

United States Department of Agriculture National Agricultural Statistics Service

2019 California Walnut Objective Measurement Report

Cooperating with the California Department of Food and Agriculture

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WALNUT PRODUCTION FORECAST DOWN

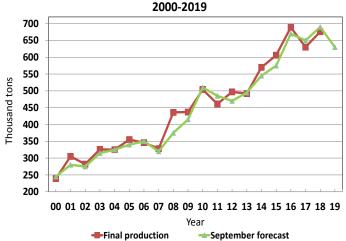
The 2019 California walnut production is forecast at 630,000 tons, down 6.8 percent from 2018's production of 676,000 tons. The forecast is based on 365,000 bearing acres, up 4.3 percent from 2018's estimated bearing acreage of 350,000.

The 2019 walnut season began with record amounts of rain during the winter and spring months. Bloom was seven to ten days later than normal. Late spring rains provided cooler conditions which increased kernel size and helped quality. Localized weather conditions have resulted in variable crop development across the state. No significant pest or disease problems have been reported. Growers applied sunburn preventative materials during the heat waves over the summer. Harvest is expected to begin during September.

Survey data indicated an average nut set per tree of 983, down 16.4 percent from 2018's average of 1,176. Percent of sound kernels in-shell was 98.9 percent statewide. In-shell weight per nut was 22.7 grams, while the average in-shell suture measurement was 32.3 millimeters. The in-shell cross-width measurement was 33.2 and the average length in-shell was 38.8 millimeters. Nearly all of the sizing measurements were above the previous year's levels.

Estimated nut sets, sizing measurements, average number of trees per acre, and estimated bearing acreage were used in the statistical models.

CALIFORNIA WALNUTS Sept. Objective Forecast vs. Final Production



SURVEY HISTORY

The Walnut O.M. Survey began in 1958 to fulfill industry needs for an accurate walnut production forecast prior to harvest. The original sample was chosen proportionally to county and variety of bearing acreage. With each succeeding year, additions and deletions have been made in the sample to adjust for acreage removed, new bearing acreage, and operations that choose not to participate in the survey.

SAMPLING PROCEDURES

The 2019 Walnut Objective Measurement (O.M.) Survey was officially conducted August 1 through August 22, 2019. There were a few samples completed before August 1 for training and scheduling purposes. There were 1,428 trees sampled from 714 orchards.

Once a block is randomly selected and permission is granted by the operation for enumerators to enter the block, two trees are randomly selected. An accessible branch is chosen which is 5-15 percent of the total cross-sectional area of the primary limbs and reachable with a twelve-foot ladder. Measurements are made on the trunk, each primary, and each split leading to and including the accessible branch. The sample tree and accessible branch are marked by a single tag, so that the same trees are sampled the following year if that orchard is selected. On the accessible branch, every nut is counted and the first of every five nuts is picked for use in size and grade determinations. If available, at least ten nuts are harvested from the accessible branch for this purpose.

The following measurements are made on nuts selected for sizing:

- 1. Weight of nut including hull
- 2. Width of shell at suture
- 3. Width of shell 90 degrees to suture line (cross-suture)
- 4. Length of shell
- 5. Kernel grade
- 6. Weight of nut in-shell

DATA RELIABILITY

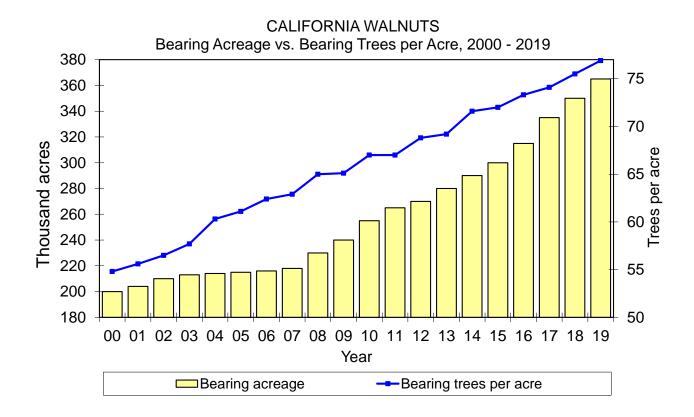
The 80 percent confidence interval is from 575,000 tons to 685,000 tons.

California English Walnut Acreage, Production, Price And Value In-Shell

Year	Bearing acres	Trees per	Per bearing acre	Total production	Price per ton	Total value
		acre	To	ons	Dollars	1,000 Dollars
2000	200,000	54.8	1.20	239,000	1,240	296,360
2001	204,000	55.6	1.50	305,000	1,120	341,600
2002	210,000	56.5	1.34	282,000	1,170	329,940
2003	213,000	57.7	1.53	326,000	1,160	378,160
2004	214,000	60.3	1.52	325,000	1,390	451,750
2005	215,000	61.1	1.65	355,000	1,570	557,350
2006	216,000	62.4	1.60	346,000	1,630	563,980
2007	218,000	62.9	1.50	328,000	2,290	751,120
2008	230,000	65.0	1.90	436,000	1,280	558,080
2009	240,000	65.1	1.82	437,000	1,710	747,270
2010	255,000	67.0	1.98	504,000	2,040	1,028,160
2011	265,000	67.0	1.74	461,000	2,900	1,336,900
2012	270,000	68.6	1.84	497,000	3,030	1,505,910
2013	280,000	69.2	1.76	492,000	3,710	1,825,320
2014	290,000	71.6	1.97	571,000	3,340	1,907,140
2015	300,000	72.0	2.02	606,000	1,670	1,012,020
2016	315,000	73.3	2.19	689,000	1,850	1,274,650
2017	335,000	74.1	1.88	630,000	2,490	1,568,700
2018 1/	350,000	75.5	1.93	676,000	1,300	878,800
2019 2/ 3/	365,000	76.9	1.73	630,000	(NA)	(NA)

^{1/} Price per ton and total value are June 2019 preliminary data.

NA Not Available



^{2/} Bearing years include plantings of the following: Chandler, Chico, Howard, Tulare (2015 & Earlier); 50-55, 59-124, 4946, Amigo, Ashley, Bardoni, Cisco, Earhorn, Grove, Gustine, Honeycutt, Houston, Jensen, Lompoc, Marchetti, Nuggett, Payne, Pedro, Serr, Sunland, Tehama, Trinta, UCD 67-13, Vina, Westside (2014 and Earlier); Franquette, Franquette Scharsch, Mayette, Placentia, Poe, Willsons/Willsons Wonder, Woodland (2012 & Earlier); all other varieties not specified (2013 & Earlier).

^{3/} Price per ton and total value preliminary data will be released June 2020.

Walnut Objective Measurement Survey Date, By District

-		Walliat Objective	<u>e weasurement Survey L</u>	ate, by District	
Measurement	Year	Coast 1/	Sacramento Valley 2/	San Joaquin Valley 3/	State 4/
In-Shell Weight	2010	20.8	22.5	19.3	21.3
(gm)	2011	20.6	25.1	21.3	23.6
,	2012	17.6	23.7	19.8	22.1
	2013	19.5	24.9	20.8	23.3
	2014	17.2	22.6	19.2	21.2
	2015	19.6	24.0	20.8	22.7
	2016	19.2	22.7	19.5	21.6
	2017	20.2	24.0	22.4	23.4
	2018	20.7	23.7	20.5	22.3
	2019	23.0	23.8	21.2	22.7
In-Shell Width	2010	32.1	32.1	32.1	32.1
(mm)	2011	31.6	32.8	32.6	32.7
()	2012	30.5	32.3	32.0	32.1
	2013	31.3	33.3	32.8	33.1
	2014	30.6	32.8	32.2	32.5
	2015	31.6	33.0	32.6	32.8
	2016	31.3	32.1	32.3	32.2
	2017	31.3	32.5	33.3	32.7
	2017	31.7	32.0	32.9	32.3
	2019	31. <i>1</i> 32.1	31.9	32.7	
In Chall Cross Width					32.3
In-Shell Cross-Width	2010	31.6	32.2	32.0	32.1
(mm)	2011	31.3	33.3	32.9	33.1
	2012	30.5	32.9	32.3	32.6
	2013	30.6	33.0	33.4	33.1
	2014	30.7	32.3	32.7	32.4
	2015	31.9	32.7	33.0	32.8
	2016	31.4	32.8	32.7	32.7
	2017	31.1	33.1	33.9	33.3
	2018	31.9	32.9	33.4	33.1
	2019	32.6	33.0	33.4	33.2
In-Shell Length	2010	39.8	38.4	38.7	38.5
(mm)	2011	39.0	39.4	39.3	39.4
	2012	36.9	38.7	38.4	38.5
	2013	37.8	39.1	38.8	39.0
	2014	36.6	38.1	38.1	38.1
	2015	38.4	38.6	38.4	38.5
	2016	37.9	38.1	38.4	38.2
	2017	38.4	38.2	39.4	38.6
	2018	37.9	37.8	38.5	38.1
	2019	39.7	38.6	39.0	38.8
Kernel Grade -	2010	98.9	97.8	97.8	97.8
Percent Sound	2011	99.4	98.2	99.6	98.7
	2012	97.2	97.5	99.1	98.0
	2013	97.9	98.8	99.0	98.8
	2014	99.0	98.5	99.0	98.7
	2015	99.0	97.8	99.6	98.5
	2016	93.4	98.4	99.5	98.7
	2017	97.2	97.5	99.4	98.1
	2018	98.0	98.9	98.7	98.8
	2019	97.9	98.6	99.2	98.9
Nuts Set Per Tree	2010	1,263	2,047	1,313	1,690
	2011	1,594	1,606	1,119	1,388
	2012	1,461	1,582	1,120	1,375
	2013	857	1,402	1,050	1,239
	2014	1,021	1,509	1,214	1,372
	2015	851	1,355	1,164	1,272
	2016	950	1,561	1,215	1,406
	2017	879	1,302	938	1,141
	2017	1,055	1,166	1,196	1,176
	2018	808	935	1,056	983
			San Benito, San Luis Ohisno, Sa		

Coast includes: Contra Costa, Lake, Monterey, Napa, San Benito, San Luis Obispo, Santa Clara, and Sonoma counties.
Sacramento Valley includes: Butte, Colusa, El Dorado, Glenn, Sacramento, Solano, Sutter, Tehama, Yolo, and Yuba counties.

^{3/} San Joaquin Valley includes: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties.
4/ District and State averages are derived by weighting county averages by county bearing acreage figures.

Walnut Objective Measurement Survey Date, By Variety

In-Shell Weight 2010						ive Measu	<u> </u>	. our roy		, . u	•,			
	Measurement	Year	Ashley 1/	Chandler	Eureka	Franquette	Hartley	Howard	Payne	Serr	Tehama 1/	Tulare	Vina	Other
	In-Shell Weight	2010	18.5	21.7	19.7	20.4	23.4	21.9	18.1	16.8	18.9	22.1	18.7	18.0
	(gm)	2011	21.0	23.7	20.4	20.4	25.7	23.5	20.3	20.5	19.9	23.6	21.1	21.5
Part	1		18.6	22.8	20.8	18.9	23.6		18.3	18.3	20.7	21.4	19.9	20.5
		2013							18.9	17.8	20.6	22.6	21.4	18.5
	1													20.5
	1													22.3
Mathematical Color	1													18.8
March	1													19.0
In-Shell Width	1													17.0
In-Shell Width														19.4
Mmm	In Chall \\/;dth													
Part														30.3
2013 22.8 31.9 31.3 33.5 33.4 33.1 33.4 33.0 34.8 31.8 34.8	(mm)													31.2
December Color C														31.1
2015 32.1 32.6 31.1 31.6 33.5 32.9 32.9 32.8 31.7 34.3 31.3 3.2 31.5 31.9 31.9 31.8 31.0 33.2 31.4 33.3 32.6 33.2 33.3 34.8 32.1 33.5 32.0 32.1 31.0 32.2 31.3 34.0 33.5 34.1 30.5 32.0 33.1 33.6 33.6 32.2 33.3 34.8 32.1 33.6 32.0 33.1 33.6 33.6 33.2 33.3 34.8 32.1 33.5 32.0 33.1 33.6 33.6 33.2 33.3 34.8 32.1 33.6 33.5 34.1 30.5 33.6 33.2 33.4 33.5 34.1 30.5 33.6 33.6 33.2 33.4 33.0 33.5 33.4 33.6 33.6 33.2 33.4 33.6 33.6 33.2 33.4 33.6 33.6 33.2 33.4 33.6 33.6 33.2 33.4 33.6 33.6 33.2 33.4 33.6														30.5
2016	1													31.6
2017 32.2 32.6 31.7 30.3 32.2 31.9 32.2 33.2 33.3 34.8 32.1 3 32.0 33.5 33.5 33.5 34.8 32.1 3 32.5 33.5														32.5
2018		2016	31.9	31.9	31.8	31.0	33.2	31.4	33.3	32.6	32.7	33.6	31.2	31.1
In-Shell 2010		2017	32.2	32.6	31.7	30.3	33.2	31.9	32.2	33.2	33.3	34.8	32.1	30.9
In-Shell		2018		32.1	31.0	30.7	32.9	31.3	34.0	33.5		34.1	30.5	30.2
Cross-Width 2011 31.9 33.3 31.5 30.5 33.4 33.0 32.8 32.2 32.3 34.6 31.7 32 31.7 32.1 33.3 31.2 33.6 33.5 33.5 32.8 32.6 33.2 32.8 32.6 33.3 31.2 33.3 33.6 33.5 32.8 32.2 32.5 31.5 30.2 33.9 31.8 33.5 32.6 33.0 32.3 32.4 31.3 34.3 32.0 33.3 32.4 33.3 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 33.0 33.0 32.3 33.0 33.0 32.5 32.8 32.2 32.6 34.9 33.0 33.0 32.3 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.2 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.5 32.8 32.2 32.5 32.5 32.8 32.2 32.5 32.5 32.5 32.8 32.2 32.5 32.5 32.8 32.2 32.5 32.5 32		2019		31.8	33.6	30.8	32.9	31.8	33.1	33.6		34.5	32.7	31.9
Cross-Width 2011 31.9 33.3 31.5 30.5 33.4 33.0 32.8 32.2 32.3 34.6 31.7 32 31.7 32.1 33.3 31.2 33.6 33.5 33.5 32.8 32.6 33.2 32.8 32.6 33.3 31.2 33.3 33.6 33.5 32.8 32.2 32.5 31.5 30.2 33.9 31.8 33.5 32.6 33.0 32.3 32.4 31.3 34.3 32.0 33.3 32.4 33.3 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 33.0 33.0 32.3 33.0 33.0 32.5 32.8 32.2 32.6 34.9 33.0 33.0 32.3 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.2 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.8 32.2 32.5 32.5 32.8 32.2 32.5 32.5 32.8 32.2 32.5 32.5 32.5 32.8 32.2 32.5 32.5 32.8 32.2 32.5 32.5 32	In-Shell	2010	31.4	32.2	31.0	31.0	32.4	32.5	31.7	31.0	31.5	34.1	30.8	30.8
(mm) 2012 31.3 32.9 31.2 30.6 32.6 33.2 31.9 31.7 32.1 33.3 31.2 32.6 33.2 2013 32.4 33.0 33.0 33.0 33.0 33.6 33.5 32.8 32.6 33.2 33.8 32.6 33.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.2 32.6 32.8 32.8 32.8 32.2 32.6 32.8 32.8 32.8 32.2 32.6 32.8 32.8 32.8 32.8 32.8 32.8 32.8 32.8														31.7
2013 32.4 33.0 33.0 33.0 33.0 33.0 33.0 33.5 32.8 32.6 34.8 32.4 32.0 33.0 2015 32.2 32.7 32.1 31.5 33.5 32.6 33.0 32.3 33.5 32.6 33.0 33.9 31.8 31.8 31.6 33.0 33.0 32.3 32.5 31.5 30.2 33.9 31.8 31.6 33.0 33.0 32.7 31.7 32.2 33.5 32.0 33.3 20.1 33.1 33.5 32.8 32.2 32.6 34.9 33.0 33.0 32.7 31.7 32.2 32.6 34.9 33.0 33.0 32.7 31.7 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 32.3 32.8 32.2 32.6 34.9 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 33.0 32.3 32.8 32.2 32.6 34.9 33.0 32.3 32.8 32.2 32.6 33.0 33.0 32.3 32.8 32.2 32.6 33.0 33.0 32.3 32.8 32.2 32.6 33.0 33.0 32.3 32.8 32.2 32.6 33.0 33.0 32.3 32.8 32.2 32.6 32.8 32.2 32.6 32.8 32.2 32.6 32.8 32.2 32.0 32.8 32.2 32.0 32.3 32.8 32.2 32.2 32.2 32.2	(mm)	2012	31.3	32.9	31.2		32.6		31.9	31.7	32.1	33.3	31.2	31.9
2014 31.0 32.4 32.2 30.9 33.0 32.3 32.5 31.5 30.2 33.9 31.8 32.0 33.0 32.6 33.0 32.4 31.3 34.3 32.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 32.1 33.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 32.1 33.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 32.1 33.0 33.0 32.8 32.2 32.6 34.9 33.0 33.0 32.0 33.0	. ,													30.8
2015 32.2 32.7 32.1 31.5 33.5 32.6 33.0 32.4 31.3 34.3 32.0 33.0 32.0 31.7 32.2 33.5 32.0 33.0 33.4 32.0 33.1 33.5 32.8 32.8 32.8 32.2 32.6 34.9 33.0 33.4 32.0 33.1 33.5 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 32.8 32.8 32.2 32.6 34.9 33.0 33.0 32.8 33.9 33.0														30.7
2016 31.7 32.8 31.8 31.6 33.0 33.0 32.7 31.7 32.2 33.5 32.0 33.0 33.4 32.0 33.4 32.0 33.1 33.5 32.8 32.2 32.6 34.9 33.0 33.0 33.1 33.1 33.1 33.5 32.8 32.2 32.6 34.9 33.0 33.0 33.0 34.1 32.9														32.5
2017 33.0 33.4 32.0 31.1 33.5 32.8 32.2 32.6 34.9 33.0 33.0 33.0 33.1 33.1 33.0 33.0 33.0 33.1 33.0 33.0 33.0 33.1 33.0														32.4
2018	1													32.1
In-Shell Length (mm)														31.6
In-Shell Length (mm)	1													33.4
(mm) 2011 38.0 39.5 43.6 37.8 40.5 37.1 39.3 38.6 37.8 39.4 38.7 33. 2012 37.3 38.6 45.0 36.7 39.4 37.2 38.7 37.6 37.8 38.8 38.0 38.2 2014 36.7 38.2 42.6 37.1 39.3 36.7 40.4 36.5 36.3 38.1 37.7 38.2 2015 36.9 38.9 41.6 36.9 39.5 37.3 39.0 36.7 40.4 36.5 36.3 38.1 37.7 38.2 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.8 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.8 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.8 2018 2019 2018 38.7 41.3 37.2 40.1 36.0 39.7 37.0 37.3 39.2 39.0 38.2 2018 2019 2019 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 2019 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 2019 38.9 38.9 36.0 41.0 37.4 2019 38.4 99.5 99.9 98.4 98.2 96.7 96.1 96.3 95.1 97.3 95.2 99.9 2012 94.6 98.8 100.0 96.7 98.2 98.2 99.7 97.7 97.5 99.5 99.1 99.1 2012 94.6 98.8 100.0 96.9 97.6 97.0 94.9 96.9 98.7 98.3 98.3 98.0 99.2 2012 94.6 98.8 99.8 99.7 98.6 98.2 93.5 98.1 99.3 98.3 98.0 99.2 2015 95.7 99.1 100.0 96.3 97.1 98.4 100.0 97.7 96.7 99.3 98.9 99.0 99.2 2015 95.7 99.1 100.0 96.3 97.1 98.4 100.0 97.7 97.7 97.5 99.3 98.9 99.3 99.0 99.7 97.5 98.3 98.1 99.9 99.0 99.7 97.5 98.5 99.0 99.9 99.1 99.1 99.3 99.0 99.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.0 99.7 97.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.0 99.7 97.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.3 99.0 99.7 97.5 98.3 98.1 99.9 99.0 99.7 97.5 98.3 98.7 98.6 99.8 99.7 98.6 99.8 99.7 97.7 97.7 97.5 98.3 98.1 99.9 99.0 99.7 97.5 98.3 98.7 2019 2017 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.1 99.3 99.0 99.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.0 99.7 97.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.0 99.7 97.7 97.7 97.5 98.3 98.0 99.9 99.0 99.7 97.7 97.5 98.3 98.0 99.9 99.1 99.1 99.3 99.1 99.3 99.0 99.7 97.7 97.5 98.5 99.9 99.1 99.1 99.1 99.1 99.1 99.3 99.0 99.7 97.7 97.7 97.5 98.5 99.9 99.1 99.1 99.1 99.1 99.1 9	la Oball Lavanth													
2012 37.3 38.6 45.0 36.7 39.4 37.2 38.7 37.6 37.8 38.8 38.0 33.0 39.1 37.0 39.3 42.2 38.5 39.8 37.6 38.4 37.1 37.3 39.0 38.2 33.5 39.8 37.6 38.4 37.1 37.3 39.0 38.2 33.4 2015 36.9 38.9 41.6 36.9 39.5 37.3 39.0 36.0 35.7 38.4 37.8 47.1 37.3 39.0 38.2 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.7 33.1 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.8 38.1 2017 38.7 38.7 41.3 37.2 40.1 36.0 39.7 37.0 37.3 39.2 39.0 39.0 39.0 39.0 39.0 39.0 39.0 39.0	ŭ													38.8
2013 37.0 39.3 42.2 38.5 39.8 37.6 38.4 37.1 37.3 39.0 38.2 33.2 2014 36.7 38.2 42.6 37.1 39.3 36.7 40.4 36.5 36.3 38.1 37.7 38.3 2015 36.9 38.9 41.6 36.9 39.5 37.3 39.0 36.0 35.7 38.4 37.8 4 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.8 37.8 2017 38.7 38.7 41.3 37.2 40.1 36.0 39.7 37.0 37.3 39.2 39.0 33.2 2018 38.5 41.6 36.9 38.9 36.0 41.0 37.4 37.8 37.5 39.0 2019 38.5 41.6 36.9 38.9 36.0 41.0 37.4 37.8 37.5 39.6 39.1 39.9 36.7 41.6 37.9 39.3 39.6 37.5 39.6 39.1 39.9 36.7 41.6 37.9 39.3 39.6 37.5 39.1 39.9 36.7 41.6 37.9 39.3 39.6 37.5 39.1 39.9 36.7 41.6 37.9 39.9 39.6 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.1 39.0 39.0 39.1 39.0 39.0 39.0 39.0 39.0 39.0 39.0 39.0	(mm)													39.2
2014 36.7 38.2 42.6 37.1 39.3 36.7 40.4 36.5 36.3 38.1 37.7 33.2 2015 36.9 38.9 41.6 36.9 39.5 37.3 39.0 36.0 35.7 38.4 37.8 44. 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 37.7 37. 2017 38.7 38.7 41.3 37.2 40.1 36.0 39.7 37.0 37.3 39.2 39.0 36. 2018 38.5 41.6 36.9 38.9 36.0 41.0 37.4 37.8 37.5 38. 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 39.3 39.6 37. Kernel Grade - 2010 98.4 98.5 99.9 98.4 98.2 96.7 96.1 96.3 95.1 97.3 95.2 99.1 99. Percent Sound 2011 95.5 99.3 100.0 96.7 98.2 98.2 99.7 97.7 97.5 99.5 99.1 99. 2012 94.6 98.8 100.0 96.9 97.6 97.0 94.9 96.9 98.7 98.3 98.0 99. 2014 99.2 98.8 99.8 99.7 98.6 98.2 93.5 98.1 99.3 98.5 99.0 99. 2015 95.7 99.1 100.0 96.3 97.1 98.4 100.0 97.7 96.7 99.1 99.1 99. 2016 94.1 99.4 98.8 97.0 97.4 98.6 98.3 98.1 99.9 99.0 99.7 97.2 98.5 97.4 95.7 97.5 98.3 98.1 99.9 99.0 99.7 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 97.5 98.3 98.0 99. 2016 94.1 99.4 98.8 97.0 97.4 98.6 98.3 97.7 97.7 91.5 98.3 98.0 99.7 99.1 99.0 90.2 99.9 99.1 99.3 97.3 98.7 98.1 98.3 98.0 99. 2017 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 91.5 98.3 98.0 99.9 99.0 99.7 97.0 97.9 97.9 97.9 97	1													39.4
2015 36.9 38.9 41.6 36.9 39.5 37.3 39.0 36.0 35.7 38.4 37.8 44 2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 38.1 39.0 36.0 37.3 39.2 39.0 36.8 37.3 38.3 38.1 38.1 39.0 36.0 40.7 36.8 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.0 37.3 39.2 39.0 37.5 39.0 37.0 37.3 39.2 39.0 37.5 39.0 37.0 37.3 39.2 39.0 37.5 39.0 37.0 37.3 39.2 39.0 39.0 39.0 39.0 39.0 39.0 39.0 39.0	1													37.5
2016 37.1 38.3 42.9 37.6 39.2 36.4 40.7 36.8 37.3 38.3 38.1 38.2 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.7 38.8 38.7 38.8 38.1 38.9 38.0 38.7 37.0 37.3 39.2 39.0 38.7 37.0 37.3 39.2 39.0 38.7 37.0 37.3 39.2 39.0 38.7 37.6 37.8 37.5 38.7 37.8 37.5 38.7 37.8 37.5 38.7 37.8 37.5 38.7 37.8 37.5 38.7 37.8 37.5 38.7 37.8 37.5 38.7 37.8 37.5 38.7 38.9 38.9 38.9 38.9 38.9 38.9 38.9 39.6 37.8 37.9 37.9 39.5 39.1 39.9 38.7 38.1 39.9 36.7 41.6 37.9 39.3 39.6 39.5 39.1 39.9 36.7 41.6 37.9 39.3 39.6 39.1 39.2 38.9 39.3 39.2 39	1													37.1
2017 38.7 38.7 41.3 37.2 40.1 36.0 39.7 37.0 37.3 39.2 39.0 38.9 36.0 41.0 37.4 37.8 37.5 38.5 38.9 38.9 36.0 41.0 37.4 37.8 37.5 38.5 38.9 38.9 36.7 41.6 37.9 37.8 37.5 38.5 38.9 38.9 36.7 41.6 37.9 39.3 39.6 38.9 38.9 36.7 41.6 37.9 39.3 39.6 38.9 39.6 38.9 36.7 41.6 37.9 39.3 39.6 38.9 39.6 37.9 39.8 39.6	1													40.2
2018														38.4
Nuts Set Per Tree 2010 2019 38.9 41.2 38.1 39.9 36.7 41.6 37.9 39.3 39.6 39.7 39.6 39.6 39.6 39.7 39.6 39.6 39.7 39.6 39.6 39.7 39.6 39	1	2017	38.7	38.7	41.3	37.2	40.1	36.0	39.7	37.0	37.3	39.2	39.0	37.0
Kernel Grade - Percent Sound 2010 98.4 98.5 99.9 98.4 98.2 96.7 96.1 96.3 95.1 97.3 95.2 98.2 Percent Sound 2011 95.5 99.3 100.0 96.7 98.2 98.2 99.7 97.7 97.5 99.5 99.1 99.0 2013 95.4 99.4 99.9 98.9 98.7 98.4 95.7 97.8 99.3 98.5 99.0 99.1 99.0 99.1 99.1 99.0 99.7 99.1 99.0 99.7 98.6 98.3 98.1 99.9 99.1 99.0 99.7 99.0 99.7 97.5 98.3 98.1 99.9 99.7 97.5 98.3 98.7 99.7 97.7 91.5 98.3	1			38.5	41.6		38.9		41.0					35.8
Percent Sound 2011 95.5 99.3 100.0 96.7 98.2 98.2 99.7 97.7 97.5 99.5 99.1 99.1 2012 94.6 98.8 100.0 96.9 97.6 97.0 94.9 96.9 98.7 98.3 98.0 99.0 2013 95.4 99.4 99.9 98.9 98.7 98.4 95.7 97.8 99.3 98.5 99.0 98.2 2014 99.2 98.8 99.8 99.7 98.6 98.2 93.5 98.1 99.3 98.9 99.3 98.9 2015 95.7 99.1 100.0 96.3 97.1 98.4 100.0 97.7 96.7 99.1 99.1 99.1 2016 94.1 99.4 98.8 97.0 97.4 98.6 98.3 98.1 99.9 99.0 99.7 98.0 99.7 97.7 97.7 97.7 97.5 98.3 98.0 99.0 99.7 97.0 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 97.7 91.5 98.3 98.0 99.0 99.1 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.2 2019 98.8 100.0 99.8 98.8 98.2 98.0 99.8 99.5 99.9 99.9 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.9 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.8 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.8 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.8 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.8 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.6 98.8 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.0 99.0 99.8 98.8 98.8 98.2 98.0 99.8 99.5 99.9 99.1 99.1 99.3 97.3 98.7 98.1 98.0 99.0 99.8 98.8 98.8 98.2 98.0 99.8 98.7 98.1 98.0 99.8 98.0 99.8 98.0 99.8 99.8 99.0 99.8 99.0 99.0		2019		38.9	41.2	38.1	39.9	36.7	41.6	37.9		39.3	39.6	37.7
2012 94.6 98.8 100.0 96.9 97.6 97.0 94.9 96.9 98.7 98.3 98.0 99.0 92.1 95.4 99.4 99.9 98.9 98.7 98.4 95.7 97.8 99.3 98.5 99.0 98.5 99.0 98.5 99.0 98.5 99.0 98.5 99.0 98.5 99.0 99.5 99.1 99.1 100.0 96.3 97.1 98.4 100.0 97.7 96.7 99.1 99.1 99.1 99.1 99.1 99.1 99.1 99	Kernel Grade -	2010	98.4	98.5	99.9	98.4	98.2	96.7	96.1	96.3	95.1	97.3	95.2	98.3
2013 95.4 99.4 99.9 98.9 98.7 98.4 95.7 97.8 99.3 98.5 99.0 98.9 2014 99.2 98.8 99.8 99.7 98.6 98.2 93.5 98.1 99.3 98.9 99.3 98.9 99.3 98.9 2015 95.7 99.1 100.0 96.3 97.1 98.4 100.0 97.7 96.7 99.1 99.1 99.1 99.1 2016 94.1 99.4 98.8 97.0 97.4 98.6 98.3 98.1 99.9 99.0 99.7 99.1 2017 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 91.5 98.3 98.0 99.2 2018 99.0 90.2 99.9 99.1 99.3 97.3 98.7 98.1 98.6 99.2 2019 98.8 100.0 99.8 98.8 98.2 98.0 99.8 99.5 99.9 99.9 99.1 10.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Percent Sound	2011	95.5	99.3	100.0	96.7	98.2	98.2	99.7	97.7	97.5	99.5	99.1	97.9
2014 99.2 98.8 99.8 99.7 98.6 98.2 93.5 98.1 99.3 98.9 99.3 99.3 99.5 99.1 99.2 99.2 99.3 99.3 99.3 99.3 98.3 98.1 99.9 99.0 99.7 99.2 99.3 99.1 99.3 97.7 97.7 91.5 98.3 98.0 99.2 99.9 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.5 99.9 99.0 99.8 99.0 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99		2012	94.6	98.8	100.0	96.9	97.6	97.0	94.9	96.9	98.7	98.3	98.0	97.3
2014 99.2 98.8 99.8 99.7 98.6 98.2 93.5 98.1 99.3 98.9 99.3 99.3 99.5 99.1 99.2 99.2 99.3 99.3 99.3 99.3 98.3 98.1 99.9 99.0 99.7 99.2 99.3 99.1 99.3 97.7 97.7 91.5 98.3 98.0 99.2 99.9 99.1 99.3 97.3 98.7 98.1 98.6 98.2 98.0 99.8 99.5 99.9 99.1 99.5 99.9 99.0 99.8 99.0 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99.0 99.8 99		2013	95.4	99.4	99.9	98.9	98.7	98.4	95.7	97.8	99.3	98.5	99.0	98.1
2015 95.7 99.1 100.0 96.3 97.1 98.4 100.0 97.7 96.7 99.1 99.1 99.1 99.1 90.1 90.1 90.1 90.1														98.9
2016 94.1 99.4 98.8 97.0 97.4 98.6 98.3 98.1 99.9 99.0 99.7 99.7 2017 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 91.5 98.3 98.0 99.0 2018 99.0 90.2 99.9 99.1 99.3 97.3 98.7 98.1 98.6 99.2 2019 98.8 100.0 99.8 98.8 98.2 98.0 99.8 99.5 99.9 99.1 10.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0														97.7
2017 97.2 98.5 97.4 95.7 97.5 98.3 97.7 97.7 91.5 98.3 98.0 99.0 90.2 99.9 99.1 99.3 97.3 98.7 98.1 98.6 99.0 90.2 99.9 99.1 99.3 97.3 98.7 99.5 99.9 99.0 99.1 99.8 98.8 98.2 98.0 99.8 99.5 99.9 99.0 99.0 99.0 99.0 99.0 99.0														92.2
2018 99.0 90.2 99.9 99.1 99.3 97.3 98.7 98.1 98.6 99.9 2019 98.8 100.0 99.8 98.8 98.2 98.0 99.8 99.5 99.9 99.9 Nuts Set Per Tree 2010 2,630 1,683 1,165 1,891 2,076 1,609 1,294 1,647 1,383 1,000 1,407 1,7 2011 1,093 1,415 1,052 1,670 1,840 1,272 906 1,129 721 1,065 1,197 9 2012 1,535 1,344 1,373 1,710 1,750 1,020 1,175 1,298 1,627 1,239 1,195 1,5 2013 1,966 1,229 1,786 832 1,525 1,192 1,032 1,089 1,312 908 1,196 1,0 2014 2,380 1,338 1,274 2,360 1,615 1,137 2,165 1,399 2,864 1,054 1,313 88 2015 2,082 1,263 1,580 2,673 1,537 994 1,613 1,431 911 1,048 1,062 9 2016 1,781 1,446 996 3,332 1,806 1,070 1,510 1,292 1,136 1,076 1,262 1,0 2017 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,1 2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,7														94.2
Nuts Set Per Tree														93.7
Nuts Set Per Tree 2010 2,630 1,683 1,165 1,891 2,076 1,609 1,294 1,647 1,383 1,000 1,407 1,7 2011 1,093 1,415 1,052 1,670 1,840 1,272 906 1,129 721 1,065 1,197 9 2012 1,535 1,344 1,373 1,710 1,750 1,020 1,175 1,298 1,627 1,239 1,195 1,5 2013 1,966 1,229 1,786 832 1,525 1,192 1,032 1,089 1,312 908 1,196 1,00 1,0														98.7
2011 1,093 1,415 1,052 1,670 1,840 1,272 906 1,129 721 1,065 1,197 98 2012 1,535 1,344 1,373 1,710 1,750 1,020 1,175 1,298 1,627 1,239 1,195 1,5 2013 1,966 1,229 1,786 832 1,525 1,192 1,032 1,089 1,312 908 1,196 1,0 2014 2,380 1,338 1,274 2,360 1,615 1,137 2,165 1,399 2,864 1,054 1,313 8 2015 2,082 1,263 1,580 2,673 1,537 994 1,613 1,431 911 1,048 1,062 9 2016 1,781 1,446 996 3,332 1,806 1,070 1,510 1,292 1,136 1,076 1,262 1,0 2017 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,1 2018	Nute Set Der Tree													1,729
2012 1,535 1,344 1,373 1,710 1,750 1,020 1,175 1,298 1,627 1,239 1,195 1,5 2013 1,966 1,229 1,786 832 1,525 1,192 1,032 1,089 1,312 908 1,196 1,0 2014 2,380 1,338 1,274 2,360 1,615 1,137 2,165 1,399 2,864 1,054 1,313 8 2015 2,082 1,263 1,580 2,673 1,537 994 1,613 1,431 911 1,048 1,062 9 2016 1,781 1,446 996 3,332 1,806 1,070 1,510 1,292 1,136 1,076 1,262 1,0 2017 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,1 2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,7	INGLE OF FEI 1188		-			•		•		•				
2013			-			•		•						984
2014 2,380 1,338 1,274 2,360 1,615 1,137 2,165 1,399 2,864 1,054 1,313 8 2015 2,082 1,263 1,580 2,673 1,537 994 1,613 1,431 911 1,048 1,062 9 2016 1,781 1,446 996 3,332 1,806 1,070 1,510 1,292 1,136 1,076 1,262 1,0 2017 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,1 2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,7			-			•		-	-					1,532
2015 2,082 1,263 1,580 2,673 1,537 994 1,613 1,431 911 1,048 1,062 9 2016 1,781 1,446 996 3,332 1,806 1,070 1,510 1,292 1,136 1,076 1,262 1,0 2017 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,1 2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,7														1,056
2016 1,781 1,446 996 3,332 1,806 1,070 1,510 1,292 1,136 1,076 1,262 1,070 1,510 1,292 1,136 1,076 1,262 1,070 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,170 2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,770 1,180														888
2017 1,543 1,194 947 2,048 1,491 1,032 724 993 486 748 774 1,1 2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,7			-			•								977
2018 1,125 1,602 1,564 1,551 960 972 1,310 1,180 1,182 1,7			-			•		•						1,052
			1,543			•					486			1,123
2019 1,071 1,052 1,284 1,077 719 804 659 837 970 1.2							1,551			1,310		1,180	1,182	1,762
, , , , , , , , , , , , , , , , , , , ,		2019		1,071	1,052	1,284	1,077	719	804	659		837	970	1,273

 $^{^{1/}}$ Beginning in 2018, the Ashley and Tehama varieties were included in "Other" and not published separately.

Percentage Distribution of Walnut Shell Suture Size, by District, and Variety

	reicentage Distribution of Walliut Sile																				t, u	···a	• aii	CLy							
												U	J.S. Standards Size Intervals													T					
District and Variety	y 2015					2016						2017						2018							2019						
	Mth .	Jmb	Lge	Med	Bby	Oth	Mth .	Jmb	Lge	Med	Bby	Oth	Mth .	Jmb	Lge	Med	Bby	Oth	Mth .	Jmb	Lge	Med	Bby	Oth	Mth .	Jmb	Lge	Med	Bby	Oth	
														Perc	ent c	of Tot	al ² -														
DISTRICTS:																															
Coast	0	58	22	12	7	1	0	42	25	19	13	0	0	43	21	16	19	1	0	50	19	21	10	0	0	60	17	17	6	0	
Sacramento Vly.	1	73	14	8	4	0	0	61	20	13	5	0	1	65	16	11	8	0	0	57	20	14	8	1	0	55	20	16	8	1	
San Joaquin Vly.	1	63	19	11	6	0	0	59	21	14	5	0	1	77	13	7	1	0	1	69	18	9	3	0	2	65	18	12	4	0	
VARIETIES:																															
Ashley 3/	0	62	16	12	10	1	0	52	25	13	10	0	2	55	22	11	10	0													
Chandler	0	67	18	10	4	0	0	56	24	15	5	0	0	68	16	10	5	0	0	60	22	13	5	0	0	53	23	17	7	0	
Eureka	0	35	37	16	11	0	0	43	32	13	12	1	0	50	30	8	12	1	0	28	28	32	12	0	0	72	18	11	0	0	
Franquette	0	55	20	12	12	0	0	34	23	32	12	0	0	26	20	29	25	0	0	29	19	35	16	1	0	42	18	17	18	5	
Hartley	1	80	11	5	3	0	0	80	11	6	3	0	0	79	11	7	3	0	0	71	16	9	4	0	0	74	14	8	4	0	
Howard	2	67	15	9	7	0	0	47	24	19	10	1	1	56	17	12	13	1	0	45	23	17	13	1	0	55	18	15	10	1	
Payne	0	69	21	5	4	0	0	80	12	5	2	0	0	58	18	21	3	0	0	91	7	1	1	0	0	77	18	4	0	0	
Serr	0	70	14	10	5	0	0	68	18	9	5	0	1	77	14	5	2	0	1	82	12	4	2	0	3	77	11	8	2	0	
Tehama 3/	0	53	19	10	15	2	0	73	21	4	1	0	0	84	7	5	5	0													
Tulare	5	82	7	4	3	0	2	80	10	6	3	0	5	84	5	3	2	0	3	83	8	5	2	0	5	83	7	3	2	0	
Vina	0	44	25	17	14	0	0	39	28	23	11	0	0	57	24	10	7	1	0	39	21	19	15	6	0	73	17	7	3	C	
Other	1	64	17	10	8	0	0	40	19	24	16	0	0	37	18	20	24	1	0	25	12	33	30	0	1	49	23	21	6	0	
STATE	1	69	16	9	5	0	0	60	21	13	5	0	1	69	15	10	6	0	1	62	19	12	6	0	1	60	19	14	6	C	
Number of																															
Shells Measured	14,813						14,426								14,3	369					14,3	336			13,775						

Sizes used are as follows: Mammoth -- Larger than 96/64" in diameter; Jumbo -- 80/64" to 96/64"; Large -- 76/64" to 80/64" for Eureka variety, 77/64" to 80/64" for all other varieties; Medium -- 73/64" to 76/64" for Eureka, 73/64" to 77/64" for all others; Baby -- 60/64" to 73/64"; and Others -- below 60/64".

The California Walnut Industry has been very supportive. We appreciate your continued cooperation!

For more California agricultural statistics, visit www.nass.usda.gov/ca

^{2/} Percentage distributions based upon nut samples taken in the field, may not equal 100 percent due to rounding.

Beginning in 2018, the Ashley and Tehama varieties were included in "Other" and not published separately.