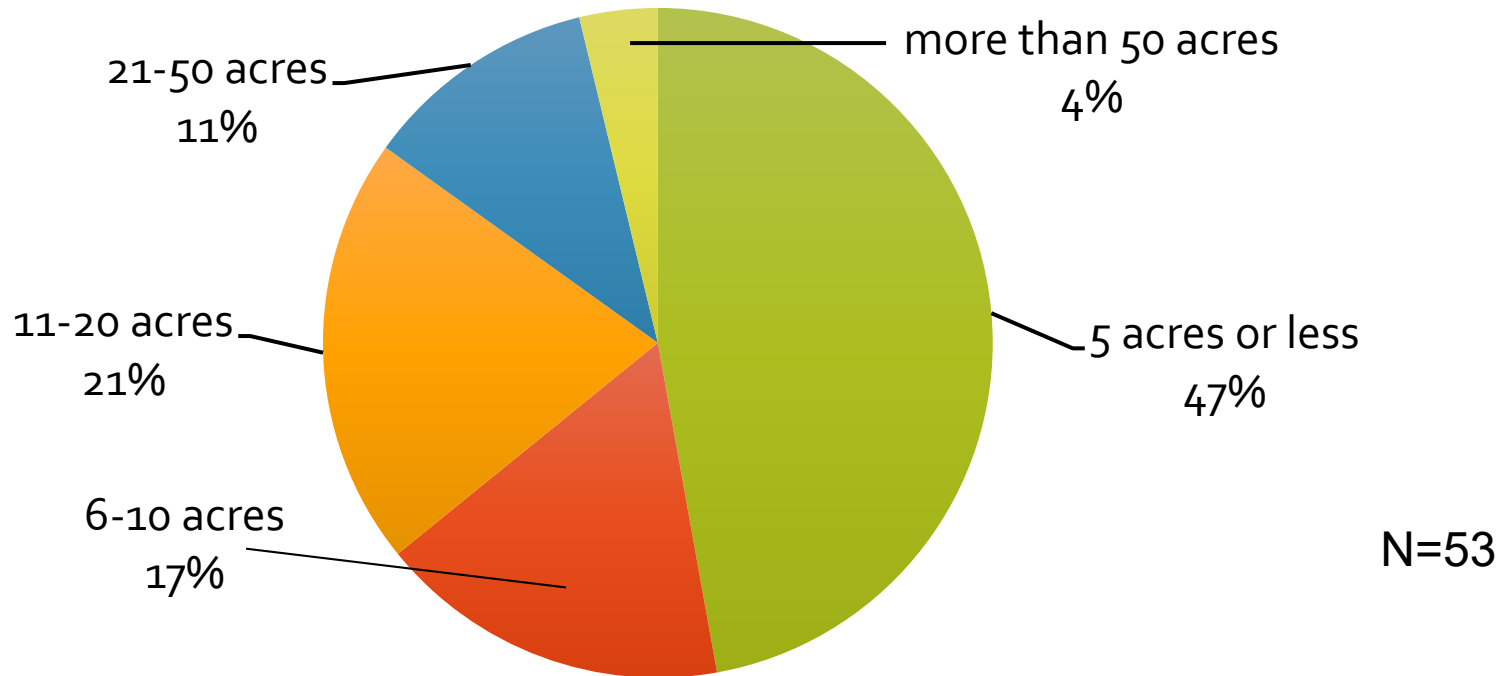
US Census of Agriculture 2017

	Total		Bearing Age Acres		Nonbearing age acres	
	Farms	Acres	Farms	Number	Farms	Number
United States Total	1,587	4,228	841	2,185	975	2,043
CGA Survey Respondents		703				

Production operation - 2020/2021

Industry continues to remain “small scale”

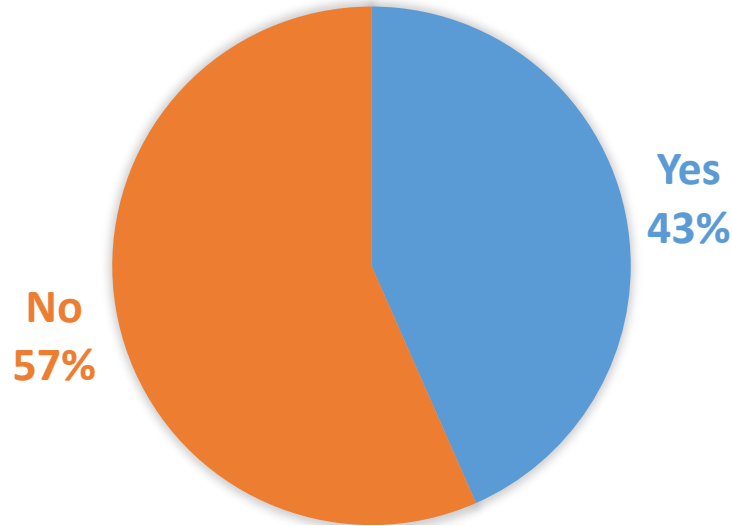
- 64% of respondents have less than 10 acres planted
- 40% of co-op members have less than 10 acres planted



	2018-2019	2017-2018	2016-2017
Less than 10 acres planted	54%	51%	49%

Production operation: Plans (2020/21)

ARE YOU PLANNING TO EXPAND YOUR ORCHARD?

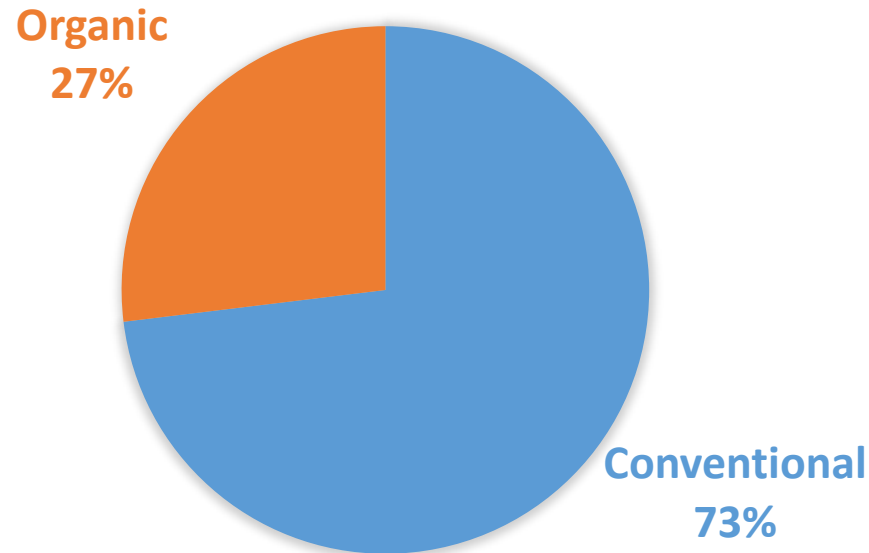


220 new acres and
4,728 new trees
planned to be planted

N=53

	2020-2021	2020-2021 (Co-op) N=10	2018-2019	2018-2019 (Co-op) N=9
Yes	43%	30%	40%	44%
No	57%	70%	60%	56%
New Acres	220	14	236	27
New Trees	4,728	1,740	10,740	3,050

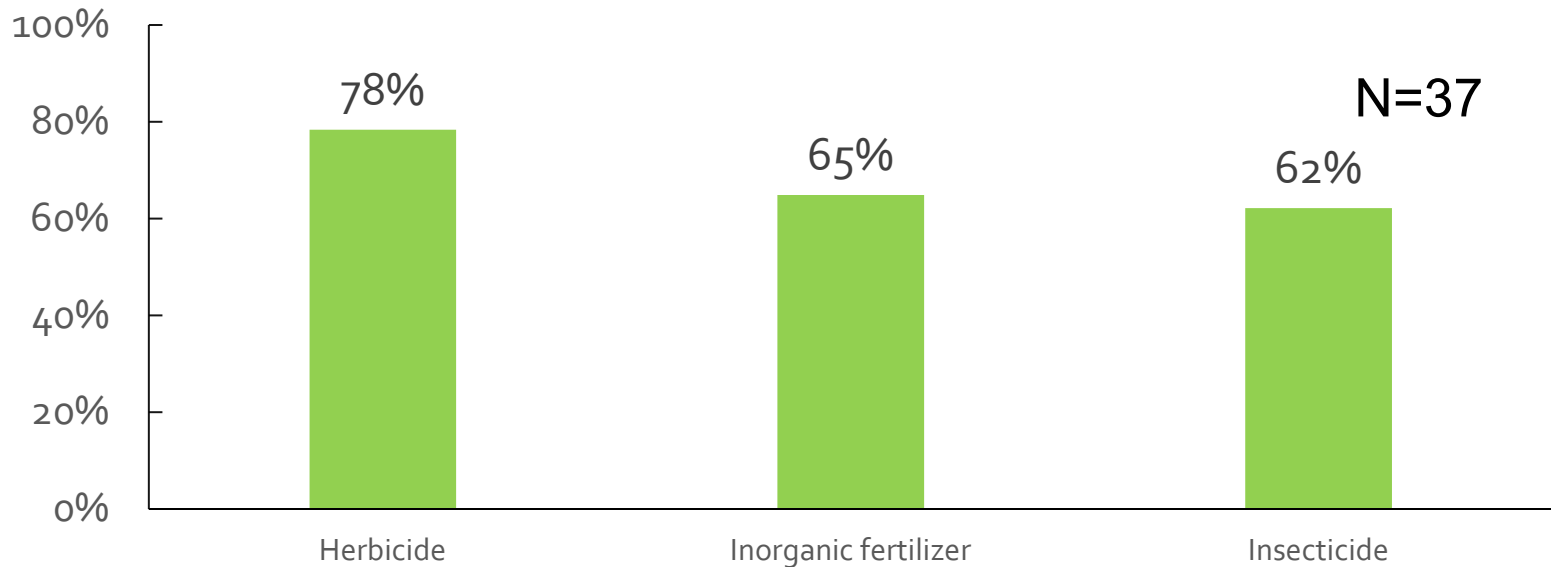
Production operation: Production process



N=52

	2020-2021	2020-2021 (Co-op)(N=10)	2018-2019	2018-2019 (Co-op)(N=9)
Organic	27%	20%	28%	11%
Conventional	73%	80%	72%	89%

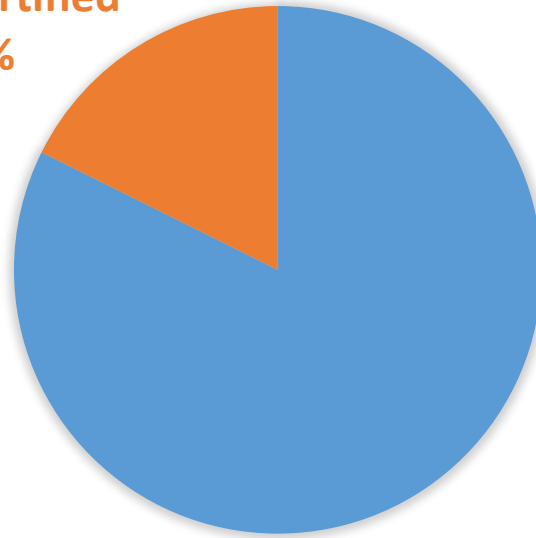
Conventional Production



	2020-2021	2020-2021 (Co-op) (N=8)	2018-2019	2018-2019 (Co-op) (N=8)
Use herbicide	78%	63%	92%	86%
Use inorganic fertilizer	65%	63%	79%	100%
Use insecticide	62%	87%	58%	100%

Organic Production

USDA Certified
18%



N=17

Non-USDA
Certified
82%

	2020-2021	2020-2021 (Co-op) (N=2)	2018-2019	2018-2019 (Co-op) (N=1)
USDA Certified	18%	0%	27%	0%
Non-USDA Certified	82%	100%	73%	100%

The 2020-2021 production

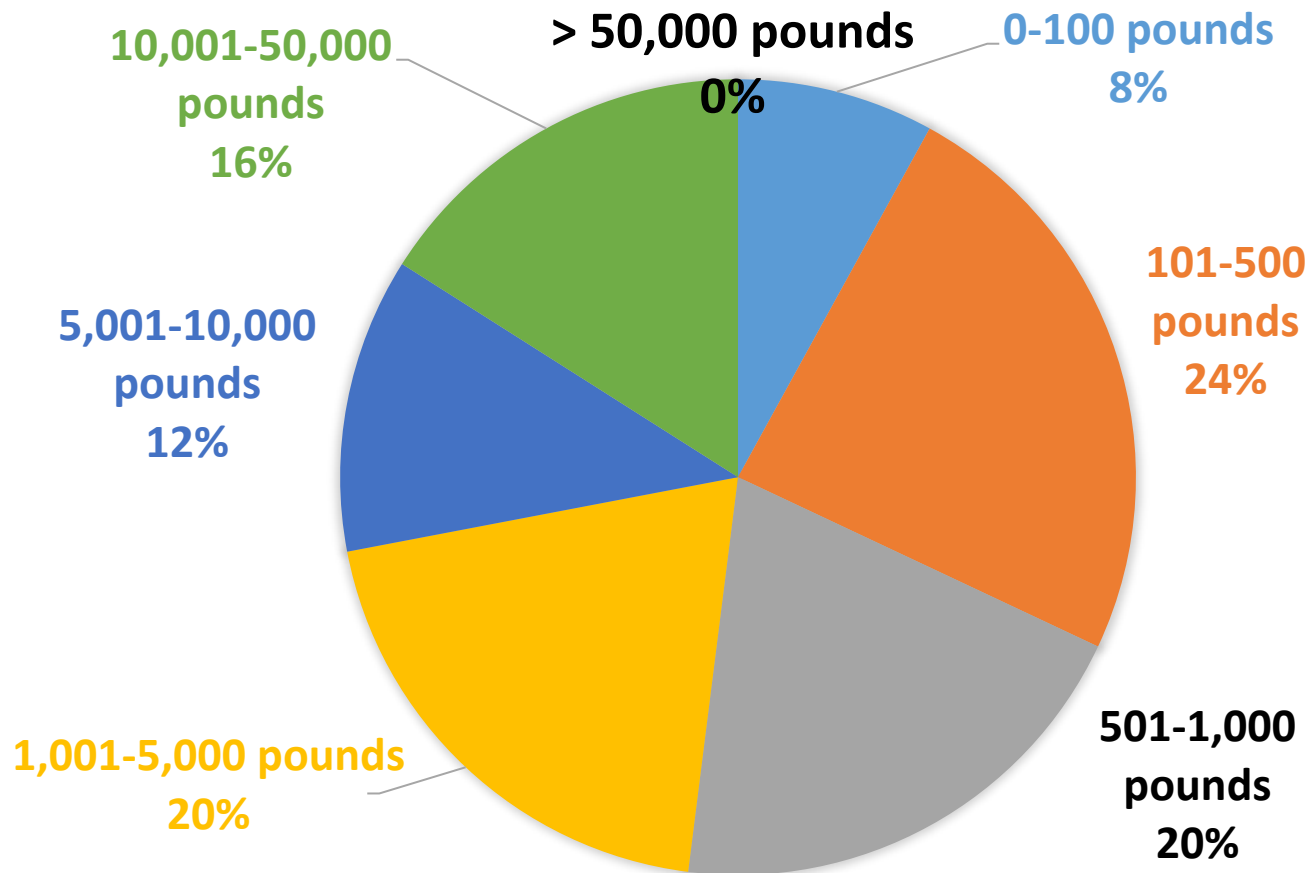
- Total pounds of chestnuts harvested:
 - 123,595 lbs
 - 97% (119,458 lbs) from orchards at least 10 years old
- Orchards younger than 10 years: 176 lbs/ac
- Orchards at least 10 years: 472 lbs/ac

Reported yields per acre remain low.

Reported production for 2020 far below peak in 2018

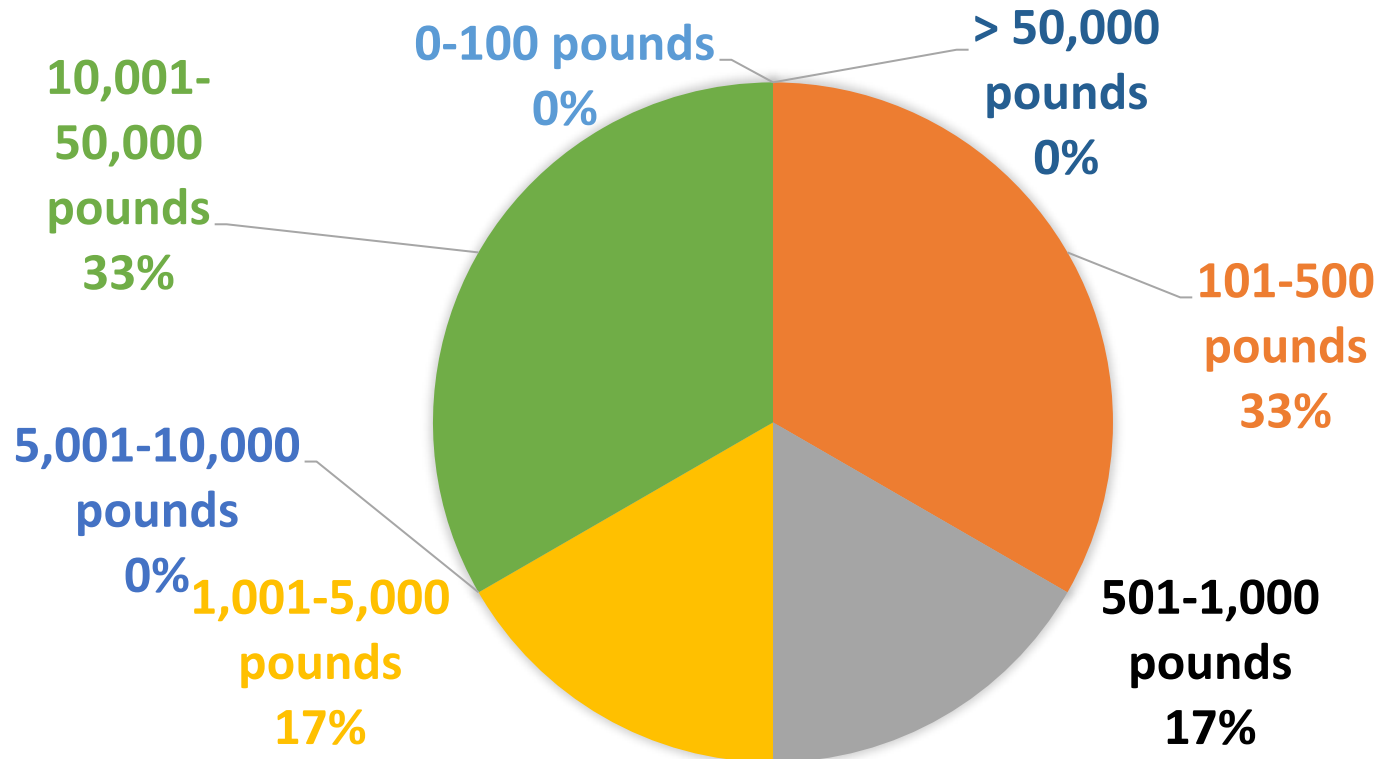
	2020- 2021	2020-2021 (Co-op)	2018- 2019	2018-2019 (Co-op)
Chestnuts harvested (lbs)	123,595	51,250	469,706	138,460

The 2020 production season



N=25

The 2020 production season (Co-op members)

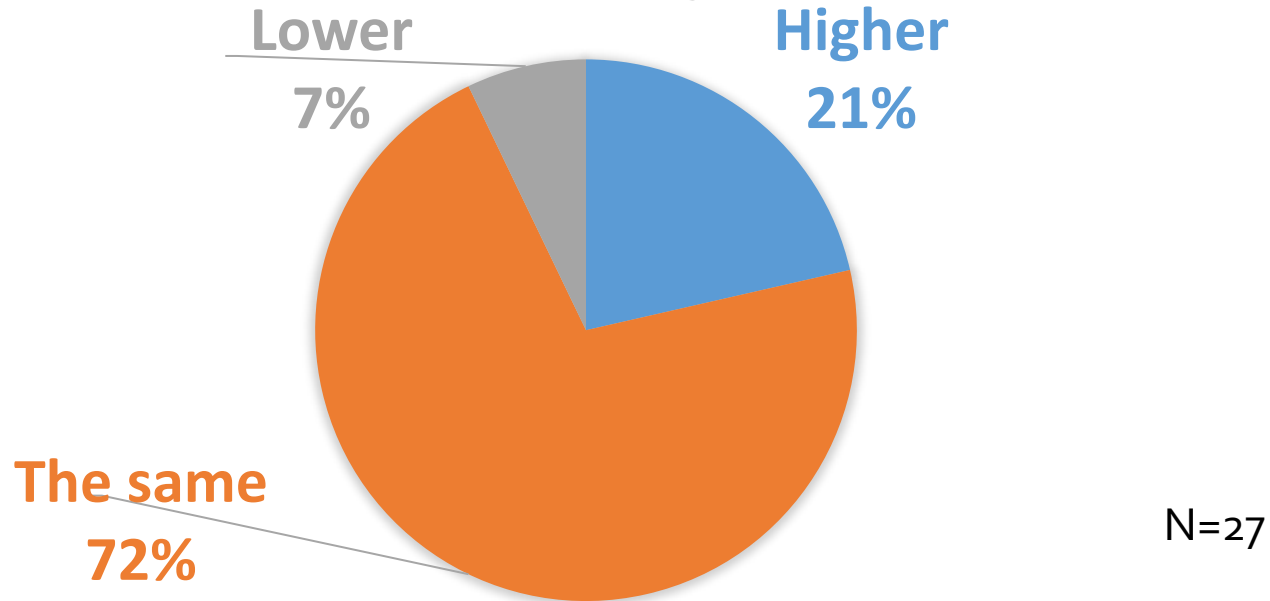


N=6

2020 Yields: Comparison to 2019

This compares production to 2019, also low yields

Yields much higher in 2018



	Lower	Higher	The Same
2020-2021	7%	21%	72%
2018-2019	6%	69%	25%
2017-2018	40%	32%	28%
2016-2017	30%	57%	13%
2015-2016	15%	63%	22%

2020 Yields: Comparison to 2019

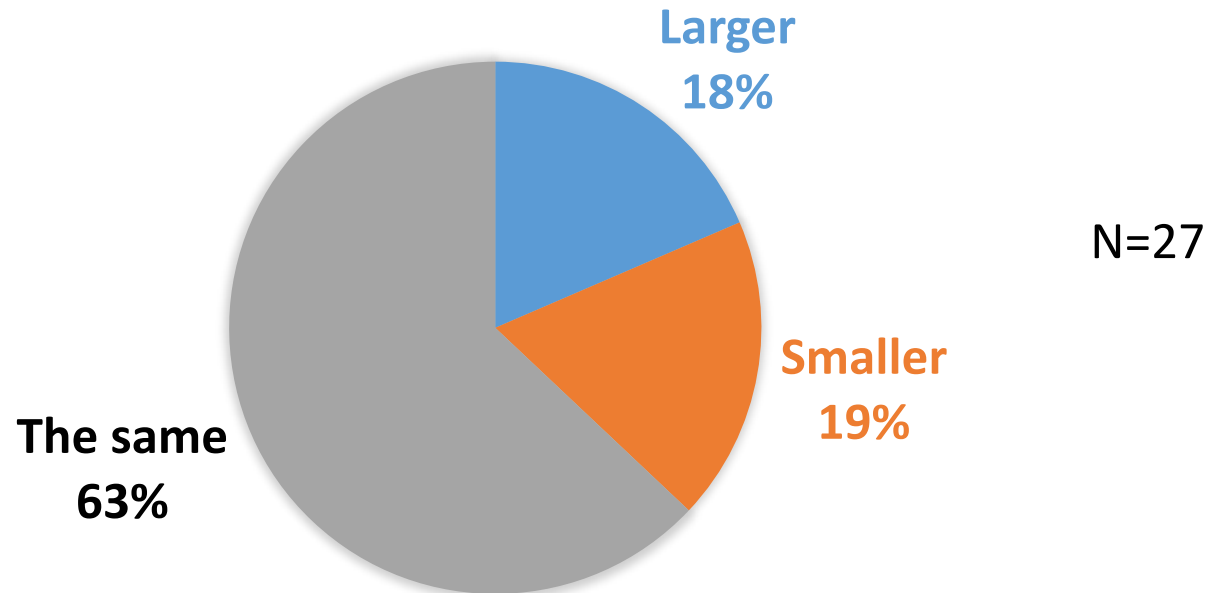
Higher yield

- Trees grew and coming into production
- “Rain at began of September”
- “Did some overdue pruning prior to the growing season”
- “Good rainfall patterns”
- “More efficient labor”

Lower yield

- “Pollination, Freeze May 8-10, 2020”
- “2019 was a bad year”
- “Drought and fires in the state”
- “Loss of trees due to flooding”
- “High (40-60 mph) wind blew unripen chestnuts out of the trees. They had to be destroyed prior to harvest. Also we had 3 weeks of smoke cover from wildfires in the area which eliminated any sunshine. ”
- “Early frost”

2020 Chestnuts Size: Comparison to 2019



	Smaller	Larger	The Same
2020-2021	19%	18%	63%
2018-2019	12%	28%	60%
2017-2018	32%	16%	52%
2016-2017	13%	39%	48%
2015-2016	20%	29%	51%

2020 Chestnut Size: Comparison to 2019

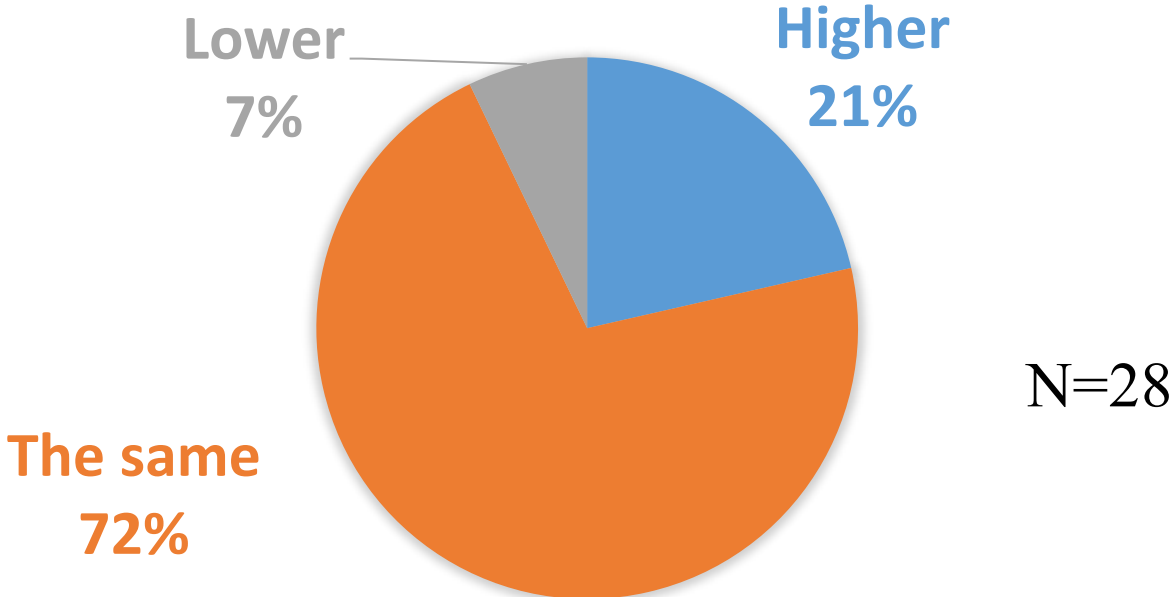
Larger size

- “Maturing trees”
- More rain compared to 2019
- Fertilizer

Smaller size

- Frost
- “Bigger chestnuts had been blown out of the trees”

2020 Chestnut Quality



	Lower	Higher	The Same
2020-2021	7%	21%	72%
2018-2019	5%	25%	70%
2017-2018	21%	8%	71%
2016-2017	18%	32%	50%
2015-2016	10%	28%	62%

2020 Chestnut Quality

Higher quality

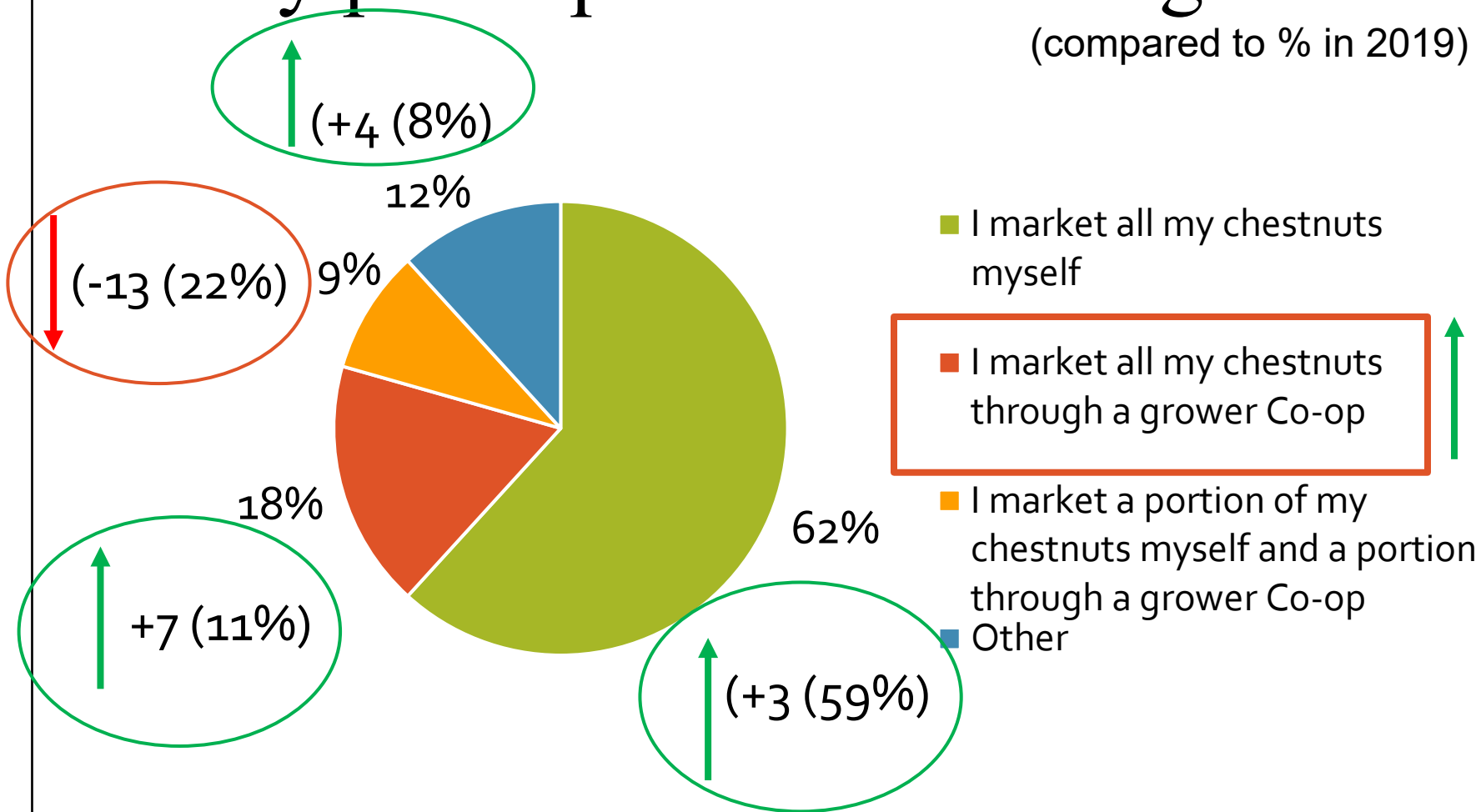
- “Not as many bad nuts”
- “Fewer nuts with cracks”
- “Less blossom end rot”
- “Color was good”

Lower quality

- “The smoke overcast degraded the appearance”
- “Few market size nuts with mostly small burrs with one or two small nuts”

Survey participants - Marketing

(compared to % in 2019)

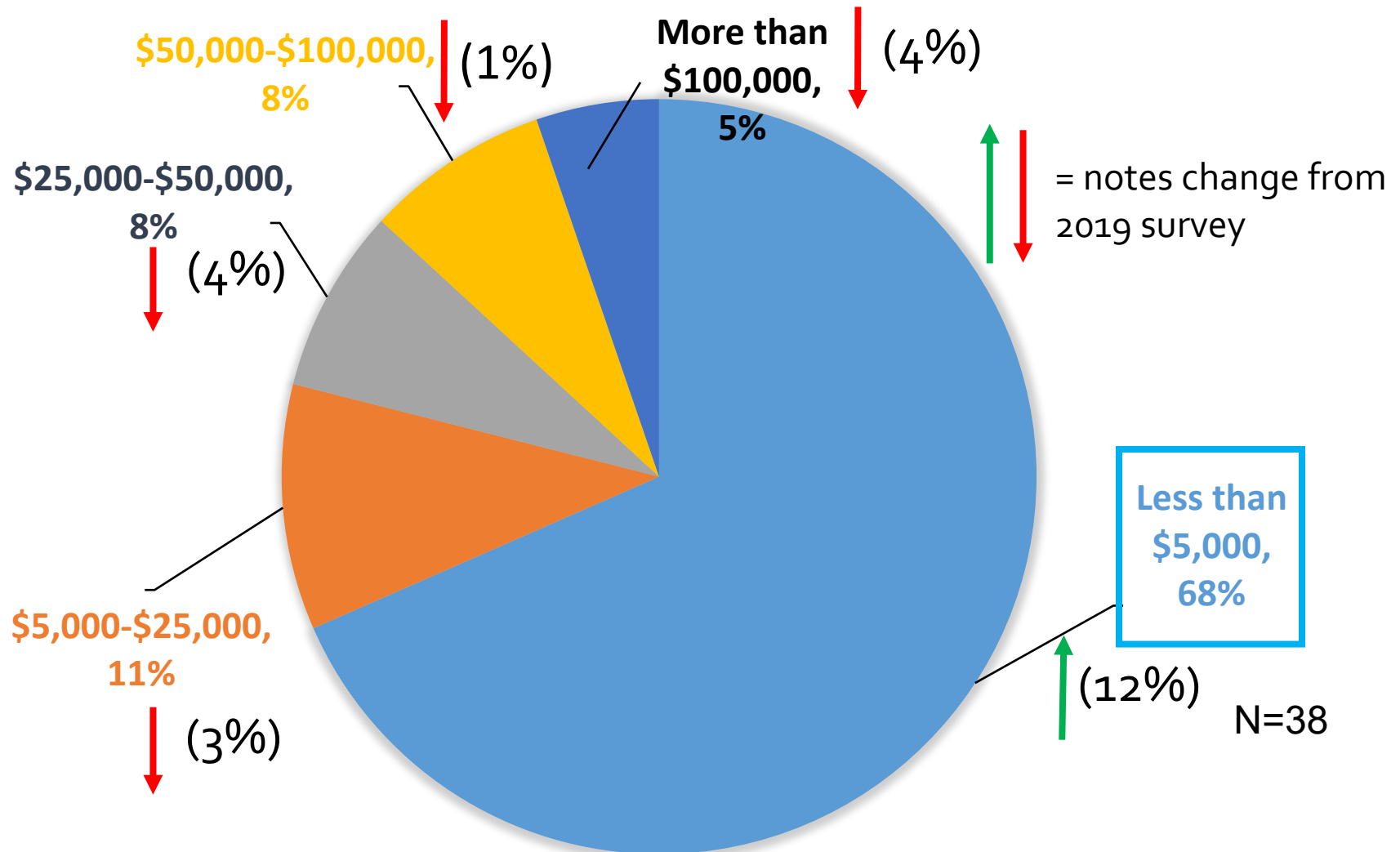


↑ ↓ = notes change from 2019 survey

N=35

The 2020/21 marketing season

Approximate annual gross sales figure from chestnuts in 2020 excluding shipping and delivery



The 2020/21 marketing season

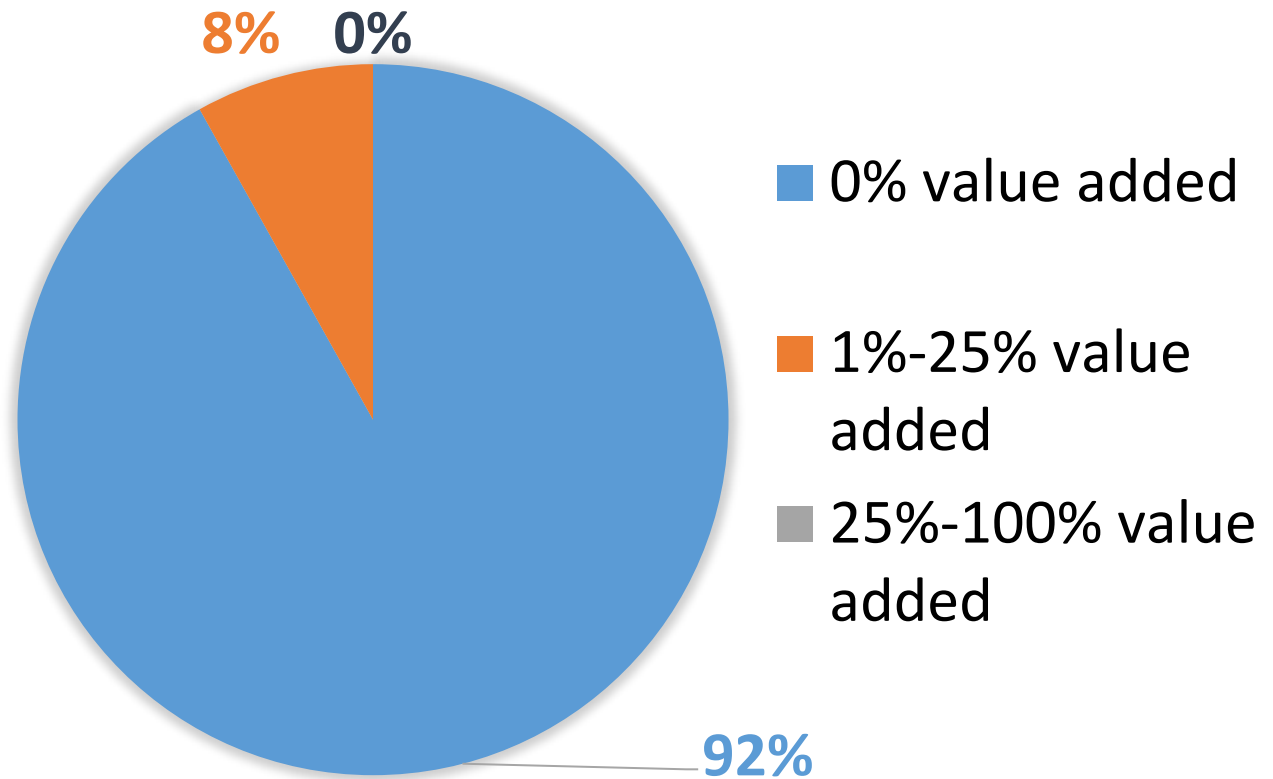
Approximate annual gross sales - excludes shipping and delivery

	2020-2021	2020-2021 (Co-op)	2018-2019	2018-2019 (Co-op)
Less than \$5,000	68%	78%	56%	56%
\$5,000-\$25,000	11%	0%	14%	22%
\$25,000-\$50,000	8%	11%	12%	0%
\$50,000-\$100,000	8%	0%	9%	11%
More than \$100,000	5%	11%	9%	11%

N=23

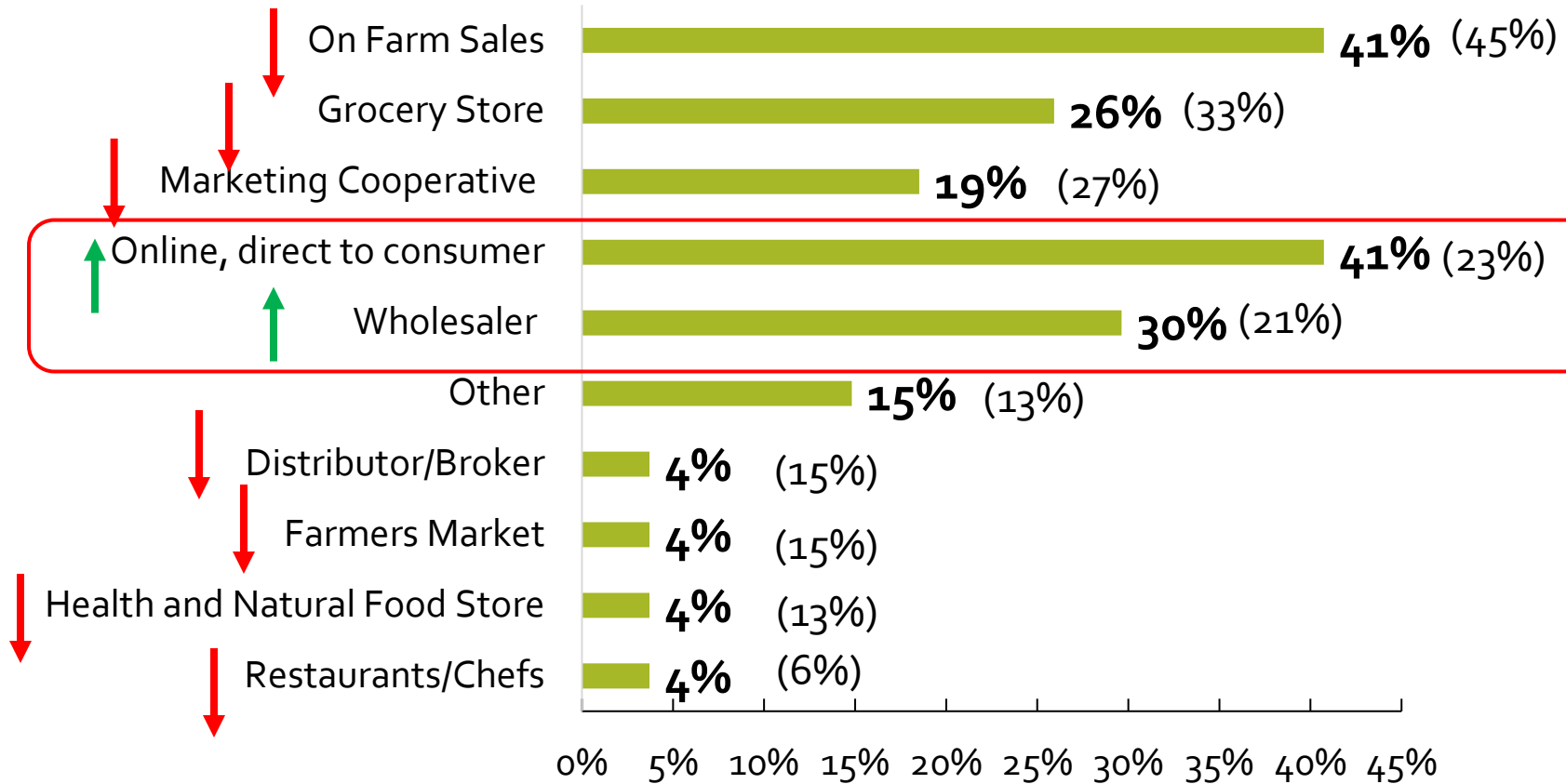
The 2020/21 marketing season

Percentage of value added in the gross annual sales figure



N=37

2020/21 marketing season VS (2018/19 data)



↑ ➤ Up in Online and Wholesaler

↓ ➤ Drop in Others

N=27

The 2020/21 marketing season

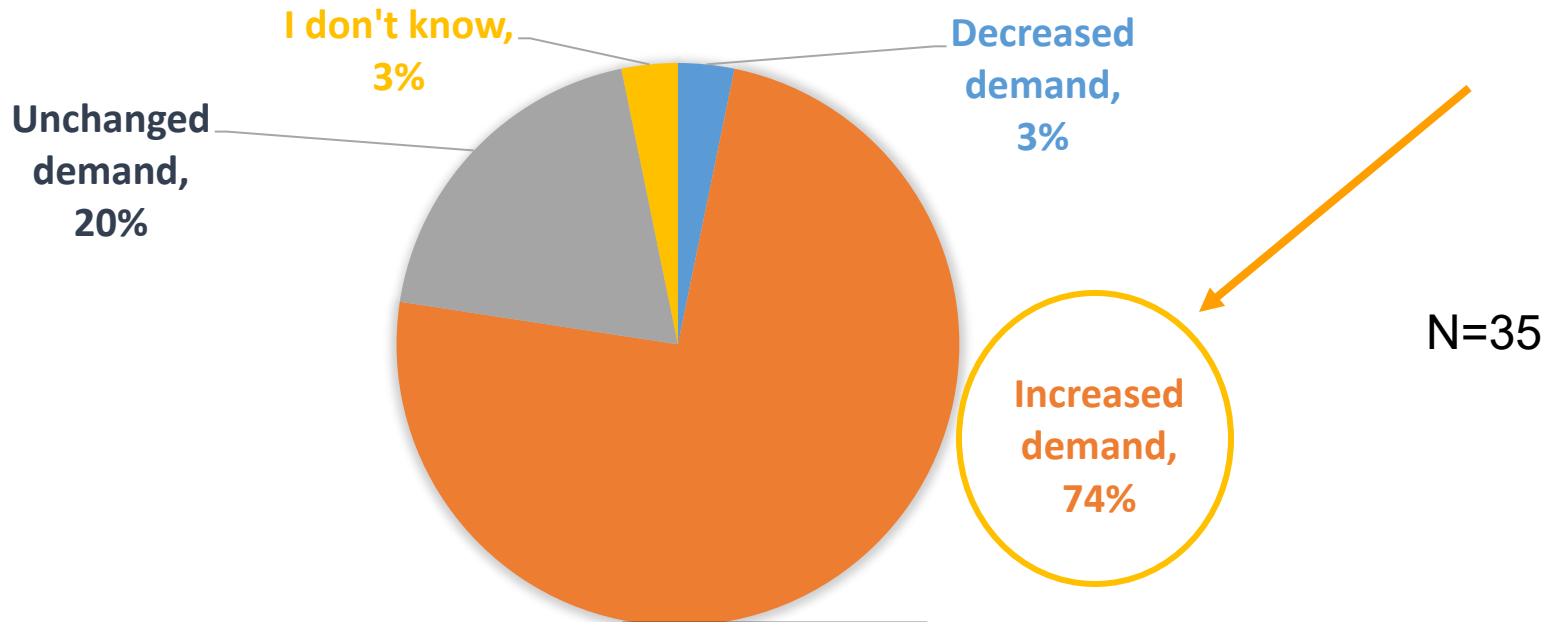
Outlet	Price Range			
	2020-2021	2018-2019	2017-2018	2016-2017
Marketing cooperative	\$2.50-\$3.50	\$1.60-\$2.80	\$1.50-\$4.50	\$1.00-\$3.75
Farmers market	\$6.00-\$7.00	\$2.00-\$6.75	\$4.00-\$6.00	\$5.50-\$7.00
Restaurants/ chefs	No Info	\$3.50-\$5.50	\$3.50	\$5.50
Distributor/ Broker	No Info	\$2.85-\$5.50	\$3.50-\$4.10	\$1.00
Health and natural food store	\$4.60	\$4.00-\$4.60	\$2.25-\$5.75	\$4.65
Grocery store	\$3.00-\$6.00	\$3.10-\$6.00	\$3.25-\$4.10	\$1.00
Wholesaler	\$2.50-\$5.25	\$2.00-\$7.00	\$3.50-\$4.00	\$1.82-\$3.81
Online, direct to consumer	\$4.25 - \$10.00	\$5.00-\$6.75	\$5.50-\$8.00	\$3.50 - \$8.40
On farm sales	\$4.00-\$8.00	\$1.00-\$6.50	\$2.00-\$8.00	\$2.50-\$8.40

N=33

NOTE: Overall price per pound remain high

The 2020/21 marketing season

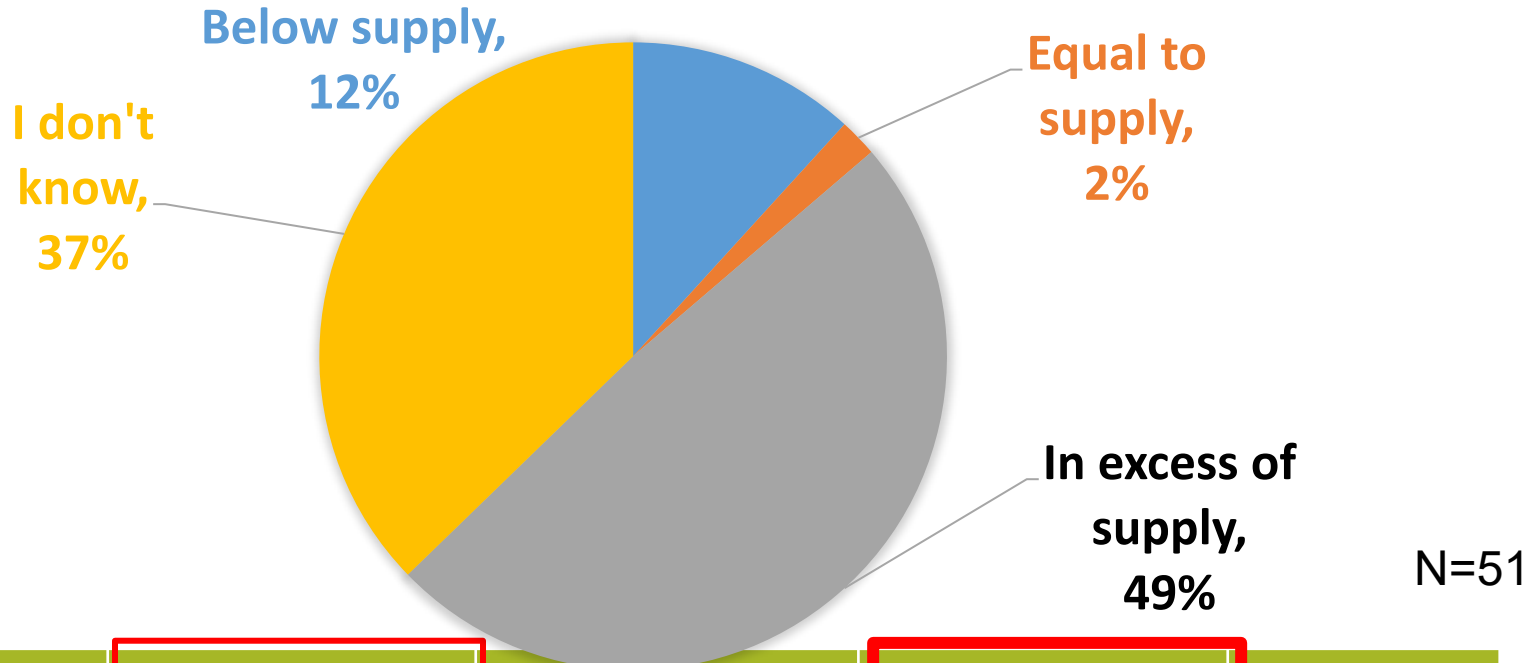
Demand for fresh chestnuts compared to previous year



	Decreased demand	Increased demand	Unchanged	I don't know
2020-2021	3%	74%	20%	3%
2018-2019	9%	51%	31%	9%
2017-2018	12%	56%	20%	12%
2016-2017	4%	74%	13%	9%
2015-2016	13%	62%	22%	3%

The 2020/21 marketing season

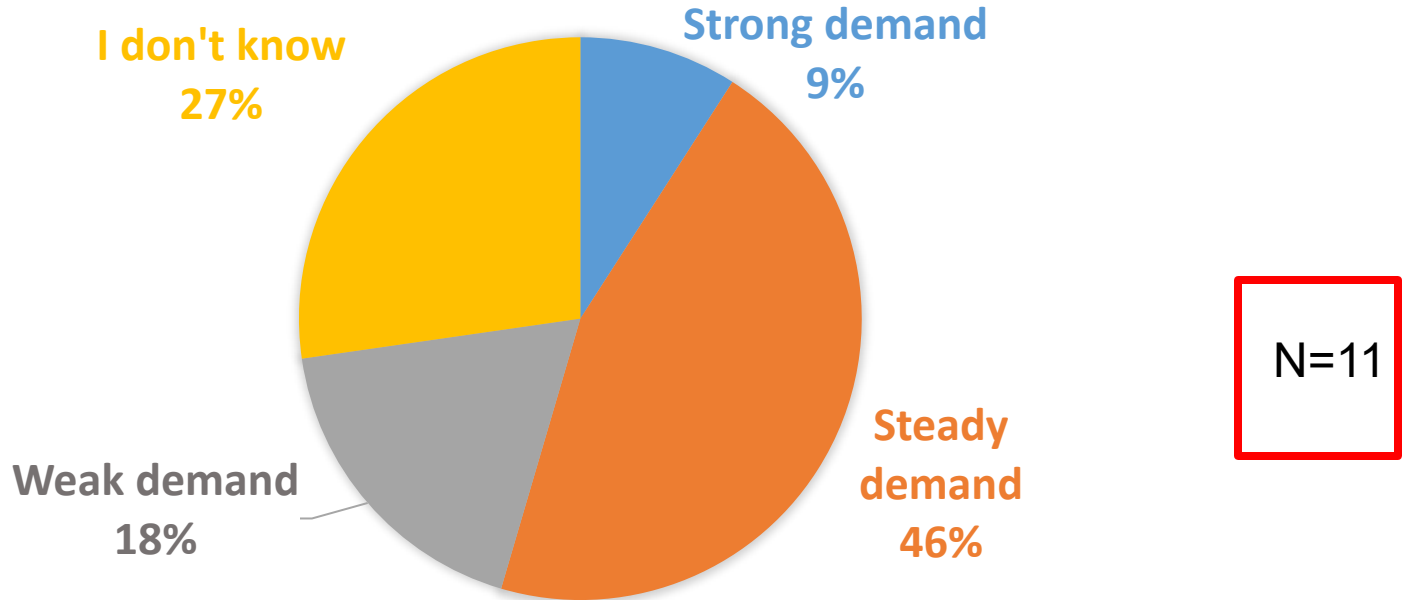
Current demand for fresh chestnuts



	Demand below supply	Demand equal to supply	Demand in excess of supply	I don't know
2020-2021	12%	2%	49%	37%
2018-2019	11%	23%	46%	20%
2017-2018	20%	16%	56%	8%
2016-2017	13%	22%	48%	17%
2015-2016	10%	10%	62%	18%

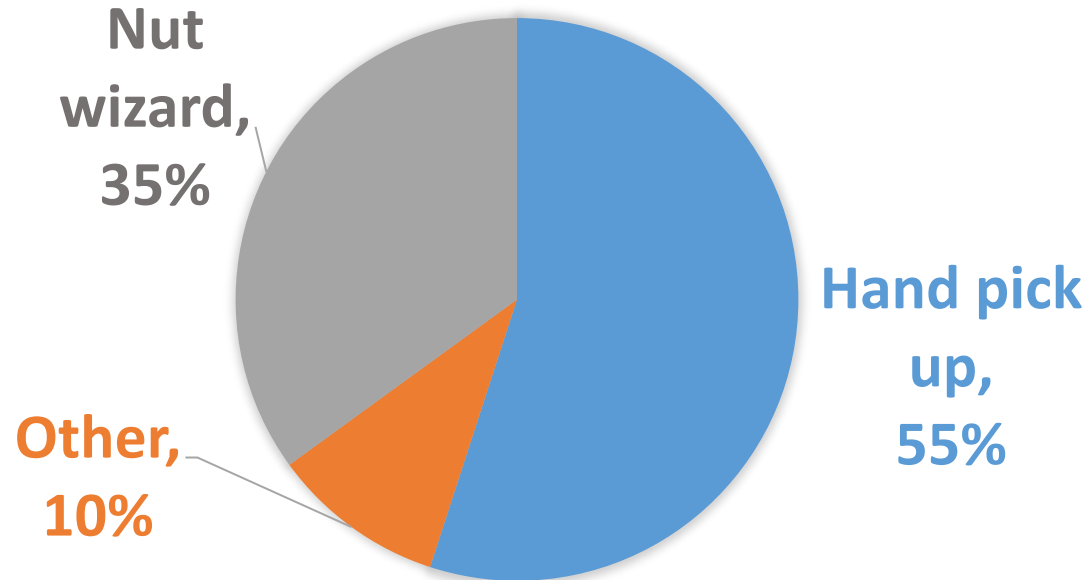
The 2020/21 marketing season

Current demand for value added products



	Strong demand	Steady demand	Weak demand	I don't know
2020-2021	9%	46%	18%	27%
2018-2019	44%	40%	8%	8%
2017-2018	33%	0%	0%	67%
2016-2017	40%	0%	0%	60%
2015-2016	42%	29%	0%	29%

Harvest Methods



- Other: BagANut, Vac

90% pick up "by hand" – almost no reported use of commercial harvesters

Reflects the small scale and/or low tonnage reported for most growers.



Chestnut Cooperative Representative Survey



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Results



- Three cooperatives
 - Prairie grove chestnut growers
 - Chestnut Growers, Inc.
 - Route 9 Cooperative
- 103 members in total
- Two Co-ops sell fresh chestnuts only, the third coop sells both fresh chestnuts and chestnuts value added products (dried kernels, flour)

Results



- Start selling: September and October
- Finish selling: November and December
- Average pounds of chestnuts sold
 - 2020: 45,667
 - 2019: 46,800
 - 2018: 114,200
- Most chestnuts were sold to:
Illinois, Georgia, Texas, Michigan, Rhode Island, Massachusetts, and New Jersey
- 0% of the chestnuts sold are organic

Yields way down in both 2019 and 2020

Prices Received - Strong

- Different outlets
 - Restaurants/chefs: \$4/lb
 - Distributor/broker: \$3.50/lb
 - Grocery: \$3.60/lb - \$4.00/lb
 - Wholesaler: \$3.50/lb - \$4.50/lb
 - Online, direct to consumer: \$4.00/lb - \$8.00/lb
- Annual gross sales of the three surveyed co-ops
 - \$50,000 - \$250,000; \$250,000 - \$500,000; and \$50,000 - \$250,000;

Thank You!



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