



United States Department of Agriculture
National Agricultural Statistics Service



2023 Almond Objective Measurement Survey Results

Gary Keough, Director
USDA NASS Pacific Regional Office

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Survey Methodology

- Random selection of orchards based on location, variety and age
- Randomly select two trees in each selected orchard
- Random Path Method used to locate count units
- Sample of nuts taken and sent to sizing station
- Measure kernel weight, length, width, thickness and grade

Forecast Models

- Models are designed to produce a forecast of all almond production at the state level from the sample data.
- Models do not forecast production by variety. Separate models are run for Nonpareil since there are a significant number of samples.

Forecast Models

- Models use:
 - official estimates of bearing acres and trees per acre
 - OM measurements of:
 - nuts per tree
 - percent sound
 - weight
 - width
 - thickness
 - length
- Model output is regressed against final production using previous 15 years.



2023 Almond OM Forecast



Data Collection

- Field Work: May 26 – July 3
- Use 50+ Enumerators
- Increased sample size to 1,060 orchards
 - Collected data from 1,824 trees from 912 orchards

Thank you to the growers for allowing us access to your orchards.

Thank you to those that encouraged growers to participate.



2023 Almond OM Forecast



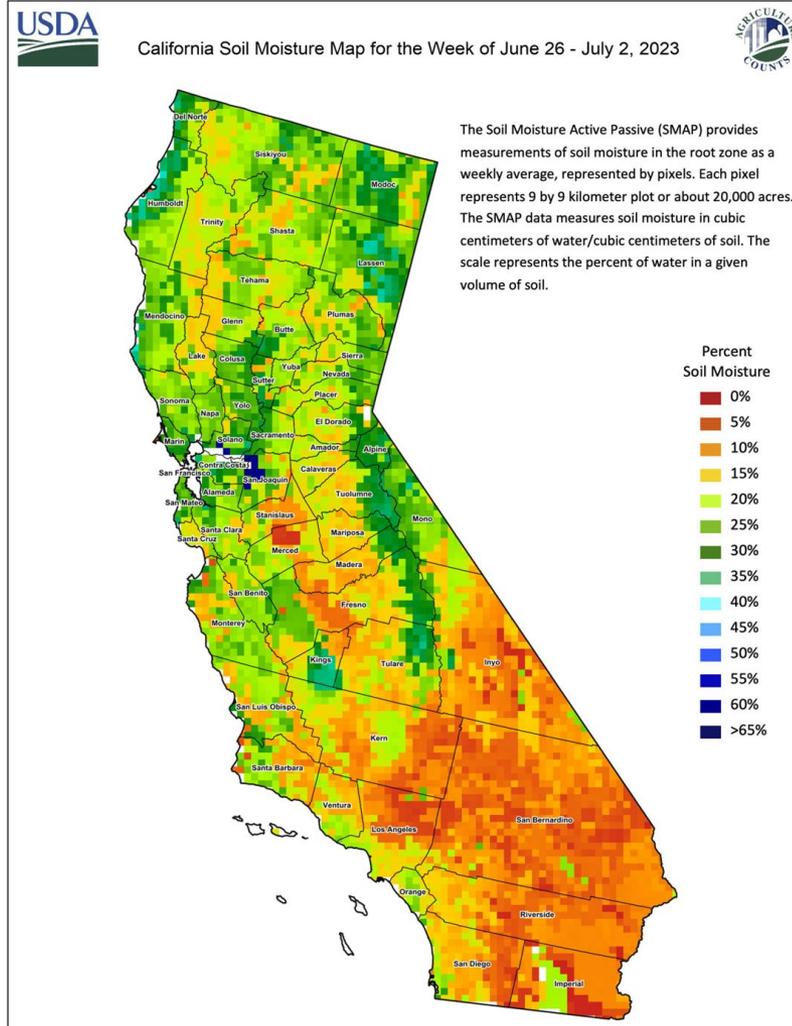
Number of Samples by Variety within Counties

	Butte	Carmel	Independence	Monterey	Nonpareil	Padre	Other ¹	Total
Butte	0	0	0	1	15	0	0	16
Colusa	5	0	0	5	22	1	6	39
Fresno	10	0	23	35	61	9	33	171
Glenn	0	0	0	0	23	0	0	23
Kern	13	1	7	43	61	5	28	158
Kings	0	0	2	4	5	0	1	12
Madera	5	1	8	31	46	6	17	114
Merced	10	13	17	25	45	11	17	138
San Joaquin	2	2	8	0	24	0	3	39
Solano	0	0	2	0	1	0	0	3
Stanislaus	8	22	21	19	44	8	26	148
Tehama	0	0	0	0	2	0	0	2
Tulare	1	0	3	13	20	0	1	38
Yolo	0	0	0	2	7	0	2	11
Total	54	39	91	178	376	40	134	912

¹ Other includes Aldrich, Bennett, Fritz, Mission, Price Cluster, Shasta, Sonora, Supareil, Winters, and Wood Colony.

- The almond bloom began in the middle of February and peaked at the end of the month.
- Record level rainfall and unprecedented stormy conditions hindered bee pollination activity in orchards across the state.
- Cooler than normal temperatures continued through early summer and delayed the maturity of the crop.
- Harvest is expected to begin next month.

Top Soil Moisture Map





2023 Almond OM Forecast



And the 2023 Production
forecast is.....

- **Highlights**

- **Production forecasted at 2.60 billion meat pounds**
- **Up 1% from the 2022 production of 2.57 billion meat pound**
- **Up 4% from the May 2023 Subjective forecast of 2.57 billion meat pounds**

- **Highlights**
 - **1.38 million bearing acres, increase of 30,000 acres**
 - **Yield calculates to 1,880 pounds/acre, down 6% from last year's 1,900 pounds/acre**



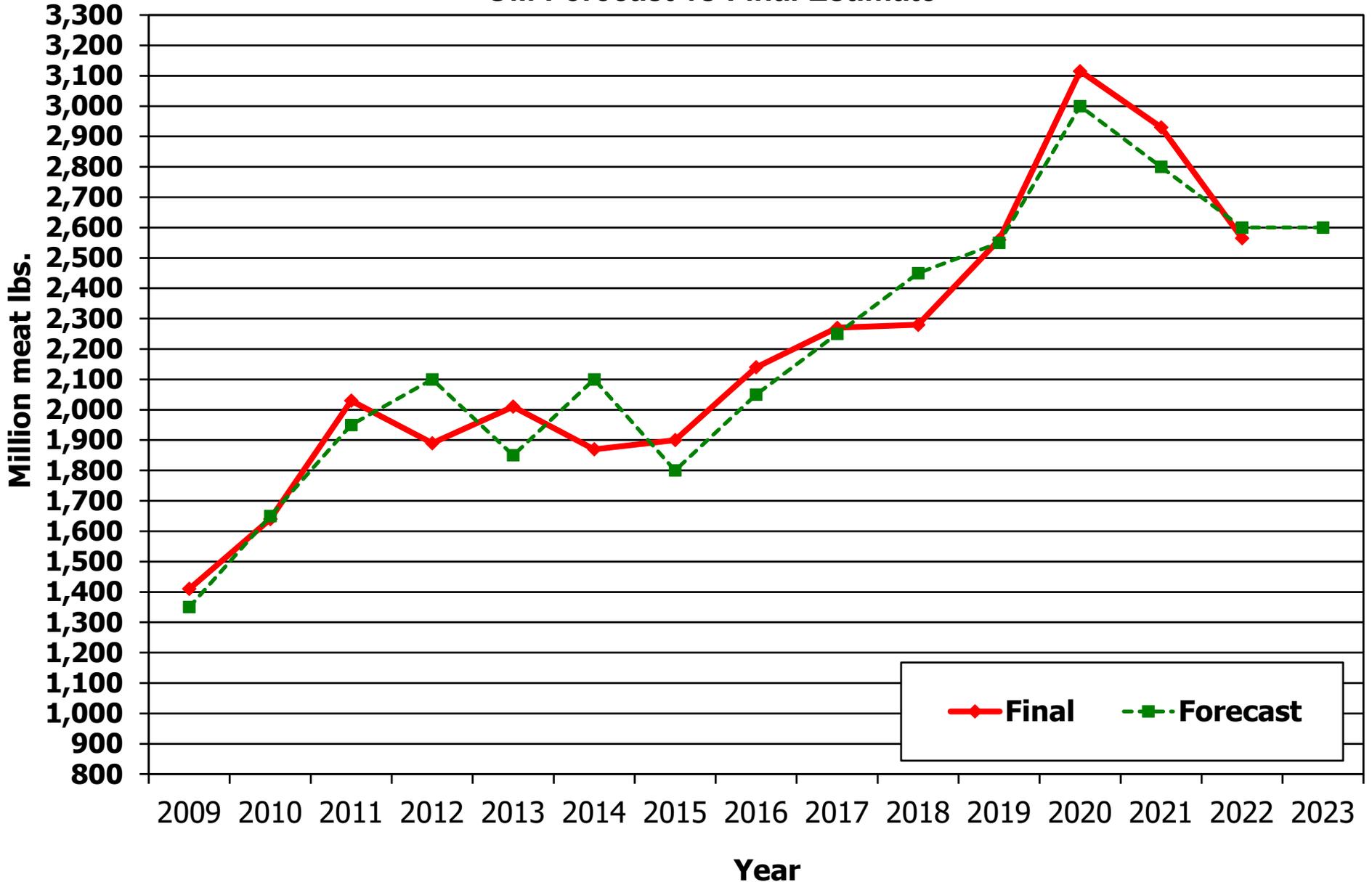
2023 Almond OM Forecast



- **Highlights – Nonpareil Variety**
 - **Production from Nonpareil variety is forecasted at 1.10 billion meat pounds**
 - **Up 10% from the 2022 production**
 - **42% of total production**

ALMOND PRODUCTION - CALIFORNIA

OM Forecast vs Final Estimate





2023 Almond Objective Measurement Survey Results



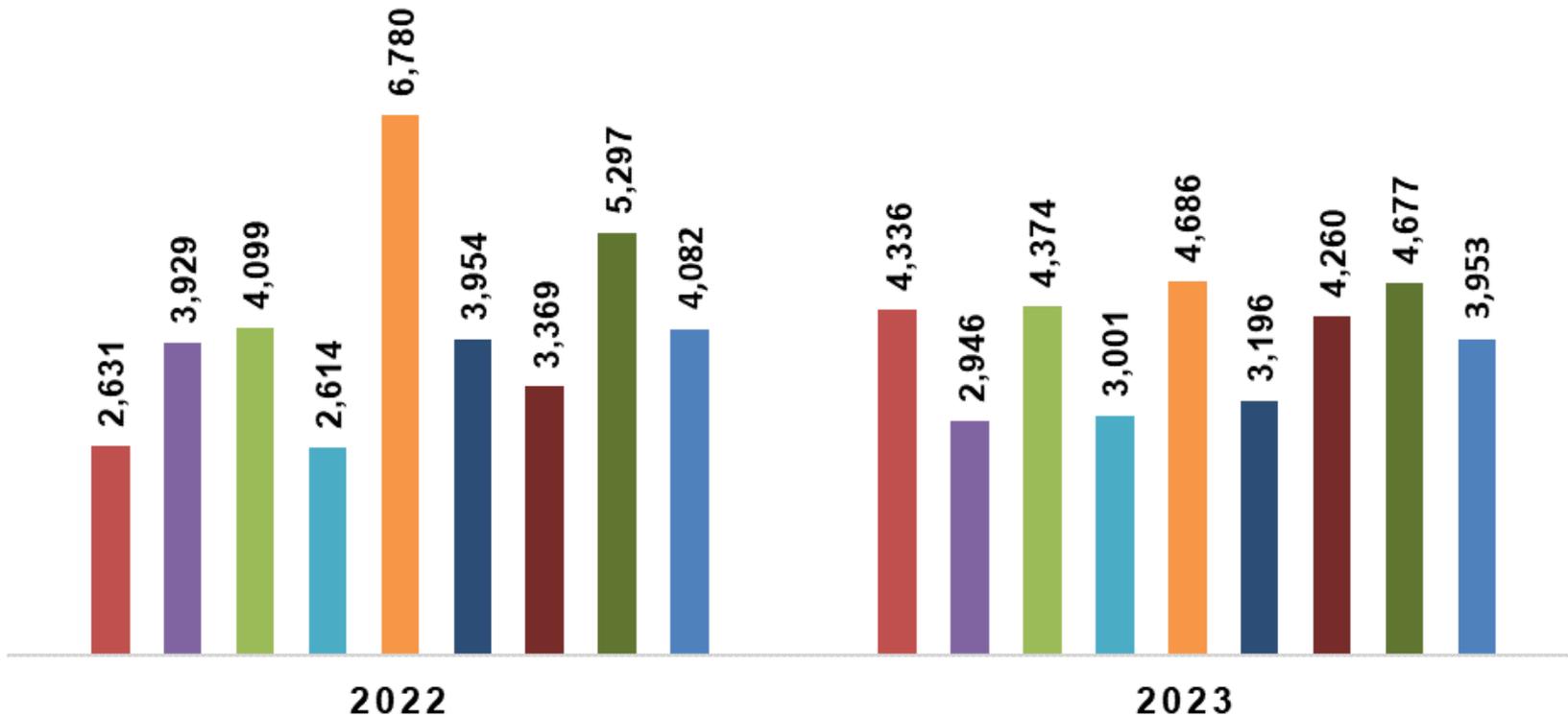
Almond Set 2020 – 2023 Average nuts per tree

	2021	2022	2023	% Change
California	4,619	4,082	3,953	-3.6

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ALMONDS NUTS PER TREE, BY COUNTY & STATE

■ Colusa ■ Fresno ■ Kern ■ Madera ■ Merced ■ San Joaquin ■ Stanislaus ■ Tulare ■ State





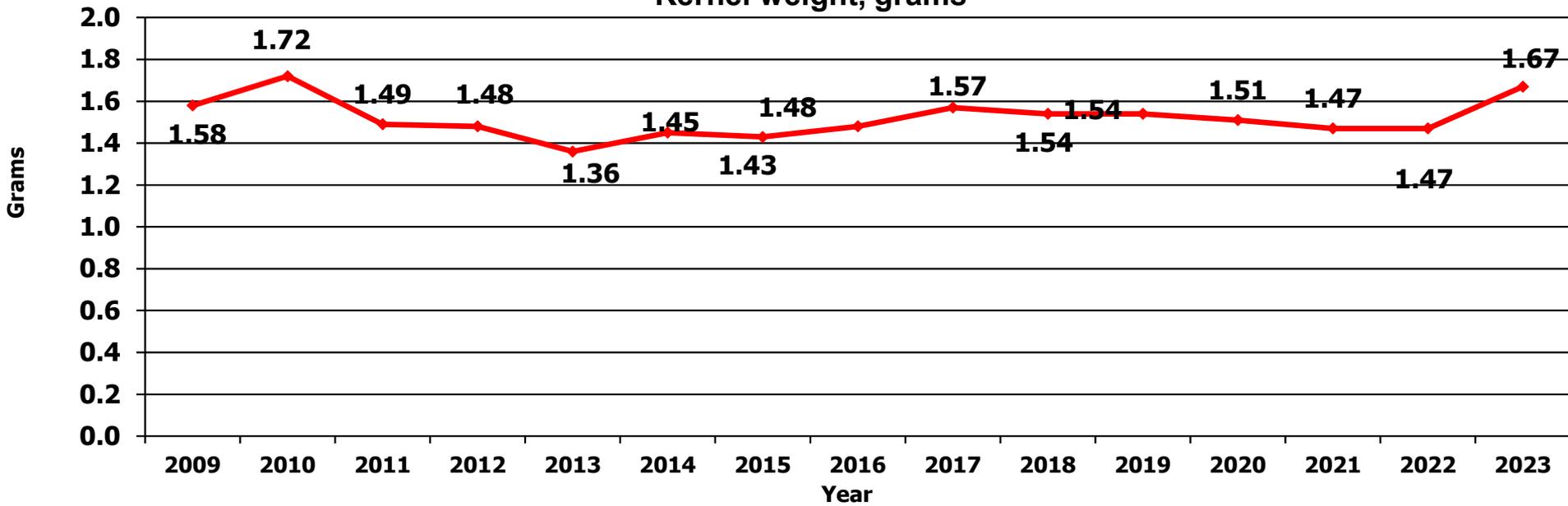
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Almond Set per Tree by Variety, 2021 - 2023

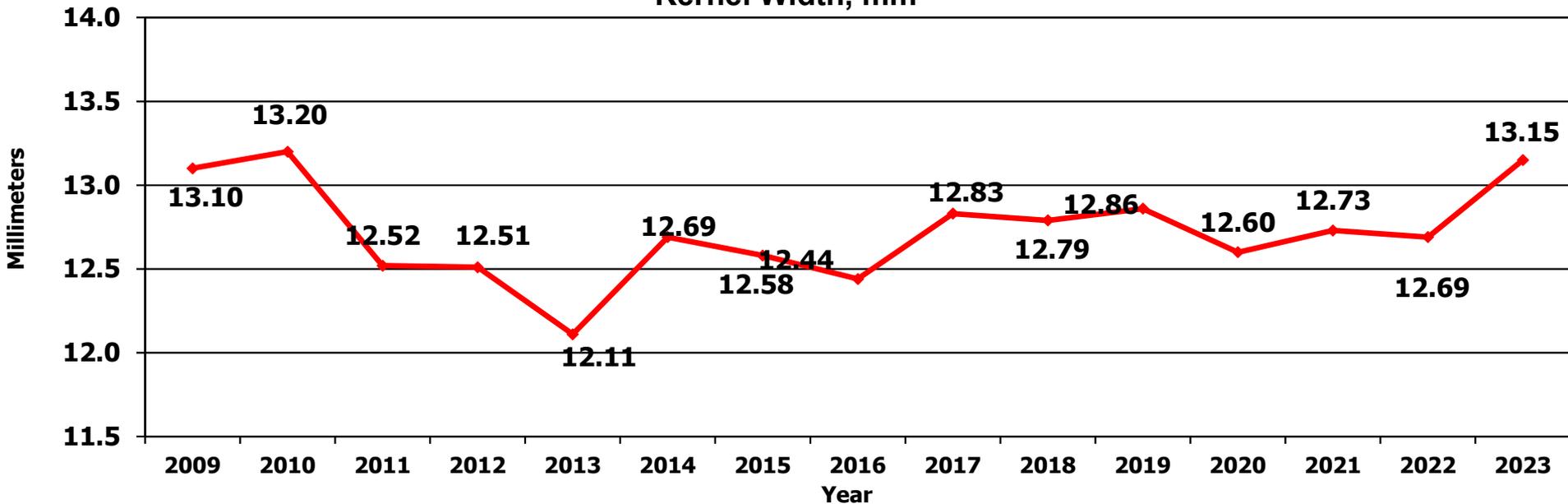
	2021	2022	2023	% Change
Butte	4,793	4,173	4,046	-3.0
Carmel	5,469	4,417	4,959	12.3
Independence	4,389	4,624	4,048	-12.5
Monterey	4,324	3,908	3,598	-7.9
Nonpareil	4,512	3,966	4,004	-
Padre	5,214	4,928	4,055	-17.7

ALMONDS

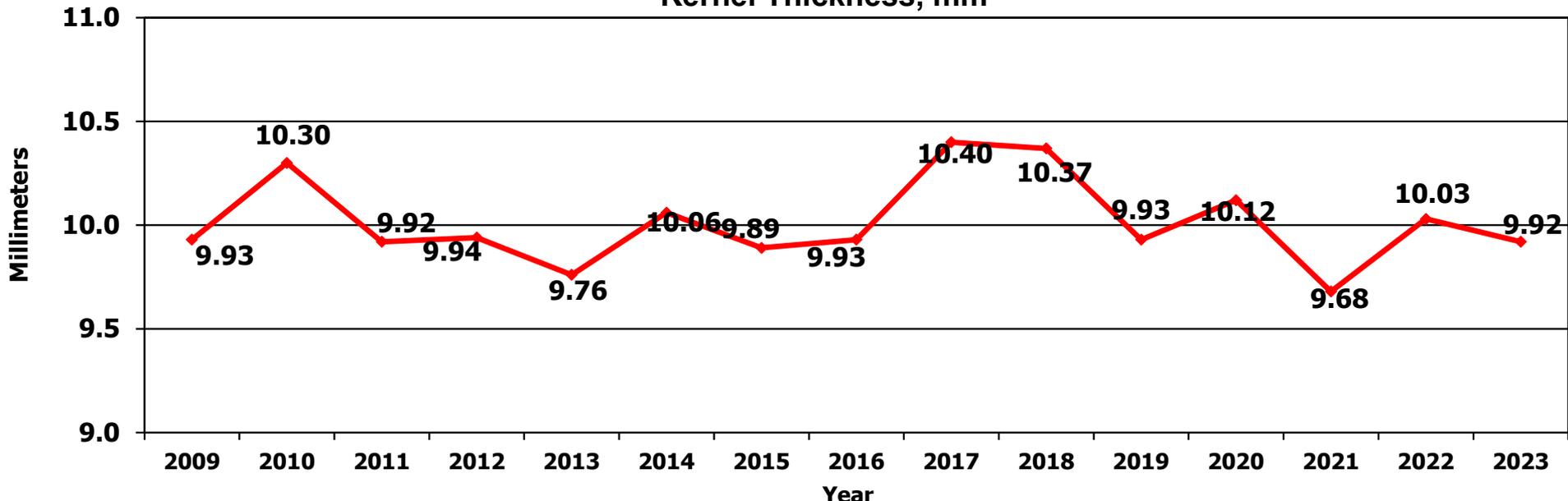
Kernel weight, grams



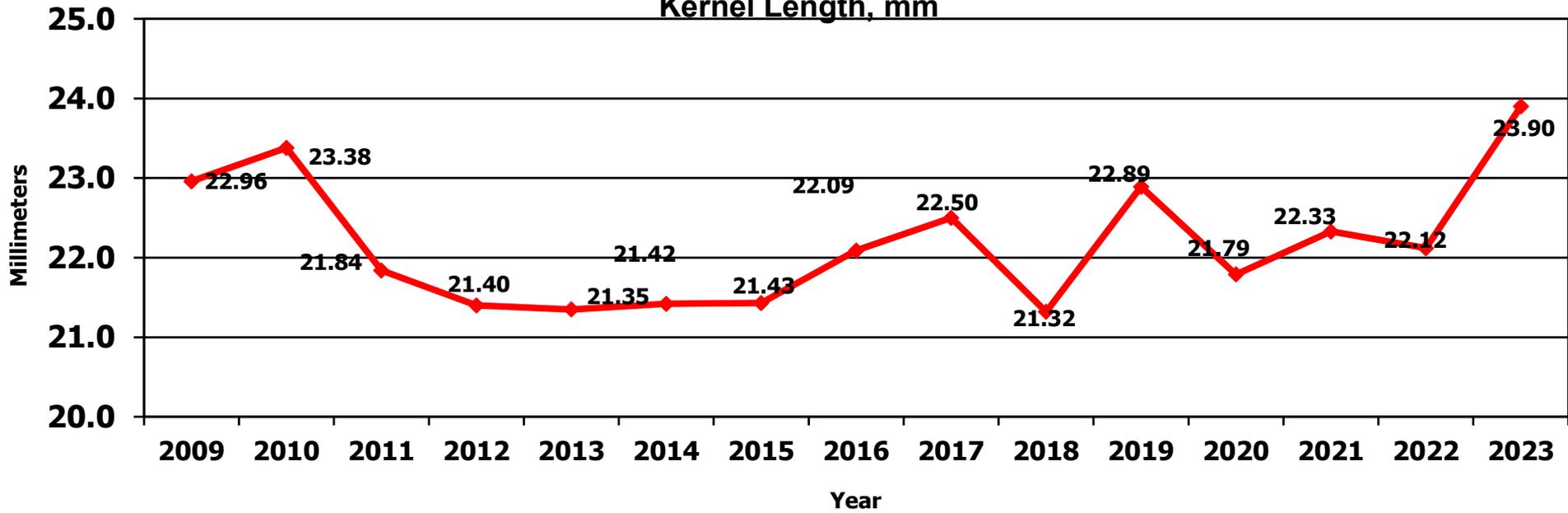
ALMONDS
Kernel Width, mm



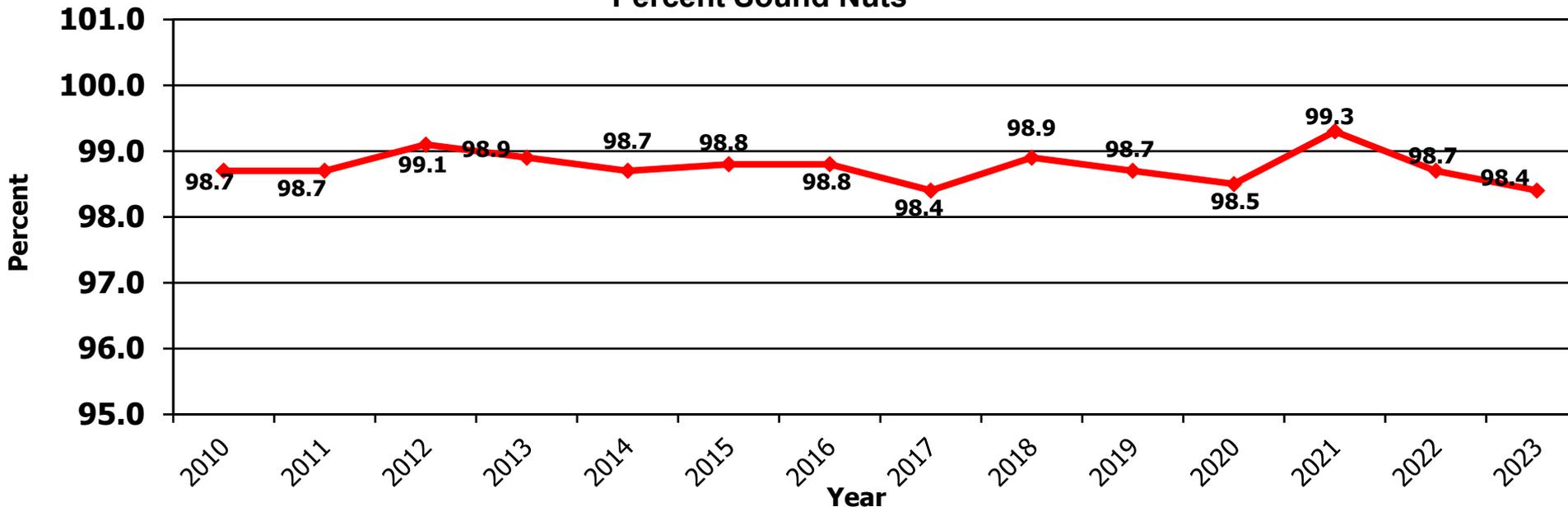
ALMONDS
Kernel Thickness, mm



ALMONDS Kernel Length, mm



ALMONDS Percent Sound Nuts





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Forecast and all Statistics Available On-line

- PRO Web: www.nass.usda.gov/ca
- NASS Web: www.nass.usda.gov
- PRO Contact: (916) 738-6600

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**Thank you to the producers who allowed us to conduct this
survey in their orchards.**



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USDA NASS Pacific Regional Office

(916) 738-6600

nassrfopcr@nass.usda.gov

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