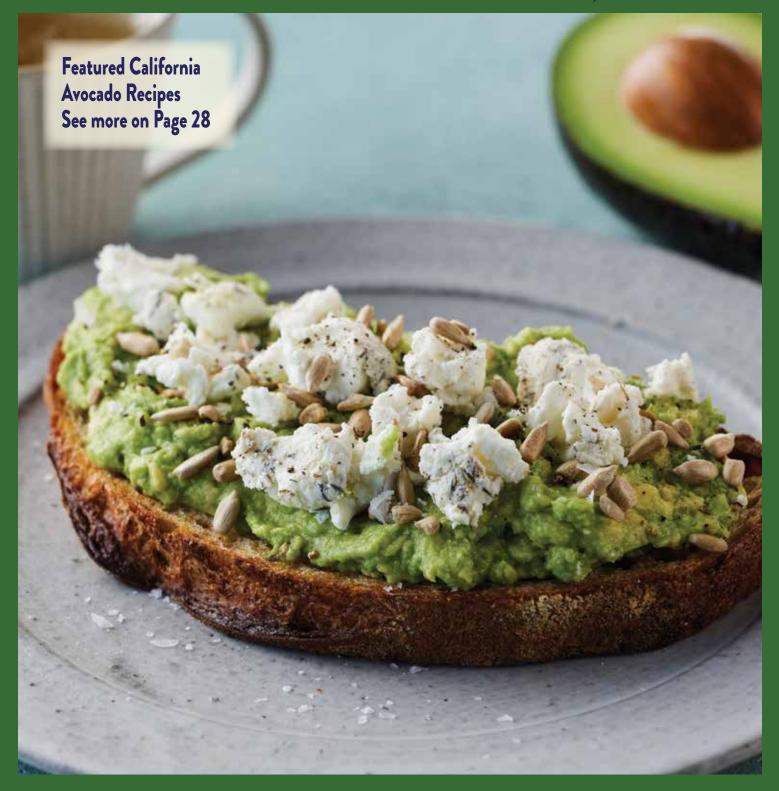
Winter 2024/25

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The Latest News from the California Avocado Industry



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From the Grove

Volume 14, Number 4

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The articles, opinions and advertisements presented in this magazine are designed to offer information. Inclusion in this publication does not presume an endorsement or recommendation by the California Avocado Commission for any particular product or cultural practice.

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Winter 2024/25



To Pick, or Not to Pick

hat certainly is a critical question as a California avocado grower. It is a decision that is unique to every grove because every grower has a different goal and a different way of getting there.

And it's a decision complicated by the realities at hand. For example, this year we were prepared for a big crop from Mexico - but they are currently behind in harvesting and running a smaller size curve than anticipated. And California growers have a robust crop that should come in at around 400 million pounds and a very strong early season price for bigger fruit — but our fruit set late so we, too, are about 4-6 weeks behind...maybe? Meanwhile some retailers have switched their programs to marketing smaller fruit. And then you add in the variability of weather and its potential impact on the rest of the season. Which is to say — all of this puts growers between a rock and a hard place as they consider whether they chase price and size pick larger fruit; strip it where they can; or wait it out, let the fruit size and bank on the gain in pounds per acre outweighing any potential downward price pressure. There probably isn't one "right" strategy here and maybe the best one is a combination of all three options, making the call on a block-by-block basis.

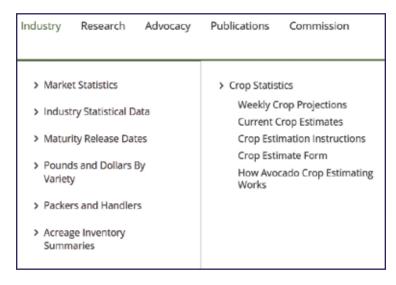
Ultimately, harvest timing is a personal decision based on the size of your operation, the fruit on your trees, your relationship with your farm and field managers, your experience and your knowledge of your grove's history (how your fruit typically sizes and when, for example). There is no one-size-fits-all strategy that can help a grower make a final call on harvest timing. But there are a few questions you can ask yourself



Jason Cole

that will help you determine what decision makes the most sense for your operation based on your goals, the status of your grove and the history of your trees.

- Does your operation have enough size (acreage and pounds) to cushion any mistakes?
- Will your harvest timing negatively impact the quality of your fruit and undermine the premium nature of our brand?
- Do you have a solid relationship with a packing house and manager that you trust and whose insights you can rely on?
- What do you see when you walk your groves?
- What do the long-term weather forecasts look like?
- How does your pruning plan play into the picture?
- Have you factored in whether it's a low rain year and its effect on holding and sizing fruit?



As you consider your next steps, I encourage you to visit the CAC grower website. The "Industry" tab provides a variety of data that can help growers make informed harvesting decisions. And, finally, I encourage growers to complete the upcoming pre-season and mid-season crop surveys CAC will be distributing. It's important our growers walk their groves and provide this crucial data. After all, the more accurate the data, the better CAC and our marketing teams can propose and revise their next steps to showcase our premium California avocados.

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Executive Notes

By Ken Melban Vice President of Industry Affairs & Operations

Commission Calls for USDA's Mexico Avocado Inspections Returned to Long-standing Program Requirements

n January 20, 2025, the California Avocado Commission sent a letter to Brooke Rollins, U.S. Secretary of Agriculture Designate, requesting "that USDA, under your leadership, immediately re-establish the inspection systems [in Mexico] originally agreed to before irreversible harm is done, and that safeguards be implemented to protect the USDA employees in question."

The Commission also launched a Grower Petition, which will be used to support the letter to Secretary Designate Rollins (more than 700 signatures to date) and is working with members of Congress in support of this effort.

How did we get here? In summary, USDA's Animal and Plant Health Inspection Service unilaterally acted in late 2024 to substantially downgrade inspection requirements for the importation of avocados grown in Mexico into the United States. These essential requirements were adopted by APHIS about 30 years ago following negotiations with the Commission and have effectively prevented harmful avocado pests in Mexico, which do not exist in the United States, from crossing the border into California avocado orchards.

This unilateral shift of inspections by USDA to Mexico is due to cartel violence towards USDA inspectors. Shortly after the change in USDA's inspections, reports of Stem Weevil finds in Mexico packing facilities began to occur followed by Seed Weevil finds, resulting in the shutting down of those facilities.

USDA's actions have increased the risk to California avocado growers for the introduction of an invasive pest and we are requesting that President Trump reverse the action taken by his predecessor before U.S. growers are victimized. Further, we are requesting safeguards are adopted to protect APHIS employees assigned to inspect avocado orchards in Mexico.

It's critical that we show strength as an industry in these efforts, and your participation matters. Hopefully you added your name to the Grower Petition. If you are not receiving Commission GreenSheet emails sign up here CaliforniaAvocadoGrowers.com/ publications.



Ken Melban



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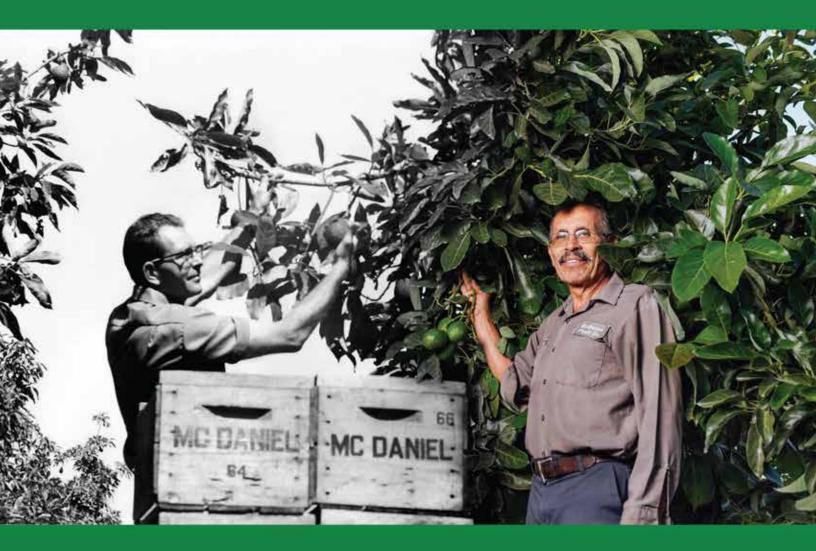
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To contact a CAC representative, please visit: CaliforniaAvocadoGrowers.com/Commission/your-representatives





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Executive Notes

By Ken Melban Vice President of Industry Affairs & Operations

Hass Avocado Board Considers Assessment Rate Change

n October 2024, the Hass Avocado Board kicked off a five-year strategic planning process with a forum of industry stakeholders. Next is a strategic planning meeting on March 4-5, 2025, in Irvine (hybrid) where the HAB board will present industry input and define HAB's purpose, mission, vision, priorities, goals and assessment rate guidance. Then, on May 28-29, 2025, in San Diego County (hybrid) the HAB board will review and approve a 5-year plan and set the 2026 assessment rate.

The HAB assessment rate has remained unchanged – 2.5 cents per pound on all Hass avocados sold in the United States – since HAB became operational in 2003*. On California production, HAB assessments are collected by the first handler. HAB assessments on imports are collected upon entry into the United States from importers. The maximum authorized assessment rate is 5 cents per pound.

Of the 2.5 cents assessment, 85% is rebated back to the respective country association (e.g. California Avocado Commission, Avocados From Mexico, etc.) and 15% is retained by HAB for administration and programs. All HAB monies must be spent by the respective entities on marketing in the United States.

Appropriately, the California Avocado Commission's marketing budget is primarily funded from HAB assessment revenues. The only exception is if the Commission's marketing budget exceeds HAB revenues, at which point Commission assessments are used to supplement the marketing budget. The Commission's marketing budget ideally aligns with the projected HAB assessment revenue.

All the Commission's nonmarketing programs (e.g. production research, advocacy, grower communications, etc.) are funded from Commission assessments.

For the 2024-25 FY, the Commission Board of Directors moved to a flat rate assessment instead of percentage of value, a first for the Commission, and set the assessment at a half-cent per pound. The result is a combined 2024-25 FY assessment on California growers of 3 cents per pound based on a 2.5 cents HAB assessment and a half-cent Commission assessment.

HAB is governed by a 12-member Board of Directors consisting of seven domestic Hass avocado producers, two importers, and three additional members, who can either be importers or domestic producers. While the Commission Board has no direct role in HAB's assessment rate setting, it is prudent the Commission Board is informed and considers potential outcomes should the HAB assessment rate change.

The Commission's next Board meeting is February 20, 2025, in Temecula (hybrid) and the HAB assessment rate will be on the agenda. As a California grower, you are encouraged to share your perspective with your Commission representative or join us at the meeting.

Please send me an email at kmelban@avocado.org if you have questions or suggestions.

*The Hass Avocado Promotion, Research and Information Act (Act) became law on October 28, 2000. The United States Department of Agriculture promulgated the Hass Avocado Promotion, Research and Information Order (Order) under the authorizing legislation and the Hass Avocado Board (HAB) became operational in 2003. The Act and Order created a federal check-off program assessing "Producers" and "Importers" on all sales of Hass avocados within the United States.

Executive

By Terry Splane Vice President of Marketing

2025 Marketing Plan Preview

rior to building its 2025 marketing plan, the California Avocado Commission's marketing team analyzed results from its 2024 partnerships and programs, as well as key consumer research data. During that process, the team identified the most impactful messaging, retail and foodservice partnerships, and consumer advertising and public relations platforms. The team also identified slippages in unaided brand awareness and in consumer preference for the brand.

These insights formulated the basis for the 2025 marketing plan, which is designed to capitalize on the Commission's most motivating messaging and successful advertising and public relations vehicles. The plan strengthens core markets by expanding successful retail and foodservice partnerships while also addressing some downward trends in consumer attitudes.

I believe it is critical that when moving forward with this year's planning we take a hard look at the previous year's performance. (See 2024 California Avocado Marketing Key Performance Indicator Report article page 22 and The Evolving Consumer article page 10). This allows us to double down on those initiatives that garner the best results and minimize or walk away from those that don't.

With close to a 400-million-pound

California avocado crop projected for the upcoming season, the plan includes incremental support for the larger crop with more expansive customized marketing services for CAC's existing retail and foodservice partners.

To ensure consumers can locate the fruit where and when it is available, the timing of media placements will remain flexible to reflect the actual harvest situation. In addition, to secure incremental distribution outlets, CAC will focus on strategically increasing its net new customers with a goal of at least 10 new retail and two new foodservice activations. The marketing team will specifically target new or lapsed customers/operators with whom CAC has not collaborated within the last two years.

According to the 2024 California Avocado Tracking Study, the California Avocados brand continues to rate higher than any other brand on key quality and brand perceptions within the California market. The same is true for consumers' sustainability perceptions of the brand. Further, targeted consumers continue to show interest in learning about sustainability, suggesting the current advertising messaging is on target.

Based on these data-driven insights, CAC's consumer advertising and public relations plan was developed to strengthen brand awareness and

Terry Splane

preference with its targeted audience using key messaging focused on locally grown and sustainably farmed. Further, CAC will continue to showcase California avocados, growers and their groves in its consumer advertising with a new evolution of its creative assets.

To reach targeted consumers (ultra and mega avocado shoppers in core markets) throughout their day, the Commission will continue to use an array of media including video, digital, audio and out-of-home advertising. Following the successful test activation in 2024, CAC will expand its use of connected TV (CTV) with ads on streaming platforms. Advertising will be complemented by social media posts, email marketing and consumer PR campaigns that target key media with activations supporting CAC's retail partners. Finally, the Commission will expand its PR presence, including testing a new retailer "come shop with me" influencer program.

CAC's goal is to increase yearover-year consumer media impressions by at least 9% (from last year's 164 million to 179 million this year) and to increase PR impressions by 25% with a goal of reaching 93.75 million this year, as compared to the goal of 75 million in 2023-24.

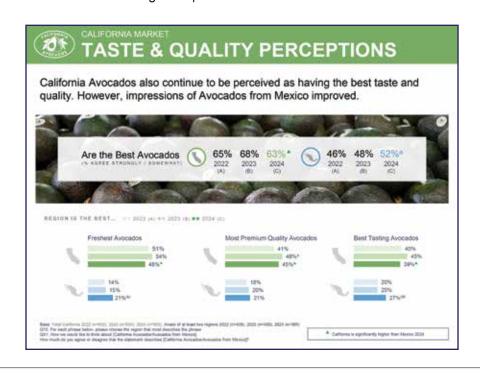


The Evolving Consumer CAC Market Research Data Provides Insights

onsumer attitudes and behaviors are not static, nor are they homogeneous — rather, they constantly evolve and vary across demographics. To keep a pulse on consumer preferences, proactively assess how they may change and examine how different generations respond to the California Avocados brand, the California Avocado Commission utilizes syndicated sales data and custom market research. These studies help the Commission determine how best to engage with consumers, adjust communications and optimize promotions with retail and foodservice partners. In summer 2024, the Commission fielded two market research studies, the California Avocado Tracking Study and the Restaurant Patron Study.

The consumer tracking study surveyed 1,397 avocado shoppers from specific western states (Arizona, California, Colorado, Oregon, Utah and Washington), as well as the Central, South and Northeast regions of the U.S. According to the study, California avocados continue to be perceived as the best on all quality, taste and safety measures, and California continues to exceed Mexico and all other origins on positive product perceptions in California and the West.

Awareness of the California Avocados brand remains strong and on par with Mexico, however directionally it exhibits a consistent decline. Further, the study indicated ad awareness for California is below Mexico and top-of-mind brand awareness is significantly below Mexico in our home market. California avocado awareness and preference also varies by age — with those ages 25+ showing a higher awareness of and stronger preference for the brand. In comparison, awareness of Mexico as an origin for avocados was comparable for ages 18 – 24 and those 25+, but the younger consumers indicated a preference for avocados from Mexico. The increase in preference for Mexico is driven at least in part by the Hispanic population. Overall, preference for California is still strong, but significantly lower than the previous two years with the California advantage narrowing as taste and appearance perceptions of fruit from Mexico are increasing. (To see how CAC plans to address these evolutions in brand awareness and preference, see 2025 Marketing Plan Preview on page 9.)





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TREGION AWARENESS – AGE COMPARISON

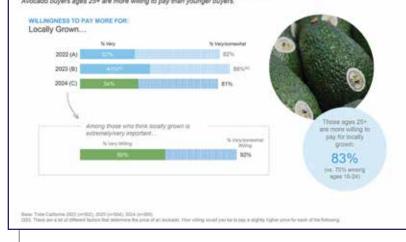
Awareness of California is higher among ages 25+, whereas for Mexico it is comparable for both age groups.



California remains the preferred growing region among Californians, but there was a significant drop in preference from the prior year and the advantage is narrowing.



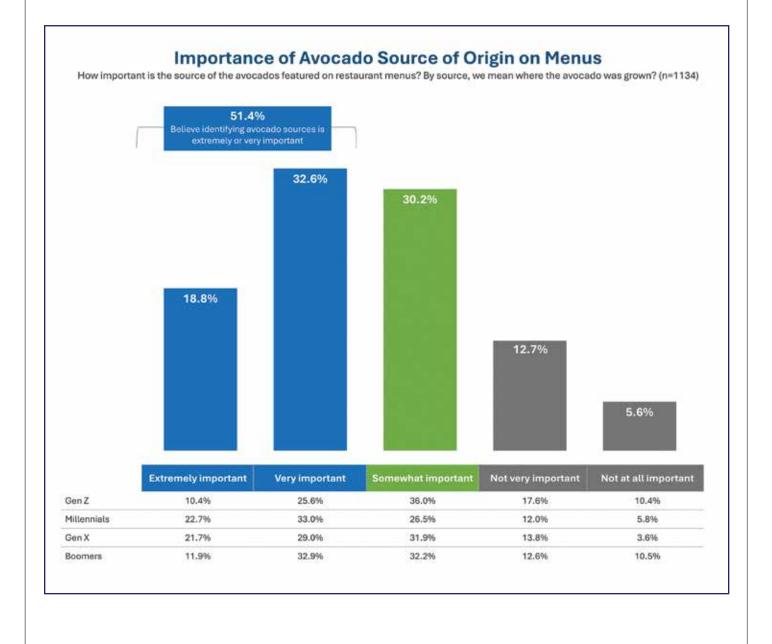
Claimed willingness to pay more for locally grown continues to be high, especially among those who think locally grown is very important. Avocado buyers ages 25+ are more willing to pay than younger buyers.

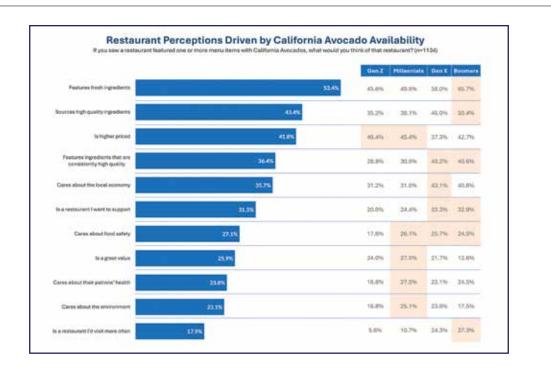


The 2024 Tracking Study also indicated that among those surveyed, there is a willingness to pay more for locally grown and that grown in California messaging continues to be important. This is especially so for those ages 25+ and those who check the fruit for region when purchasing.

A majority (88%) of respondents indicated they were at least somewhat interested in learning more about California sustainability. Farming practices related to water continue to top the list of importance for consumers (78%+ noted these factors are extremely/very important). Sustainability practices that positively impact the greater community also continue to be very important, especially that harvesters and other workers are treated fairly (77% stated this is extremely/ very important). California avocados continue to be viewed as more ethically sourced than fruit from Mexico (65% versus 42%), a positive indicator considering 81% of respondents noted they are willing to pay more for ethically sourced avocados.

The Commission's Restaurant Patron Study was also fielded online in summer 2024, surveying 1,208 consumers located in the West. A key takeaway was identifying source of origin on the menu is important to restaurant patrons. Findings indicated that source of origin may drive increased ordering – which is particularly true for California avocados – and can help support higher prices through stronger perceptions of freshness, quality and impact on the local economy.

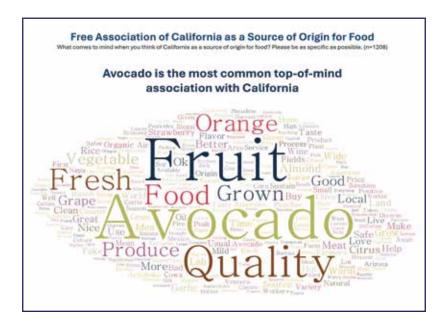




When asked "What comes to mind when you think of California as a source of origin for food?" the most common response was "avocado." And compared with perceptions of "California" generally, "California avocados" had stronger positive perceptions with consumers and could help drive or augment promotional efforts showcasing quality/consistent quality, freshness, local economy support and sustainability. Further, consumers indicated positive perceptions of restaurants with California avocados on the menu — with Boomers' perceptions most impacted and Gen Z's least impacted. Respondents also indicated that a great California avocado restaurant dining experience positively impacts their California avocado purchasing behavior at retail. Further,

more than two-thirds of respondents stated they love avocados and more than eight out of ten like or love avocados. This affinity for the fruit is similar to ubiquitous dishes such as mac n' cheese or spaghetti and meatballs.

Of the generations surveyed, Gen Z's engagement with messaging was significantly below that of other generations. They are less likely to be swayed by sourcing information, far less engaged or excited by avocados overall and most likely to see avocados as higher priced but not necessarily a strong value. This situation with Gen Z is not unique to California avocados (or avocados in general) but with food overall. Gen Z is proving to be less engaged with food than any other generation (especially as compared to Millennials and Gen X) and





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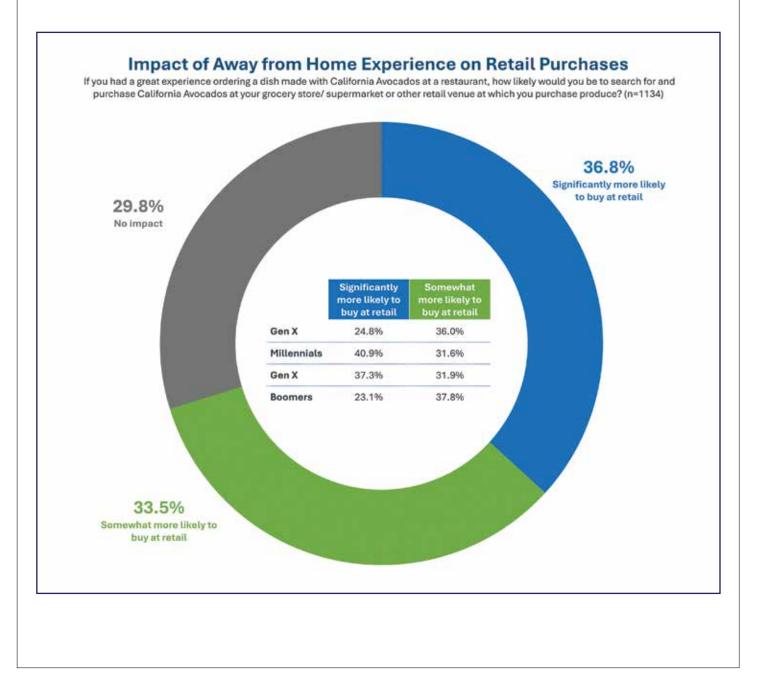


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CONNOR HUSER Regional Grower Relations Manager is shifting away from foodservice. There also appears to be a lack of innovation in foodservice applications and social media that ignites Gen Z interest. Addressing these Gen Z shifts in behavior and interest will be critical to protect and drive future growth and relevance of the California Avocados brand for this audience.

Together, findings from these reports were used to help CAC's marketing team set objectives and measures for the 2024-25 annual business plan and adjust consumer communications accordingly. This information also is being

shared with handlers and retail and foodservice customers to help them better understand consumer trends. The data will help demonstrate to handlers the value of prominently featuring California origin on packaging, and to encourage retailers and foodservice operators to carry California avocados in season and feature the brand at their locations and on their digital channels. Ultimately, by exploring consumers' evolving preferences, the Commission can adapt its messaging and means of engaging with consumers to encourage California Avocados brand loyalty and purchases at a premium price.





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2024 California Avocado Acreage Report Available Online

By April Aymami

Director of Industry Affairs and Operations

ince 2015, the California Avocado Commission has partnered with Land IQ to produce an annual California Avocado Acreage Report that uses digital satellite imagery, aerial photography and analytical tools to collect spatial data and create accurate and comprehensive statewide avocado maps. The database tracks land use grove conditions, providing information that is critical to the Commission's budgeting and marketing decisions. Further, data concerning crop location, condition and density can be utilized by growers, industry members, regulators and government agencies to assess and manage water and air quality, as well as disease and pest vectors.

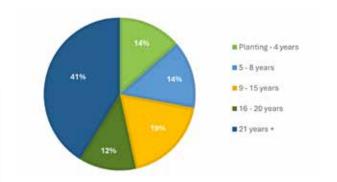
The 2024 California Avocado Acreage Report is now available on the California avocado grower website at CaliforniaAvocadoGrowers.com/industry/ acreage-inventory-summaries.

Highlights from the report are as follows:

- Total planted California avocado acreage for 2024 was 53,703 acres with a total of 18,794 avocado fields
- The five main avocado growing counties are Ventura (21,636 acres), San Diego (13,829), Santa Barbara (6,823), Riverside (4,902) and San Luis Obispo (4,548) for a total of 51,538 acres
- The remaining counties (Fresno, Kern, Los Angeles, Monterey, Orange, Sacramento, San Bernardino and Tulare) accounted for 1,965 acres
- A total of 3,489 new/young acres was reported with Ventura County accounting for 2,028 of that acreage
- Of the 2024 planted acreage, 59% was less than 21 years old

Five County	Acres	Number of Fields	Minor County	Acres	Number of Fields
San Diego	13,829	5,848	Orange	913	392
Riverside	4,902	2,501	San Bernardino	538	157
Ventura	21,636	6,876	Monterey	370	68
Santa Barbara	6,823	1,964	Tulare	99	35
San Luis Obispo	4,548	928	Los Angeles	20	15
			Fresno	10	4
			Korn	3	1
			Sacramento	11	5
Five County Total	51,738	18,117	Minor County Total	1,965	677

County	Producing Acres	Top/Stump Acres	New/Young Acres	Planted Acres
San Diego	13,053	316	461	13,829
Riverside	4,303	69	530	4,902
Ventura	19,282	325	2,028	21,636
Santa Barbara	6,436	34	352	6,823
San Luis Obispo	4,395	35	118	4,548
Five County Total	47,470	779	3,489	51,738
Minor Counties	1,775	190	0	1,965
Total	49,245	969	3,489	53,703



Age	Acreage	Percentage of Planted Acres	
Planting - 4 years	7,290	14%	
5 - 8 years	7,699	14%	
9 - 15 years	10,027	19%	
16 - 20 years	6,581	12%	
21 years +	22,108	41%	

County	2023 Classification	2024 Classification				
		Producing	Top/Stump	New/Young	Abandon	
San Diego	Producing	12,556	189	26	54	
	Top/Stump	163	117	1		
	New/Young	189	5	384		
	Abandon	91	2	1	3,524	
	Not Classified	54	2	48	104	
Riverside	Producing	3,982	38			
	Top/Stump	82	27		3	
	New/Young	103		472		
	Abandon		1		59	
	Not Classified	136	3	58	12	
Ventura	Producing	18,612	76	6		
	Top/Stump	316	245			
	New/Young	246		1,429		
	Abandon	5			413	
	Not Classified	103	4	593		
Santa Barbara	Producing	6,274	12	6	18	
	Top/Stump	26	22	0		
	New/Young	61		157		
	Abandon	40			24	
	Not Classified	36		188		
	Producing	4,058	19	10		
	Top/Stump	33	16			
San Luis Obispo	New/Young	262		55		
	Abandon				5	
	Not Classified	42		53		

Condition	Description
Producing	Groves that are greater than 4 years old.
Topped/Stumped	Groves that have been topped and/or stumped and not producing.
New/Young	Groves that are 4 years old or younger.
Abandonded	Groves previously identified as avocados that do not return to healthy growth statistics as represented by spectral data.

Better Growing

By Danny Klittich, PhD, Director of Agronomy, Mission Produce

Preparing for Cold Winter Conditions

(Author's Note: Please read the disclaimer at the end of the article.)

inter is here and cold mornings may threaten freeze damage – but proactive management can safeguard an avocado orchard.

Avocados frost-sensitive, are so a hard frost can have a multi-year impact on yields. This is because cold temperatures can directly damage fruit on the tree, as well as damage exposed budwood, limiting future fruit set. Maintaining an overall healthy orchard is a preventative measure that can help avocado trees withstand the impacts of extreme temperatures, including freeze damage. In addition, to prepare for low temperatures in the orchard and minimize damage, growers can adopt four strategies: use wind machines, run irrigation, apply biostimulants/leaf coatings, and/or generate heat.

Monitoring

The first step to minimize cold damage is to monitor the orchard for frost. Numerous companies provide weather stations with frost alarm features that can be sent directly to a phone, or any other network-connected device. Another option is a high-accuracy digital thermometer, which can be installed on a vehicle, allowing growers to monitor orchard temperatures from the comfort of their truck. In the event of a frost, growers can then implement the appropriate tactics to try to raise temperatures in the orchard.



Graphic courtesy of FrostBoss®

Strategy #1: Use Wind Machines

In California's avocado growing regions, a common phenomenon occurs called an inversion layer¹ - when a layer of warmer air sits on top of a layer or pocket of cold air. This occurs because warm air is less dense than cool air, so the warmer air floats above cooler air. When this happens, growers can use wind machines to mix the cool air from within the orchard canopy with the warm air floating on top (Figure 1),⁴ which in many cases is around 20-40 feet above the orchard floor. By using wind machines, researchers have observed approximately a 2-4°F increase in orchard temperature when inversion layers are present.

Please note wind machines are only effective when inversion layers are present and there hasn't been enough natural turbulence to mix the cool and warm air together. If no warm air exists to pull down into the orchard, then wind machines can worsen freezing conditions!

Strategy #2: Run Irrigation

Running irrigation can be an effective tactic to help maintain higher temperatures in the orchard.¹ Irrigation water temperatures vary depending on the source, but they are generally well above freezing. Therefore, irrigating during the day can increase the amount of heat stored in the soil and the stored heat can continue radiating throughout the night. Additionally, if temperatures drop below critical levels, turning on the irrigation system can introduce more heat into the orchard.

If ice forms on a tree, the ice will act as an insulation layer that maintains a $32^{\circ}F$ temperature, protecting the tree from even colder air temperatures. However, when the ice starts to melt, it is important to run irrigation water until *all* the ice has melted, even after the sun comes up. If water is not run until all the ice melts, sublimation can occur — super-cooling the ice and further damaging the crop. This is because as ice melts into liquid water, the remaining ice and the underlying leaves and stems can actually become colder than 32°F (this is similar to how sweating makes our skin cooler in the summer).

Strategy #3: Apply Biostimulants and/or Leaf Coatings

A tree's natural ability to manage cool temperatures can be enhanced through the application of frostprotective biostimulants and/or leaf coatings.^{5,6} Products such as Anti-Stress 550, Parka[®], or diKaP[™], to name a few, can help a tree cope with cold weather. Application methods and the duration of their effectiveness may vary depending on the product. Consult your ag chem provider to determine the best options for your orchard.

Strategy #4: Generate Heat

Generating heat within the orchard can increase average canopy temperatures. Historically, burning oil with the classic smudge pot was used for this purpose, but this is no longer as common due to clean air regulations and fire hazards. Newer smudge pot models on the market offer cleaner burning fuels and new engineering. Other technologies that use propane burners also are available. Heat generation can be a tool in concentrated cold spots or other areas where frost may settle, and a few degrees can make a difference.

Orchard Health

Tree health plays an important role in frost resistance. Nutrients in a tree's leaves can act as an "antifreeze," decreasing the freezing point of leaf tissue.² When trees are nutrientdeficient, they are more susceptible to frost damage.² Nutrient-deficient trees also have a harder time physiologically responding to cool temperatures.² In addition, healthy fuller canopies can limit freeze damage to the outer edges of the canopy and protect the internal canopy where fruit is held.

Growing a healthy orchard with consistent yields is essential to

maintaining farm sustainability. These tactics can help to preserve orchard viability during a cold event. Please reach out to your Mission Field Representative for more information or to schedule a consultation with our agronomy team.

References

1. Freeze Protection | California Avocado Commission (californiaavocadogrowers.com) https://www.californiaavocadogrowers.com/ growing/cultural-management-library/freeze-protection

2. Nitrogen: Nitrogen fertilization, a guarantee for relative resistance of avocado trees to frost 1 : Journal of Plant Nutrition: Vol 10, No 9-16 (tandfonline.com) https://www.tandfonline.com/doi/abs/10.1080/01904168709363727

3. Foliar applied urea improves freezing protection to avocado and peach - ScienceDirect, https://www.sciencedirect.com/science/article/abs/pii/0304423896008837

4. About Frosts - Australian Frost Fans (aussiefrostfans.com.au), https://www.aussiefrostfans.com.au/about-frosts/

5. Introducing Cultiva Parka for fruit crops, https://www.cultiva.com/parka/

6. COMBATING PLANT FREEZE DAMAGE - Redox Bio-nutrients (redoxgrows.com), https://www.redoxgrows.com/news/combating-plant-freeze-damage/

About the Author

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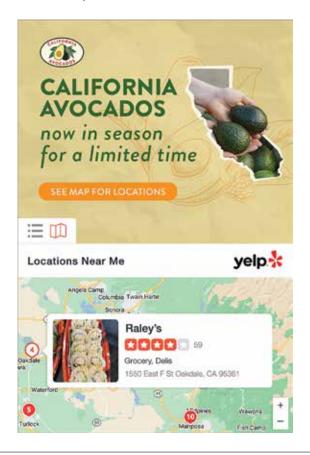


2024 California Avocado Marketing Key Performance Indicator Report

he Marketing Dashboard report for the 2024 California avocado season was provided to the California Avocado Commission Board of Directors and is available for stakeholders to review at CaliforniaAvocadoGrowers.com/marketing/marketing-dashboard. Highlights of this Key Performance Indicator (KPI) report are found below and show that overall CAC's 2024 marketing program delivered at or above established benchmarks. Indeed, certain KPIs showed significant improvements over the prior year and/or achievement above targets. To determine the metrics of performance, the Commission uses established benchmarks for comparison. These benchmarks can be industry wide, channel or media-specific or measures versus prior period performance. The term "impressions" is a count of how many times an ad or brand message has been seen or heard and is a key measure for evaluating marketing effectiveness. Delivering ad and brand messaging impressions is what builds brand awareness.

Here are the top 10 achievements from the 2024 Marketing Dashboard report:

- 1. 198 million total consumer media impressions
- 2. 105.5 million total consumer public relations impressions
- 3. 32 million trade media and PR impressions
- 4. 12.7 million impressions from outdoor ads on electric vehicle charging stations surrounding grocery stores, supermarkets and shopping centers in core California avocado markets
- 5. Audio ads achieved a 0.37% click through rate compared to a benchmark of 0.06% and the ads themselves had a 92% completion rate
- 6. 22.5 million digital custom content ad impressions with engagement rates far exceeding benchmarks
 - TikTok exceeded benchmark by 400%
 - Facebook exceeded benchmark by 500%
 - Custom recipe videos hit double the average click through rate
- 7. 381 million video views with up to 151% higher engagement rates vs. benchmarks
- 8. Social brand advertising generated 3 million video views
 - 35,000 site clicks on TikTok ads
 - 127,000 site clicks on Pinterest ads
 - 167,000 site clicks on Meta ads
- 9. 46 retail chain promotions
 - 45 million retail digital ad impressions with nearly a 95% view rate on YouTube ads with banners (compared to a benchmark of 30%)
 - 327,500 store visits to retailers carrying California avocados through custom Yelp + Foursquare map navigation ads
 - Social retail ads generated 15 million+ retail ad impressions with 197,000 link clicks
 - Approximately 400% year over year growth, with 158% higher click through rate
 - Less cost than prior year
- 10. 13 foodservice promotions in a total of 1,180 restaurant units







An avocado tree canopy completely desiccated by heat from fire combined with high winds and extremely low relative humidity. Note the presence of weeds still around the tree and the lack of trunk damage; this tree will most likely recover, but the existing crop is lost.

Post-Fire Grove Management and Recovery

By Tim Spann, PhD

Spann Ag Research & Consulting

adly, it seems a version of this article is appearing all too regularly in *From the Grove.* According to the California Office of Environmental Health Hazard Assessment (OEHHA), the annual average area burned by wildfires in California was three times greater in 2020-2023 than it was in the 2010s. And the number of large fires – 10,000 acres or more – has increased in the past two decades. All but two of the 20 largest wildfires in California since 1950 have occurred since 2000; 10 of which occurred in 2020 and 2021.

Given these changes in wildfire numbers and severity, it is increasingly important that growers understand how to manage their groves following wildfire damage. Equally important is grove management prior to a wildfire to help reduce — to the extent possible — the damage that wildfires will cause in the grove, which will be discussed in a future issue of From the Grove.

The information presented here is based on the past experiences of many growers, grove managers and UC Farm Advisors. Before making major fire-recovery related grove management decisions, consider consulting a local grove management company, a UC Farm Advisor or Tim Spann, CAC's research program consultant, to gain additional insight into your specific situation.

Fire Damage Symptoms

The damage to avocado trees from fire is based on two primary factors — the speed of the fire and the heat of the

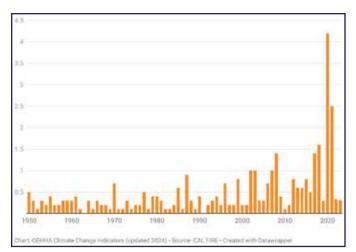
fire. A fast moving, cool fire will be far less destructive than a slow moving, hot fire. When fire burns through a grove it may damage the trees superficially, scorching those parts of the tree facing the fire's heat, or — if heat and wind persist — the entire canopy may desiccate and next season's crop is certainly lost on these trees. If orchards were subject to intense heat, damage to tissues within the trunk and branches may be permanent and trees may never fully recover.

It can take anywhere from weeks to several months to know the full extent of damage to avocado trees following a fire, and it all depends on the damage to the trunk. In a fast-moving fire, the leaves may turn completely brown soon after the fire has swept through. It may look like the grove is devastated, but there is a good chance these trees can recover, just keep a watchful eye.

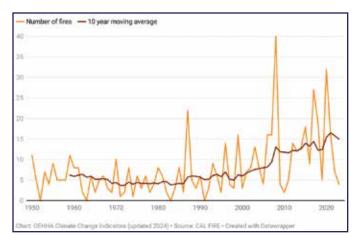
In a slower, hotter fire, damage to the tree trunks can be significant and they are less likely to recover. If the trunk has been blackened and charred, recovery is unlikely. In some cases, the trunk may not be significantly charred, but in the days and weeks following the fire if the tree develops cankers or boils where the sap bubbles to the surface, it is unlikely the tree will recover. If a tree begins to sprout from its base, at ground level, the tree is a goner; the graft union has died, and the tree is trying to resprout from the roots.

In the months following a fire, a recovering tree will sprout out indicating where it is still alive. However, this new growth may suddenly collapse the following year when stressful conditions — high winds or heat — occur.

Growers who have lived through past fires generally agree that struggling to resuscitate badly damaged trees is time lost, and in such cases tree replacement may be the best option. Just as with freeze damage, dealing with fire-damaged

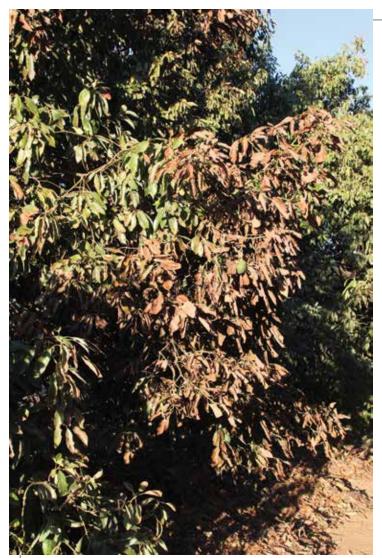


This graph shows the number of acres (in millions) burned by wildfires in California each year from 1950-2023.



This graph shows the number of large fires (10,000 aces or more) each year from 1950-2023, with the red line indicating the 10-year rolling average.





The side of an avocado tree canopy facing a fire shows signs of leaf damage.

groves requires patience and discipline. It is best not to rush assessment of tree damage and consider getting a second opinion before making major pruning cuts or replacing trees. With that in mind, it is worthwhile to consider the following points concerning grove fire recovery.

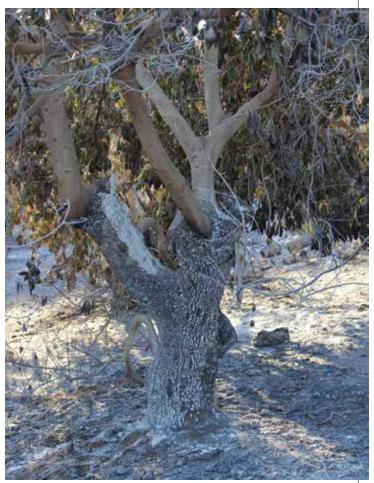
Document, Document, Document

Growers should take copious notes and document everything related to any fire damage and recovery. Growers also must take into consideration the Food Safety Modernization Act (FSMA). Growers affected by the fires should record a "notice of unusual occurrence and corrective action" in their food safety plan. A form for this is available in CAC's Food Safety Manual, which is available online (CaliforniaAvocado-Growers.com/growing/food-safety/food-safety-manualresources). In addition, growers should document all costs associated with the fire in their groves. This includes keeping records of things such as labor costs, and receipts for any materials and supplies purchased in association with recovery. These records are necessary for any future insurance claims or potential litigation related to the fires.

Irrigation Is Critical, But Must be Adjusted According to Fire Damage

Replace all damaged sprinklers, risers and other irrigation system components as soon as possible, make sure underground plumbing is operational and test your system. The dry winds and fires will have caused considerable tree stress, so a thorough deep irrigation should be applied as soon as irrigation systems are operational. Remember that fire damaged trees will use less water if leaves are scorched because they will have a reduced functional leaf surface area. If irrigation continues per pre-fire schedules, the ground may become saturated and cause further tree damage during recovery due to root asphyxiation. In consideration of this, it may be worth investing in soil moisture sensors to help ensure that a bad situation is not worsened.

In post-fire irrigation management, growers should be especially cognizant of the fact that fire damage is unlikely to



An avocado tree trunk completely blackened and charred by fire. Note the lack of any weeds or mulch remaining and the complete loss of leaves on some branches, indicating the high heat and intensity of the fire. This tree will not recover.



Sap blisters on the trunk of an avocado tree following a fire. These blisters indicate the sap in the tree boiled during the fire and the tree will not recover. Photo courtesy of Ben Faber.

be uniform across a block. Individual trees or areas within a block may have been damaged differently and will now have distinct irrigation needs. It may be necessary to run a second line in some blocks to accommodate trees with different water requirements, change microsprinkler sizes, or even swap some microsprinklers for drip emitters to accommodate this variation.

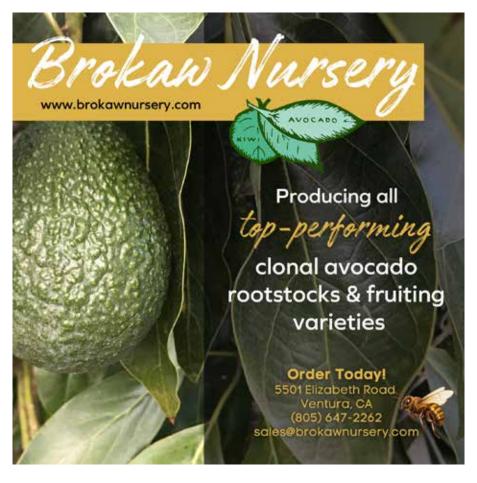
Protect Trees from Sun Damage

It is extremely important to whitewash (using a diluted interior white latex paint) all sun-exposed branches and trunks that were previously shaded by leaves. Sunburn on exposed branches, limbs and trunks can cause considerable additional tree damage. You may unnecessarily whitewash some trees that will not survive, but it is better to be cautious and whitewash everything to protect those trees that will recover.

Be Patient with Pruning

It is important to wait to prune until you can determine the extent of damage to the trees. Cutting away the bark and looking for live cambium may not necessarily be a good measurement of how badly a tree has been damaged because it may be hard for the inexperienced grower to discern differences between living and dead tissues. Wait to see where the new growth flush occurs on damaged trees before making pruning cuts. In hot areas, give the trees a chance to test new growth in warm weather before pruning, because some new growth will inevitably collapse. By waiting to assess damage to your trees, you will know where to make definitive pruning cuts, thus allowing you to salvage as much of the damaged tree as possible and return to production as quickly as possible. If your grove was overcrowded or was too tall to efficiently manage, this may be a good opportunity to modify your management practices by thinning trees and reducing tree height. 🥑

Dr. Ben Faber, University of California Cooperative Extension Farm Advisor, contributed to this article and has assembled a wealth of information about fire preparedness and recovery that can be found on the Tropics in Subtropics blog, http://ucanr.edu/blogs/topics/ index.cfm.



Featured California Avocado Recipes

The California Avocado Commission's December 2024 website blog and consumer email newsletter reflected on the most loved (visited) California avocado recipes in 2024. These recipes highlighted California avocado fans' cravings for classics with a twist. The most popular recipes of the year range from a delicious grilled cheese sandwich to devour by oneself to a delectable guacamole to share with a group – all elevated by the addition of locally grown, sustainably farmed California avocados. The blog and email helped build anticipation for the 2025 California avocado season, suggesting that consumers use these favorite recipes to daydream of the creamy, fresh California avocados that will be in store for them soon.



You can scan the QR code to the left to check out the five fan favorite recipes for the year. The first, Avocado Bacon Grilled Cheese Sandwich, was featured in the 2024 summer edition of From the Grove magazine. It received approximately 24,000 pins on the social media platform Pinterest and was viewed more than one million times. CAC's Best Guacamole Ever recipe also has been viewed more than one million times. A vintage Commission recipe, California Avocado Milk Shake, made its way to the top five recipes this year as did the simple recipe for California Avocado Breakfast Bagel. The final California avocado recipe in the 2024 top five most-viewed is featured below.

California Avocado Toast with Goat Cheese

California avocados might be part of your normal toast topping routine, but this recipe goes the distance by using herbed goat cheese and a sprinkle of roasted sunflower seeds for a perfect finishing touch.

Serves: 1

Time: 5 minutes

Ingredients

- 1 slice thick-cut, crusty sourdough bread
- 1 tsp. olive oil
- 1/4 ripe, Fresh California Avocado, seeded, peeled and mashed
- Sea salt to taste, optional
- 1 oz. herbed goat cheese, pinched into small pieces
- Fresh cracked pepper to taste
- 1 Tbsp. roasted sunflower seeds or chopped walnuts (optional)

Instructions

- 1. Preheat toaster oven or oven to 425° F.
- 2. Spread olive oil on top side of bread, then place on rack in the toaster oven or oven and toast until golden brown.
- 3. Remove from oven and put on a plate.
- 4. Combine avocado and sea salt if using, then spread onto the top side of toast.
- 5. Place goat cheese pieces over the avocado, top with cracked pepper and sunflower seeds; serve immediately.

Variations:

Add fruit or veggies such as sliced tomatoes or arugula. Turn into an open-faced sandwich by topping with your choice of meats and veggies.

Serving Suggestion: Serve with fresh figs or sliced apples.

Beverage Pairing: Hot or iced green tea.

Growers: please call 949.341.955 if you have a California avocado recipe to share in CAC marketing communications. In 2024 not one California avocado grower volunteered. Will you make a difference in 2025?



By Tim Linden

Avocado Season Shaping Up Well for California Growers

ith a relatively robust crop, the expectation of top-quality fruit once again and a very good marketing situation, California avocado growers appeared to have an excellent season ahead as they marketed their first fruit in January.

Handlers'

Keport

"We are expecting slightly more volume and very good quality," said Regional Business Development Director Gary Caloroso of the Giumarra Companies. "It's hard to tell sizing wise what will happen but we do expect a very good year."

In mid-January, he noted that Giumarra would begin marketing fruit from the Golden State when all the fruit sizes are released a bit later in the month. "We like to get started right away and we also like to be in the deal at the very end...into October," he said.

Caloroso said marketing conditions are always subject to change but he expects an excellent season ahead with a solid FOB price throughout the year. "It's too early to tell exactly what's going to happen, but consumer demand is off the charts," he said. "It's easy to say that supplies from Mexico aren't keeping up with demand, but demand is very good even when supplies are heavy."

The Giumarra veteran, who has been involved in marketing his entire produce career, said it is clear that continued promotion of the category is driving increased sales. He added that the California Avocado



Commission, Avocados from Mexico and other groups continue to aggressively market avocados, and consumers have responded. "The U.S. avocado market is the best in the world because consumer demand is so high. Marketing works!"

He added that the industry was entering a "new day. Avocados are a premium item. The days of cheap prices are over. Global supply is not matching demand."

He noted that the last quarter of the calendar year (October through December) is typically when consumer demand for avocados in the United States is at its lowest point, but 2024 saw very strong sales even in that period.

While lack of rain during the fall and early winter could impact the situation by reducing average size

of the fruit, Caloroso said there is demand for all sizes. "We are seeing a lot of demand for bagged fruit, which is typically used for the smaller sizes. That's a big victory for the industry."

He did add a cautionary note about extenuating circumstances including the Santa Ana winds that were wreaking havoc in Southern California as this interview was being conducted. Those winds had led to devastating fires throughout the Los Angeles basin, and Caloroso reported that they also were hitting some groves from San Diego to Ventura. "We won't know if there is any damage for at least a few days," he said on January 10. "But that's always a possibility."

Peter Shore, vice president of production management for Calavo Growers Inc. was equally optimistic about the marketing of the California



crop in 2025. "Demand is very strong," he said in early January. "We usually see the highest consumption of avocados from January to March and then through the spring into summer."

He said demand is at its highest level at the turn of the calendar because of many promotions focused on the football playoffs held throughout January, and also because of renewed interest by consumers to adopt healthier eating habits. Dieting is commonplace in early January and avocados sales are a benefactor of that mindset.

Shore noted that the early January FOB market was experiencing a "bubble price" that saw a case of 48 size avocados selling for \$75 to \$80. He does not expect that very high market price to continue nor does he expect bargain basement prices to return. "We do expect the market to back down a bit but I expect a strong market through the first quarter [of 2025] and into the spring."

Shore said the marketing conditions are leading to an extended season for California growers who will most likely market more fruit in January, February and March than they usually do. This lengthens the season and will allow retailers, especially West Coast operators, to offer California fruit for a longer period than usual.

While Mexico's 2024-25 avocado

crop (July 1, 2024-June 30, 2025) was estimated to be very similar to the nearly 2.5 billion pounds shipped the previous season, there are some indications that it won't reach that level. Shore said shipments are running behind schedule. This also bodes well for California grower-shippers as they contemplate when to pick their acreage.

Putting numbers to California's 2025 crop was Patrick Lucy, president of Del Rey Avocado Company, Fallbrook, CA. He said Del Rey's field team had estimated the combined volume of the Hass and GEM varieties at between 375 and 380 million pounds, which would be several percentage points greater than last year. However, he said there have been some losses because of wind and fire. He also noted that lack of rain may adversely affect the ultimate size curve, which also will reduce total volume in tonnage.

But overall, Lucy called it a good crop that should feature good returns for growers. Because of current marketing conditions, he does expect growers to get an early jump on marketing their crop with some January and February shipments. He also expects more California fruit to be marketed in March than is usually the case.

The Del Rey executive said the global marketing situation will play

a role in the marketing window for California growers. He noted that Mexico's shipments are running behind schedule and there is some doubt that they will have as much volume as forecasted. While Mexico shipments were quite low during the Christmas and New Year's holiday weeks, he expects shipments to be as robust as they usually are through January (60-70 million-pound weeks). But what is in question is how long Mexico will have significant volume into the spring once they finish their heavy January picking.

He believes California growers will still market the lion's share of their fruit from April through July with solid volume continuing into August. Lucy expects that the size of California's crop will result in fewer Peruvian avocado shipments coming into the United States this year. He noted that the larger California crop will allow for more programs to be set up, which is the lane in which Peru avocados typically play.

Though the California crop is similar to 2024, the size of last year's crop was a surprise, eclipsing the preseason estimate by more than 100 million pounds. That excess fruit was not pre-sold in programs because it wasn't predicted to be there.

The three handlers also commented that this season's California organic avocado crop should be solid representing about 10% of the total volume. "We are continuing to increase our organic supplies," said Caloroso of Giumarra. "We are seeing more interest from consumers and growers."

He added that organic avocados continue to command a premium over conventional fruit. "They should get a premium," he remarked, noting that a shrinking differential is not good. "Organic avocados are more expensive to grow and they should cost more."





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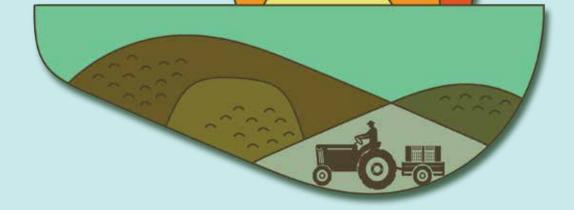


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