# From the Grove

Spring 2026

The Latest News from the California Avocado Industry

INDEX FRESH®

# CALIFORNIA CREMA™

## GEM AVOCADOS


## Index Fresh® California's Leading GEM Marketer

Index Fresh is a pioneer in marketing the GEM avocado, partnering with California growers to position this variety as a premium complement to Hass. Through coordinated harvest timing, dedicated PLUs, and targeted retail programs, we showcase GEM's rich flavor, gold-flecked skin, and easy-to-peel texture to drive shopper excitement.

Learn more at **CaliforniaCremaAvocados.com**


## 2026 Consumer Ad Campaign Evolves
Story on Page 24

*From the* **Grove**

Volume 16, Number 1

**President**
Ken Melban
kmelban@avocado.org

**Editor**
Tim Linden
Champ Publishing
925.216.0973
tim.linden@ymail.com

**Ad Sales**
Tom Fielding
626.437.4619
tomfielding1@mac.com

**Design/Layout**
Heather Gray
User Friendly, Ink.
userfriendlyink@gmail.com

**April Aymami**
Director of Industry Affairs
and Operations
aaymami@avocado.org

www.californiaavocadogrowers.com

# In This Issue

**Spring 2026**





## Departments



**Volume 16, Number 1** **Spring 2026**

FROM THE GROVE is published quarterly by California Avocado Commission; 2271 W Malvern Ave., PMB234 Fullerton, CA 92833. POSTMASTER: Send address changes to California Avocado Commission; 2271 W Malvern Ave., PMB234 Fullerton, CA 92833.

# Message from the President

*By Ken Melban*
President

*Ken Melban*

# Budget, Redistricting, USMCA TRQ and USDA Mexico Inspections

## Commission Increases 2026 Retail Marketing Budget

With the California avocado season underway, pricing is hovering around $1.00 per pound and offshore volumes are tracking nearly 20% ahead of last year. A difficult market to enter.

In response, the Commission Board, in March, approved reallocating $850,000 from consumer marketing into retail marketing. In addition, another $450,000 from reserves has been approved resulting in $1.3M of additional funding directly to retail marketing. This strategic adjustment, intended to strengthen the Commission's retail marketing effectiveness, brings the total retail marketing budget to $4,084,500.

As one of the Commission's retail marketing directors commented, "This move signals to retailers (and packers) that the Commission is here to play ball." And we are.

The Commission's team has been very engaged with key retailers and the packers to develop partnerships that provide value for all. A key discussion point for every one of these meetings is the need for California growers to make a profit. With California averaging around 10% of the total U.S. supply our ability to demand a set price is limited. The reality is offshore volumes place downward pressure on California pricing.

This is the arena we are fighting in, and part of this fight is to protect our current West Coast market. While current pricing will not sustain many growers year after year, based on the California average price for the last five years of $1.38 per pound history suggests at some point stronger pricing will return. When prices do rebound, it will be critically important that we have maintained and strengthened our partnerships with retailers whose past performances have supported California grower returns.

| | 2025-26 BUDGET | % | 2025-26 AMEND #1 | % |
|---|---|---|---|---|
| Consumer Marketing | $4,597,600 | 33.9% | $3,805,500 | 27.1% |
| Trade Marketing - Retail | $2,817,400 | 20.8% | $4,084,500 | 29.1% |
| Trade Marketing - Foodservice | $650,000 | 4.8% | $650,000 | 4.6% |
| Marketing Activities Support & Personnel | $935,000 | 6.9% | $905,000 | 6.4% |
| **Subtotal Marketing Programs** | **$9,000,000** | **66.3%** | **$9,445,000** | **67.2%** |
| Industry Affairs & Production Research | $2,342,205 | 17.3% | $2,368,238 | 16.9% |
| Grant Programs | $200,000 | 1.5% | $210,000 | 1.5% |
| Operations | $2,027,829 | 14.9% | $2,027,829 | 14.4% |
| **Subtotal Non-Marketing Programs** | **$4,570,034** | **33.7%** | **$4,606,067** | **32.8%** |
| **Total Expenditures** | **$13,570,034** | | **$14,051,067** | |
| **Total Revenues** | **$10,194,813** | | **$10,204,813** | |
| **Excess Of Revenues Over (Under) Expenditures** | **($3,375,221)** | **-33.1%** | **($3,846,254)** | **-37.7%** |

## USMCA Joint Review – Tariff Rate Quota

As previously reported, the United States-Mexico-Canada Agreement "Joint Review" is underway to determine if improvements are needed and whether USMCA should be extended beyond its termination date in 2036. In November 2025 the Commission submitted written comments requesting a seasonal tariff rate quota (TRQ) on Mexican avocados for the months of March through September to help curb the surging low-priced avocado import volumes from Mexico. In December 2025 I testified at the United States Trade Representative's Joint Review hearing in Washington, D.C. to reinforce the industry's urgent need for the TRQ and a Congressional letter was sent to USTR supporting our TRQ request.

Commission Chair Rachael Laenen and I traveled to Washington, D.C. in March 2026 and met with senior USTR officials concerning the Commission's TRQ request. In our meeting with USTR they requested additional data on volumes and pricing, and meetings also were held with members of Congress. It is clear from our discussions

# Calavo®

THE FIRST NAME IN AVOCADOS®

*The finest California Avocados since 1924*

For the past century, Calavo set the standards for superior quality, service and seamless supply in the fresh avocados category. We are here today because of our resilience in the past, and unbridled dedication to the future.

As a grower with Calavo, you benefit from the most experienced avocado people in the industry. Our grower relations team is second to none, providing support and services to help growers optimize harvests and maximize profits. It's the Calavo way!

scan for info!

calavo.com | 805.933.9960 | growerinfo@calavo.com

that the Joint Review negotiations are an extremely sensitive and complicated balance of interests. To best position the California avocado industry to receive the much-needed border relief, it is critical the Commission serve as the one coordinated, unified voice for the industry focused on achieving an effective seasonal TRQ.

The Joint Review is an untested process and the Administration expects it to continue beyond July 1, 2026.

## USDA Mexico Inspections

In fall of 2025 the United States Department of Agriculture created an audit team in Mexico to conduct field audits of certified groves and agreed to provide quarterly reports on inspection activities and outcomes.

The 2026 first quarter report was received and reported the following information.

Currently four experienced avocado program employees are assigned to the audit team. USDA's Animal Plant Health and Inspection Services is working with the State Department to hire additional audit team members (in progress) and is working to increase orchard audits in the second quarter and beyond. Audits will continue to be limited until additional staff are hired and onboard.

When pests are detected, the originating orchard is suspended from the program pending recertification inspection and approval during the next certification cycle. In the first quarter of 2026, APHIS audited 18 orchards associated with packing house detections, of which six resulted in additional positive pest detections in the orchards.

During these audits APHIS reviewed an average of 55% of the trees in each orchard. APHIS directly inspected 38,749 trees and found 202 to be infested with a total of 265 stem weevil specimens.

Additionally, the audit team performed paper audits of more than 5,800 harvest actions from over 2,000 orchards. Through data analysis, the team successfully identified and acted on at-risk orchards and shipments.

In November 2025 the Commission submitted written comments under the USMCA Joint Review requesting the Mexican inspection program be made a permanent part of the USMCA.

## Commission Redistricting

The Commission is required by law to conduct a Redistricting process every five years that establishes no fewer than three and no more than five districts. Each district must represent approximately the same percentage of avocado production. In February 2026 the Redistricting Committee unanimously recommended four districts, and in March the Board approved the recommendation by a required two-thirds majority.

The four districts will become effective November 1, 2026. All member and alternate seats will be up for election in September 2026.

## Industry Composition

After the Board's decision on Redistricting, it was requested that the Commission's minimum production threshold be reviewed. Under Commission law, "Producer" or "grower" means any person who is engaged within this state in the business of producing, or causing to be produced, avocados for market. "Producer" or "grower" does not include any person who has an average annual production of less than 10,000 pounds of avocados in the three preceding marketing years. (Amended by Stats. 2016, Ch. 451, Sec. 4. Effective January 1, 2017)

The following table shows industry data including grower production volumes. If the Board decides to revisit the definition of "Producer" this data will play an integral part of the deliberation and their decision. Please connect with your Commission representatives and share your viewpoint on the current "Producer" definition.

| 2025 Lbs. | # of Growers | % of Growers | | Total Lbs. | Avg. Lb. / Grower | % of Lbs. | |
|---|---|---|---|---|---|---|---|
| >1,000,000 | 68 | 2.31% | | 133,372,914 | 1,961,366 | 40.43% | |
| 100,000-1,000,000 | 490 | 16.62% | 19% | 147,000,262 | 300,001 | 44.56% | 85% |
| 75,000-100,000 | 119 | 4.04% | | 10,272,433 | 86,323 | 3.11% | |
| 50,000-75,000 | 197 | 6.68% | | 12,001,840 | 60,923 | 3.64% | |
| 25,000-50,000 | 379 | 12.85% | | 13,667,837 | 36,063 | 4.14% | |
| <25,000 | 1,696 | 57.51% | 81% | 13,592,536 | 8,014 | 4.12% | 15% |
| Total | 2,949 | 100% | | 329,907,822 | | 100.00% | |

| 2025 Lbs. | # of Growers | % of Growers | Total Lbs. | Avg. Lb. / Grower | % of Lbs. |
|---|---|---|---|---|---|
| >100,000 | 558 | 19% | 280,373,176 | 502,461 | 85% |
| <100,000 | 2,391 | 81% | 49,534,646 | 20,717 | 15% |


Mission
PRODUCE
AVOCADO SUCCESS STARTS HERE
Unparalleled Market Access Delivers Strong Returns
Global Retail and Foodservice Distribution in 25 Countries
California Based Grower Support Team
Agronomy Support and Resources
Pricing and Volume Incentives
GABE FILIPE
Senior Director of California Sourcing and Farming
CONNOR HUSER
Regional Grower Relations Manager
missionproduce.com
@mission_produce

Chair's Report

*By Rachael Laenen*
Board of Directors Chair

# The Joy and Challenge of Farming Avocados

*Rachael Laenen*

A family member recently asked me what it is that I love about farming. I answered quickly and enthusiastically, but since then, I have thought a lot about the question and the answer. There is something incredibly special about growing avocados in California. We get to steward the land in a way that naturally promotes healthy soils because of the deep leaf mulch. We grow a safe and healthy piece of fruit that is truly delicious and I'm proud of every bin of fruit that leaves our ranch. We're growing a super food loaded with nutrition and people love it. Something that's good for you *and* tastes good? The avocado is a unicorn!

But growing avocados in California is hard. A wise man once said it's a fool who chooses to be business partners with Mother Nature. Because of cold snaps, high heat events and relentless Santa Ana winds, our fate is not truly our own. The challenges presented by Mother Nature are coupled by those of a competitive global market. We have little to no control over our input costs and we are at the mercy of our suppliers, supply and the global environment. Added to that, we are price takers because we grow a perishable commodity. When our beautiful fruit is ready, the clock starts ticking and we say, "How much will you pay me for this?" That price almost entirely depends on how much fruit is available in the market and how much other countries are sending to the U.S.

So why do we do it? Why do we love it? For me, it's because every day I can be a better farmer than I was yesterday. We know so little about growing avocados that there is plenty of opportunity for improvement. There are so many little things we can do to improve — technologies that help us irrigate with precision and meet the trees' exact needs; evolving and proactive fertility programs; comprehensive canopy management strategies; and harvest plans that maximize size and quality. These farming investments and decisions allow us to raise our yields, do more with less and ensure the fruit we're putting into the market is high quality premium fruit.

Without a doubt, things are tough. Prices are around 40% of what they were a year ago so breaking even — let alone turning a profit or being able to pay ourselves — seems like a long shot. With import volumes increasing by 15%, we're getting a front row seat to see just how much domestic consumption can increase. The regulatory burden continues to rise and the cost and availability of labor is always an issue. And with the war in Iran, the uncertainty of input costs and the hike at the gas pump makes budgeting a challenge.

In times like this, we need the California Avocado Commission more than ever. I'm pleased the recent referendum results reaffirm that the vast majority of the industry feels the same. I continue to be proud of the work CAC is doing. The Marketing Team is making sure California avocados are top of mind through widespread media coverage, including articles focusing on the start of our season, showcasing locally grown messaging and highlighting some awesome women growers in our industry. Our retail marketing directors are meeting with retailers to ensure they are poised to promote our fruit as our volumes ramp up. Our Production Research committee is tackling relevant questions that will help us in the orchard today while looking around the corner to proactively keep us safe in the future. And Ken Melban is eloquently advocating for us in Washington, D.C. to give us the best shot at some meaningful relief.

None of these things, as a farmer, are things I could do on my own. Not even a small group of farmers could run successful farming operations and achieve all of these things. Because of this, I will be forever grateful to our forefathers who had the vision to bring the industry together – growers and packers alike – to create the Commission and charge them to do this hard work for us. I'm grateful for the skilled professionals who work relentlessly on our behalf to deliver against our mandate and mission. As your Chair, I take this responsibility seriously and I know the team does too. It's time to get to work and focus on making the best of this year.

# McDANIEL
FRUIT COMPANY


THE FAMILY NAME IN CALIFORNIA AVOCADOS SINCE 1944

JOIN THE MCDANIEL FAMILY OF GROWERS

WWW.MCDANIELAVOCADO.COM (760) 728-8438 INFO@MCDANIELAVOCADO.COM

965 E MISSION RD - FALLBROOK, CA

By *April Aymami*
Director of Industry Affairs and Operations

# Commission's Redesigned GreenSheet Allows Growers to Receive Targeted News and Alerts

GreenSheet
CALIFORNIA AVOCADO INDUSTRY NEWS

The California Avocado Commission has redesigned the semi-monthly GreenSheet newsletter and will be using an upgraded email platform that allows readers to receive SMS text messages for time-sensitive alerts. In addition, the Commission will be able to customize GreenSheet alerts using grower and industry member zip codes to send targeted alerts and articles relevant to a specific growing region.

On a semi-monthly basis, the GreenSheet provides growers and industry members with:

- Upcoming meetings, relevant industry events, seminars and training opportunities
- Professional weather data to help growers prepare in advance for changing conditions
- A variety of industry news related to cultural management, advocacy on high-interest topics, legislative updates, grants and other funding opportunities, production research
- Highlights from the marketing team including consumer and trade public relations and promotions
- California avocado market trends and statistics, including Hass field prices, crop volume and projections

**Even if you are already receiving the GreenSheet, to continue receiving the GreenSheet, growers and industry members will need to complete a signup form.** To provide readers with relevant and important information for their region, as part of the signup process, registrants will be asked to provide their grove zip code. Industry members without a grove should enter the zip code of the area they would like to receive industry alerts for.

To add your name to the GreenSheet distribution list, you can use the QR code below.

# Growers Encouraged to Complete 2026 Annual Crop Survey

Each year, the California Avocado Commission conducts a grower crop survey to collect data that helps the Commission more accurately predict the flow of avocados to market and fine tune the California crop estimate. The survey assists CAC in assessing overall productivity, as well as the challenges growers are facing in their groves.

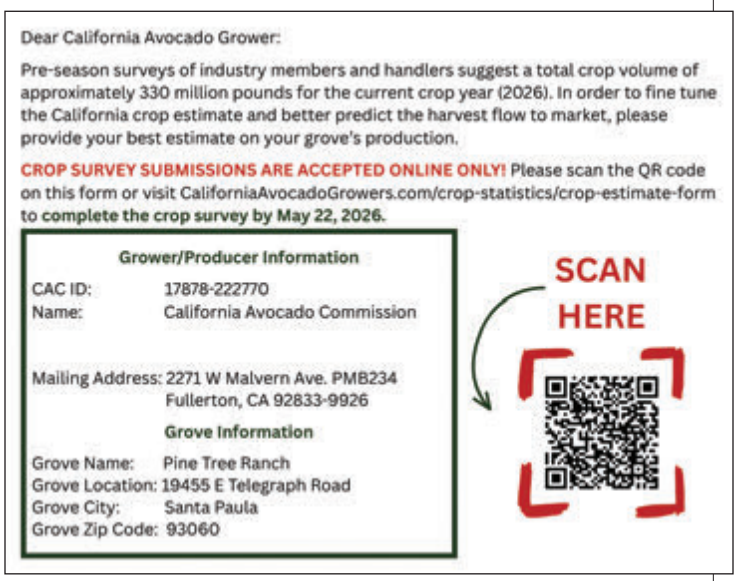
Growers will receive a postcard with their grove information in the coming weeks and are highly encouraged to complete the survey by May 22, 2026. Crop surveys may only be completed online. Please scan the QR code on the postcard to complete the survey or visit CaliforniaAvocadoGrowers.com/crop-statistics/crop-estimate-form.

To complete the survey, growers will need the following information:

- CAC ID
- Grove zip code
- Number of acres by variety
- Estimated pounds by variety

Individual data from the survey is for the Commission's use only and will be kept confidential. If you do not receive a crop estimate survey postcard in the mail, please contact April Aymami at aaymami@avocado.org.


*Front of Postcard.*




*Back of Postcard.*

# Statewide Grower Referendum Affirms Continuation of CAC Through 2031

The California Department of Food and Agriculture recently completed a state-mandated referendum vote that determined the California Avocado Commission is approved to continue operations through 2031. By law, a continuation vote must be held every five years, requiring a majority of participating producers to vote in favor of continuation. The referendum results demonstrated strong industry support, with a clear majority of 73% of voting producers approving continuation of the Commission. This referendum marks the tenth successful reaffirmation vote since the Commission's inception.

"This outcome reaffirms the value of the Commission and its role in sustaining a vibrant California avocado industry," said Rachael Laenen, chair of the CAC Board of Directors. "Through strategic marketing, industry advocacy, production research and grower engagement, CAC remains focused on enhancing the premium positioning of California avocados and supporting grower viability."

The Commission, established in 1978, is funded through mandatory grower assessments and governed by a board of producers and handlers. Its programs are designed to strengthen the California Avocados brand and address the evolving challenges facing growers — including rising input costs and increasing market competition.

"The avocado category is set to experience significant growth in the coming years, and this vote ensures the Commission will continue to provide the necessary support to enable the California avocado industry to compete successfully in the marketplace," said Ken Melban, president of CAC. "The Commission board and staff are poised to develop strategic initiatives to advance the California industry over the next five years."

## Board of Directors

### District 1

Member/Al Stehly
Member/Robert Jackson
Alternate/Enrico Ferro

### District 2

Member/Ohannes Karaoghlanian-**Vice Chair**
Member/Tina Wolferd
Alternate/Kurt Bantle

### District 3

Member/Maureen Cottingham-**Treasurer**
Member John Berns-**Secretary**
Alternate/Doug O'Hara

### District 4

Member/Rachael Laenen-**Chair**
Member/Stephen Sheldon
Alternate/Nathan Lurie

### District 5

Member/Daryn Miller
Member/Andy Sheaffer
Alternate/Adam Franscioni

### Handlers

Member/John Dmytriw
Member/Danny Klittich
Alternate/Vacant Seat

### Public Member

Member/Marty Ordman
Alternate/Maddie Cook

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

cdfa CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE
Karen Ross, Secretary

April 7, 2026

## Avocado Producers Approve Continuation of the California Avocado Commission

**TO THE CALIFORNIA AVOCADO PRODUCER ADDRESSED:**

The California Department of Food and Agriculture (Department) recently conducted a referendum among eligible avocado producers to determine whether the operation of the California Avocado Commission (Commission) shall be reapproved and continue for another five-year period. The voting for this process concluded on March 18, 2026, and the Department has tallied all ballots received. A summary of the referendum results is presented below:

| | |
|---|---|
| **Participation** | |
| Number of valid ballots received during the referendum | **473** |
| Total number of eligible producers who were issued a ballot | **1,764** |
| Percentage of eligible producers who participated in the referendum | **26.81%** |
| **In Favor of Continuation** | |
| Number of producers who voted in favor of continuation | **344** |
| Percentage of producers who voted in favor of continuation | **72.73%** |
| **Opposed to Continuation** | |
| Number of producers who voted in opposition of continuation | **129** |
| Percentage of producers who voted in opposition of continuation | **27.27%** |

Pursuant to the Commission Law, in order for the Commission to be reapproved and continue in operation for another five years, a majority of the eligible producers voting in the referendum must vote in favor of continuation. Since this criteria was achieved in this referendum, the Commission has been authorized to continue in operation through the end of the 2030-2031 fiscal year, which is October 31, 2031.

The California Avocado Commission has been in existence since 1978, and conducts promotion, education, research, and issues management activities on behalf of the California avocado industry. These activities are funded by a mandatory assessment levied on avocado producers in the state with an average annual production of 10,000 pounds or more in the three preceding marketing years.

If you have any questions regarding this referendum, please contact Ben Kardokus with the Department's Marketing Branch at (916) 900-5018. For questions regarding the activities of the California Avocado Commission, please contact Ken Melban, President of Commission, at (949) 341-1955.

Sincerely,

Joe Monson, Branch Chief
Marketing Branch

2026 0403 | 2026 0407 | 3607

CDFA Marketing Branch • 1220 N Street • Sacramento, California 95814-5603
Telephone: 916.900.5018 • Fax: 916.900.5343 • www.cdfa.ca.gov/mkt/mkt

**State of California**
Gavin Newsom, Governor

# California Avocado Branded Bag Program Drives Strong Retail Performance

During the 2025 season, the California Avocado Commission partnered with select shippers and a major national retailer to develop a California-branded bag for its bagged avocado product which was distributed and sold in select retail stores. While the California avocado origin has been included on other shipper and retailer bags previously, this partnership fully integrated the California Avocados brand, with the Commission able to directly influence the bag design and closely align it with the brand's consumer advertising creative and messaging. The results demonstrated that California-branded bag programs can help drive incremental sales and improve retail performance compared to the broader category, and therefore the program is being continued in 2026.

Overall, bagged avocados have experienced strong growth in recent years. In 2025, bagged avocado sales reached nearly one billion avocados in total U.S. retail volume, increasing 7.8% compared to 2024 and driving 8.1% dollar growth.* Building on the strong momentum of bagged avocados at retail, the goal last year and this year is to combine this rapidly growing format with the strength of California Avocados branding to drive even greater results.

The program ran for 11 weeks from July through September 2025 (ending September 28) and was implemented in select stores across the western United States. During this time, participating stores featured California Avocados branded bags designed to highlight California origin and leverage the strong shopper affinity for the brand.


*Key performance highlights from the California Avocados branded bag retail program.*

Giumarra

nature's partner®

# YOUR PARTNER FOR A GREAT SEASON

**Two California Packinghouses**

**Personalized, Responsive Service**

**Grower-First Mindset**

**Top Returns**

**Rapid Pay**

**Contact our field representatives and join Giumarra's family of growers today!**

**San Diego & Riverside Counties**
Jose Tostado, (760) 801-4560
Dalton Dowhan, (951) 553-0834
Geovani Martinez, (760) 208-3741

**Scan to email our Southern California team**

**Ventura, Santa Barbara & San Luis Obispo Counties**
Abel Galvez, (805) 798-7404
Pete Bastone, (805) 469-0398

**Scan to email our Northern California team**


*An example of the California Avocados branded bags at select retail locations highlighting California origin and growing practices.*

Participating stores featured two California-branded bag formats: 6-count bags with small Hass avocados (PLU 4046) and 4-count bags with large Hass avocados (PLU 4225). Both formats prominently featured the California Avocados brand logo along with artwork from CAC's advertising campaign, including the outline of the State of California. Packaging messaging highlighted the California origin and growing practices, including phrases such as "fresh from THE GROVE to you" and "LOCALLY grown, SUSTAINABLY farmed." A QR code on the bag connected consumers to additional information about California avocados, while the reverse side clearly identified the fruit variety as Hass avocados.

Retail scan data from Circana showed that the partnership program delivered strong results, with bagged avocados driving category trends and participating stores outperforming their competitive market in year-over-year sales. These findings highlight the value of avocados carrying the California Avocados brand and the importance of having California avocados available to shoppers and readily identifiable at the point of purchase.

### *Key program performance highlights include:*

- The participating retailer outperformed its competitive market by 8.1 points in bagged avocados unit growth[1] and 3.5 points in dollar growth
- 16.5% year-over-year unit growth for total bagged avocados in participating stores
- 6-count bag sales trends of 213% unit growth and more than 170% dollar growth

While distribution for the 4-count bags of large avocados was limited due to the retailer's inventory needs, results were strong where the format was available. These bags were offered in 22.6% ACV[2] of the partner's stores during the applicable period. Despite the lower distribution, this format delivered the highest sales velocity in stores where it was available, indicating strong shopper demand when the branded 4-count bags were offered.

The overall results demonstrate that California-branded bag programs can help drive incremental sales and improve retail performance versus the broader category. For California growers, stronger retail trends signal increased demand for California avocados. When retail sales strengthen, it creates additional opportunities throughout the supply chain and helps establish conditions needed to drive value back to growers.


*California Avocados branded bag artwork designed by the Commission.*

### *Footnotes*

*[1] Circana data defines "units" as sales of individual avocados or bags, regardless of size. Unit sales measure volume without regard to price.*

*[2] ACV: Circana and other data providers use a common measure of distribution in the retail industry called "All Commodity Volume" (ACV). ACV weights the volume of retail stores according to how much they sell of all products.*

**Source: Circana Total U.S. MULO+, 2025 vs. 2024*

# Loyalty.
# Trust.
# Action.

**Your trusted partner in all things Avocado.**

FRESKA
AVOCADOS

805-650-1040 | www.freskaproduce.com

# The Marketing Funnel:

## A Valuable Tool to Guide Consumer Communications

In sales and marketing, the marketing communications funnel visually represents each step of the customer journey, with the funnel broad at the top (before a consumer considers buying a product), then narrowing the closer a shopper gets to the purchase and brand loyalty phases. Many businesses structure their marketing and research utilizing this funnel because it provides a framework that guides how a consumer discovers and buys a product.

### *What is the Marketing Funnel*

The four basic components of the marketing funnel are awareness, consideration, conversion and loyalty. *(See Graphic 1.)*


**Graphic 1**

The California Avocado Commission uses the marketing funnel for guidance when promoting California avocados, as three of the four main objectives of CAC Priority #1 in the 2025-2026 Strategic Business Plan align with the awareness-to-brand-loyalty levels of the marketing funnel:

- Maintain or increase California avocado awareness with our consumer targets (awareness)
- Maintain or increase perceived value and preference with our consumer targets (consideration and conversion)
- Build loyalty with existing and target new trade customers (loyalty)

CAC expands upon the differentiated levels of the marketing funnel by assigning specific tools and strategies that are effective in progressing a consumer from general awareness to brand loyalty. *(See Graphic 2.)*


**Graphic 2**

**Awareness:** For California avocado growers, it is not valuable to advertise just the product "avocados." To secure a price differential for California avocados and differentiate

the locally grown fruit from fruit grown in other countries, CAC builds awareness about ***California*** avocados, the locally grown origin of the fruit, when they are in season and where to find them. CAC accomplishes this by running ads targeted at consumers who purchase avocados regularly but may not be aware of where their fruit comes from. The Commission also increases awareness of the brand by sharing California avocado growers' stories and what differentiates the brand with targeted audiences through social media channels and public relations outreach.

**Consideration**: This step involves a deeper dive into what makes California avocados unique and building trust with consumers by educating them about the premium quality of the fruit, how it is grown and the care growers take in producing their fruit. CAC utilizes advertisements, newsletters and endorsements from influencers and other credible third-party advocates that emphasize locally grown and sustainably farmed messaging. Ultimately this communication elevates California avocados as a premium pick and builds support for the California avocado industry.

**Conversion**: A customer is convinced that California avocados meet their standards and preferences. Now what? When an individual visits a retail partner who merchandizes California avocados, CAC supports the retail chain with customer-specific programs that may include signage, displays and coupons that encourage sales at point of purchase.

**Loyalty**: CAC's efforts don't end with the purchase of a California avocado. To drive repeat California avocado purchases and build a broader fan base, the Commission utilizes engagement activity on social media and email, as well as consistent retail promotions to spur brand loyalty and ambassadorship. By establishing a loyal cohort of purchasers and an audience willing to tout their love for California avocados, the Commission builds a sustainable system of lifelong support for the brand.

# Re-evaluating Avocado Water Needs:

## What is the True Avocado Crop Coefficient?

By Tim Spann, PhD
Spann Ag Research & Consulting

Dr. Ali Montazar, UC Irrigation and Water Management Advisor, recently completed a three-year study to develop more accurate crop water use data and crop coefficients for avocados. This project was funded by the California Avocado Commission and the California Department of Food and Agriculture. Before discussing the results of Dr. Montazar's work it is important to understand how crop water needs are calculated and what crop coefficients are.

### *Understanding the Crop Water Cycle*

Any plant grown in soil is part of a water cycle. This cycle includes water coming into the system through rainfall, irrigation and water lost from the system through evapotranspiration. Evapotranspiration, commonly referred to as ET, is the water that leaves a crop system through evaporation from the soil surface and transpiration — the movement of water from the soil, through the plant and out to the atmosphere from the surface of leaves (Figure 1). The primary environmental factors that affect ET are air temperature, humidity and solar radiation (which is affected by slope and aspect). Crop factors that affect ET are canopy density, plant height, row orientation and the physiology of the crop itself.

In an agricultural setting, our goal as managers is to supply enough water to our crops to meet the ET demands of the crop — $ET_c$. This is done by estimating $ET_c$ over a period, e.g. one week, deducting any rainfall that occurred during that period, and supplying enough irrigation to meet the difference between $ET_c$ and rainfall. Sounds simple, right?

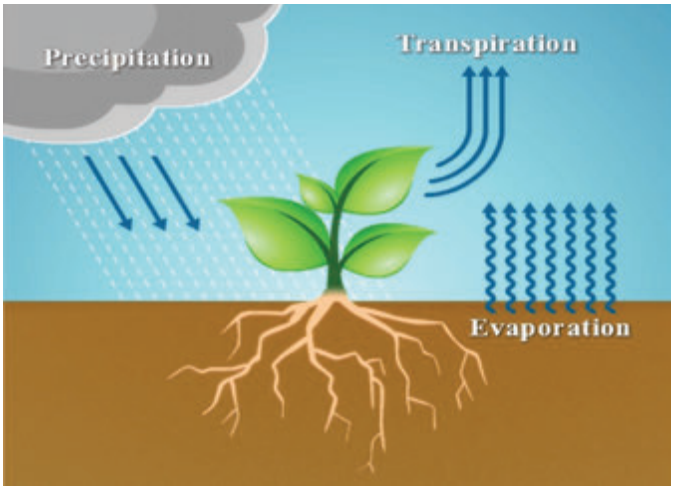



*Figure 1. A graphic showing how water loss from soil evaporation and plant transpiration combine to equal evapotranspiration. Credit: Victor Yee, Oregon State University.*

### *How is $ET_c$ Calculated?*

Direct measurement of $ET_c$ involves expensive equipment and elaborate mathematical equations (Figure 2). To get around this, systems of standardized weather station networks are used to calculate a reference ET ($ET_o$) from which $ET_c$ can then be calculated. In California, this system of weather stations is the California Irrigation Management Information System (CIMIS). CIMIS uses a combination of ground-based weather stations and satellite data to provide more accurate information for areas in between physical stations. But what is this reference ET?

For these weather station networks to provide reliable data, they must be installed within a standardized crop so their data can be reliably compared. In California, this reference crop is irrigated grass or alfalfa of at least four acres in area and maintained at a specific height. If you maintain a golf course this is good data to have, but for other crops it is essentially useless unless you can calculate how much water your crop uses relative to grass. To do this, we need a crop coefficient.

### *Crop Coefficient*

A crop coefficient, $K_c$, is a value used to calculate your crop's water use relative to the grass reference crop. For example, if your crop has a $K_c$ of 0.50 — that is to say your crop uses 50% of the water of the grass reference crop — and your weather station data says that $ET_o$ for the past week was 1 inch, then your $ET_c$ was 0.5 inches of water in the past week ($ET_o \times K_c = ET_c$). If there was no rainfall during that week then you need to supply 0.5 inches of water through irrigation. How efficient your use of water is, is directly related to the accuracy of the $K_c$ you are using. If your $K_c$ is too low, you will be under irrigating your crop. If your $K_c$ is too high, you will be over irrigating your crop.

For avocados, a detailed study of the actual $K_c$ for Hass has never been undertaken in California, or virtually anywhere else in the world for that matter. Irrigation calculators, like the one available on AvocadoSource.com, provide $K_c$ values that have been developed from grower experience or maybe some limited data sets. For example, in the irrigation calculator tool on AvocadoSource, you can select from "California (new values)" or "California (old values)" for the $K_c$. The California new values are fixed at 0.86 for every month of the year. The California old values are variable from a low of 0.40 in January to a high of 0.65 in July. That's a huge difference. Which one is correct? Is either correct? Given the high cost of water and how critical it is to producing a good crop, we had to do better.

### *Measuring Actual Hass Avocado $K_c$ in California*

Dr. Montazar's project looked to measure the actual water use of Hass avocado trees under a variety of climatic zones that represented the main avocado production areas of Southern California. His project had 12 sites in San Diego, Riverside, Orange and Ventura Counties. These sites represented a diverse range of climates (hot inland valleys to cool coastal areas), planting densities, varying slope and elevation, varying canopy sizes and management practices, as well as different soil types, water sources and irrigation practices.

At each site an elaborate array of sensors was set up from the soil, to within the tree canopy, to above the canopy (Figure 2). These sensors measured parameters such as soil moisture

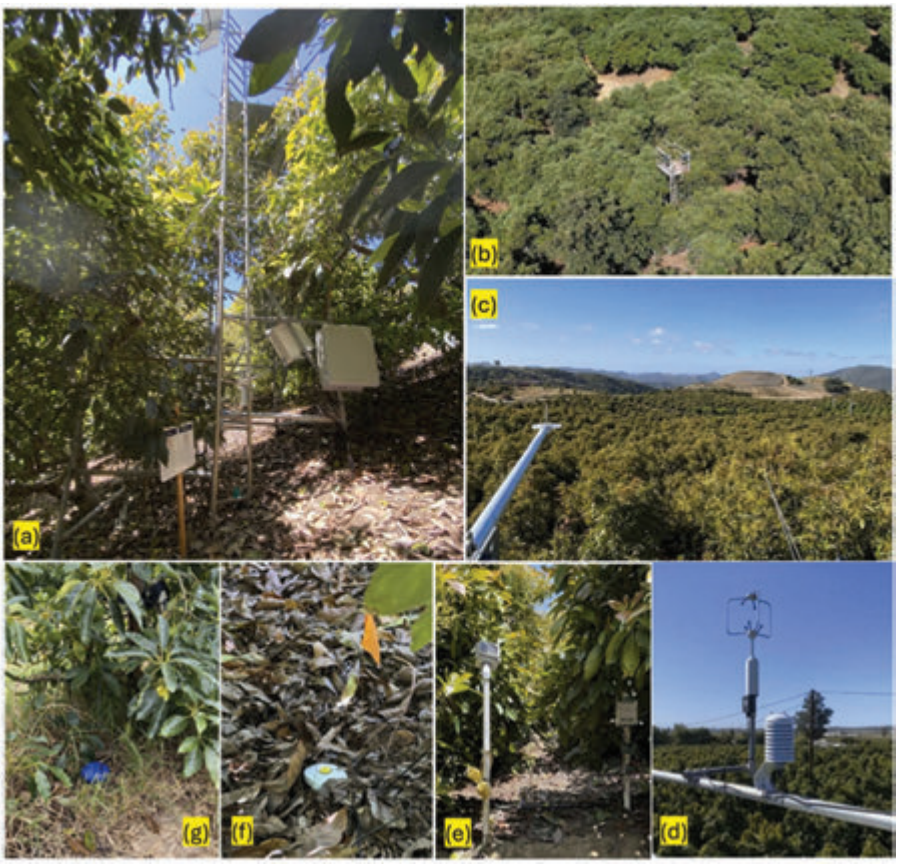



*Figure 2. Images depicting the equipment set up in avocado orchards to measure actual avocado ET. The images show (a) a tower used to mount sensors, (b) an aerial view of a tower in an avocado orchard, (c) net radiometer and thermocouples mounted above the canopy, (d) a sonic anemometer and temperature and relative humidity sensors, and (e-g) various soil moisture sensors and data loggers. Credit: Dr. Ali Montazar, University of California Cooperative Extension.*

**Table 1. General information about experimental avocado orchard sites.**

| Experimental Site | Age of trees (in 2022) | Tree spacing (ft x ft) | Microsprinkler flow rate (gal/hr) | Elevation (ft above mean sea level) | Row aspect and slope (%) | Water source | Location |
|---|---|---|---|---|---|---|---|
| AV1 | 11-years | 20 x 20 | 25 | 757 | South, 44% | District | San Pasqual Valley |
| AV2 | 8-years | 15 x 18 | 9.5 | 1,490 | Southeast, 20% | District | Temecula |
| AV3 | 5-years | 15 x 19 | 7.5 | 450 | Southwest, 12% | Reclaimed | Irvine |
| AV4 | 5-years | 12 x 14 | 8 | 164 | Southwest, 3% | District and groundwater | West Saticoy |
| AV5 | 18-years | 18 x 18 | 10.5 | 472 | South 4% | Groundwater | Santa Paula |

Table adapted from Montazar, A. et al. 2025. Quantifying evapotranspiration and crop coefficients of California 'Hass' avocado affected by various environmental and plant factors. *Agricultural Water Management* 313:109481.

content, soil temperature, canopy temperature and humidity, air temperature and humidity, solar radiation above and below the canopy to calculate solar energy absorption, wind speed and rainfall. In addition, drones were used to map the canopy of the trees surrounding each sensor station and generate an accurate map of canopy density, volume and tree height.

For simplification, data from five sites that represent the range of site diversity and growing environments will be used for discussing the results of this study. The characteristics of these sites and their general growing region are shown in Table 1. Briefly, these sites represent tree canopy coverage from 44.2% to 88.7%, tree age at the start of the study from 5- to 18-years-old, planting density from 120 to 260 trees per acre, and water sources representing district, ground and reclaimed sources.

Across study sites and years, the actual annual measured $ET_c$ ranged from 28 to 40.5 inches of water. The $K_c$ values varied spatially (from site to site) and temporally (across the seasons). The monthly average $K_c$ was greatest during flower bud development, flowering and fruit set, compared with later fruit development phases, ranging from 0.7 to 0.85 over the year at the site with the highest values (site AV1) and just 0.55 to 0.73 at the site with the lowest values (site AV4). In 2024, this translated to a seasonal difference of 11.5 inches of water requirements between these two sites.

Actual daily $K_c$ values followed a similar pattern across all 12 study sites over the three-year study period with the daily actual $K_c$ being more variable in late fall and winter compared with spring and summer. This makes sense since in fall and winter the weather is more variable with cool, wet periods and warm, dry periods. At site AV1, the actual daily $K_c$ values ranged from 0.61 to 1.10, averaging 0.75 over the entire study period (992 days). In comparison, at site AV3 the actual daily $K_c$ values ranged from 0.43 to 1.06, averaging 0.66 during the study period. This large variability illustrates why using a constant $K_c$ value for the entire season is not a good idea.

Using daily $K_c$ values for irrigation needs calculations isn't practical since most growers are not managing their irrigation daily. Thus, it's more practical to integrate the daily values by month and use monthly average $K_c$ values for calculating irrigation needs. Figure 3 shows the average monthly $K_c$ values for the five representative study sites based on the three

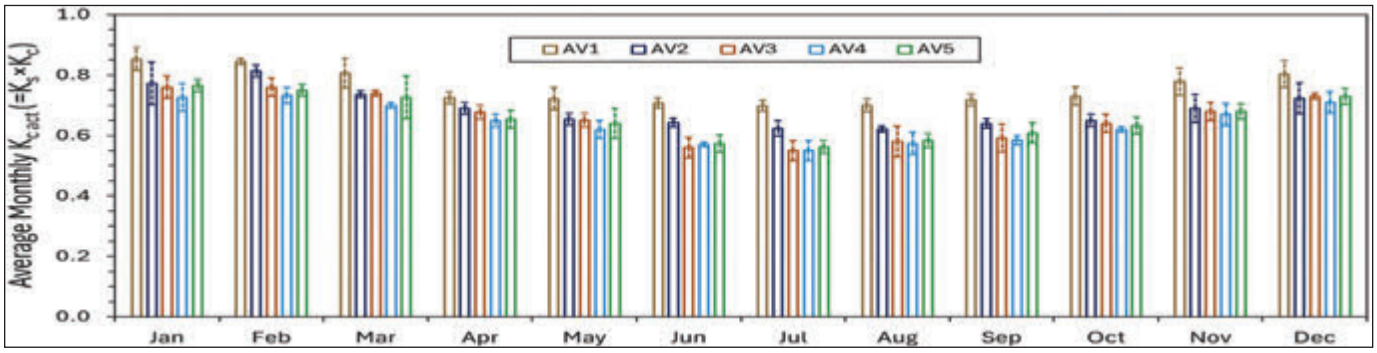



*Figure 3. Mean monthly actual crop coefficient ($K_c$) values at the five study sites presented in this article (see Table 1 for a detailed description of the sites). Credit: Dr. Ali Montazar, University of California Cooperative Extension.*

**Table 2. Mean monthly actual crop coefficients (Kc) for five different 'Hass' avocado orchards that represent the range of growing climates in Southern California.**

| Month | Location | | | | |
|---|---|---|---|---|---|
| | San Pasqual Valley | Temecula | Irvine | West Saticoy | Santa Paula |
| January | 0.85 | 0.77 | 0.75 | 0.72 | 0.76 |
| February | 0.85 | 0.81 | 0.76 | 0.73 | 0.75 |
| March | 0.80 | 0.74 | 0.74 | 0.70 | 0.72 |
| April | 0.73 | 0.69 | 0.68 | 0.65 | 0.66 |
| May | 0.73 | 0.66 | 0.65 | 0.63 | 0.64 |
| June | 0.72 | 0.65 | 0.57 | 0.58 | 0.59 |
| July | 0.70 | 0.63 | 0.55 | 0.55 | 0.57 |
| August | 0.70 | 0.64 | 0.59 | 0.58 | 0.59 |
| September | 0.71 | 0.65 | 0.60 | 0.59 | 0.62 |
| October | 0.73 | 0.66 | 0.65 | 0.62 | 0.64 |
| November | 0.78 | 0.71 | 0.70 | 0.69 | 0.64 |
| December | 0.81 | 0.73 | 0.74 | 0.70 | 0.74 |

Data derived from Figure 3.

years of study data. This is a good visual representation of how the five sites differ from one another within a given month and seasonally during the year. Table 2 shows the approximate values corresponding to the bars in Figure 3. For all sites, $K_c$ is highest from November through March and lowest from July through September.

At first, it doesn't seem right that $K_c$ is higher in winter than summer since we know the trees are using more water during the summer than winter. However, we must remember that $K_c$ values are relative to the grass reference. So, what this tells us is that during the summer grass uses a tremendous amount of water — as much as 1.5 inches per week in Southern California — and avocado trees only use about 60% to 70% of that amount. In contrast, in winter grass uses less water than in summer — about 0.5 inches per week. Avocados also use less water in winter, but as a percentage of the water used by the grass reference crop, they need a higher amount, 70% to 85%. But interestingly it always takes less water to grow an acre of healthy, nutritious avocados than an acre of grass, no matter the time of year.

### *How Can You Use This Information to Improve Your Irrigation?*

One thing that should be abundantly clear from this trial is that every avocado orchard is unique and has a unique $K_c$. However, it's simply not practical to develop $K_c$ values for every orchard. You should be looking at these data and ask yourself which of these study sites is most like my orchard? Chances are, unless you're adjacent to one of the study sites, you're going to be a combination of a couple of sites.

If your orchard is inland with little coastal influence, you probably want to use values like sites AV1 and AV2. If you're more coastal in San Diego County, you're probably more like site AV3. Coastal growing regions in the north are most likely closer to site AV4 and inland areas in the north are probably going to be some combination of sites AV5, AV3 and AV2.

As time goes on, these values will continue to be refined, and more concrete recommendations will be developed. Dr. Montazar is now working on a new project to validate these $K_c$ values developed in this study, and to determine the effectiveness of various irrigation regimes on fruit quality and yield, as well as water use efficiency and water conservation.

*This article is a brief synopsis of the full study conducted by Dr. Montazar. His full research report can be found at https://www.californiaavocadogrowers.com/research-library/developing-tools-and-information-crop-water-use-and-effective-irrigation. Additionally, further details can be found in the publication, "Quantifying evapotranspiration and crop coefficients of California 'Hass' avocado affected by various environmental and plant factors," available at https://www.sciencedirect.com/science/article/pii/S0378377425001957.*

# 2026 Consumer Ad Campaign Evolves:

## Showcases the Dedication and Pride of California Avocado Growers

This season, California avocado growers will take center stage in the California Avocado Commission's *"Voice of the Grower"* consumer marketing ads, an evolution of the award-winning *"What's Inside a California Avocado"* campaign. By integrating the voices and roles of growers into the storytelling narratives established in 2025, the Commission will deepen emotional connections with consumers, while reinforcing what makes California avocados special.

Based on the current crop harvest forecast, the creative campaign will launch April 1 and run through the end of August across a diverse set of channels in core markets including digital platforms, social media, retailer tagged videos (Connected TV, YouTube, broadcast) and out-of-home and retail promotions. Geo-targeted ads will be focused on Arizona, California, Colorado, Oregon, Utah and Washington and target Ultra and Mega avocado shoppers who account for 53% of avocado purchases. By using a combination of engaging storytelling ads, custom recipes and other tactics, the Commission will build awareness of the California avocado season and encourage purchases by driving traffic to the consumer website and online store locator.

Video and photography for the creative at the heart of the campaign was captured in two local California avocado groves run by the Lyall family and the Pinkerton family. The Commission is grateful to each of these families, as well as former CAC Chair Jason Cole (who also participated in the production shoot), for sharing their stories and helping to capture the care they use to bring California avocados to market. The authentic voices of these individuals showcase the dedication and pride of California avocado growers and illustrate why "the best avocados have California in them." Each shared

*Streaming/Connected TV/broadcast ads will feature California avocado growers including Jason Cole, the Pinkerton family, and the Lyall family welcoming consumers into their groves.*

Redox
BIO-NUTRIENTS

Contact your Redox Bio-Nutrients Agronomist:
**Jasmine Baird** | jasmine.baird@redoxgrows.com | 509-388-6060

# THE FOUNDATION FOR RESILIENT CROPS AND EXCEPTIONAL YIELDS.

A strong crop begins with a strong foundation, and **RootRx®** is designed to promote vigorous root development from the start. By optimizing soil conditions and stimulating root metabolism, **RootRx** helps plants build a dense, active root system capable of efficiently absorbing water and nutrients. This stronger root architecture supports overall plant vigor and enables crops to better withstand challenging environmental conditions such as drought, temperature fluctuations, and other abiotic stresses.

For balanced nutrition and long-term performance, **diKaP™** and **Rx Platinum™** provide highly effective potassium sources that help regulate water movement, strengthen plant structure, and support optimal metabolic activity. Meanwhile, **Mainstay® Calcium 2.0** and **Mainstay® Si** deliver essential calcium and silicon nutrition that reinforce cell walls, improve structural integrity, and enhance plant resilience to stress. Together, these products create a powerful nutritional program that builds stronger plants from the roots up, supporting improved stress tolerance, exceptional yield potential, and superior crop quality for sustainable success.

## STEPS TO GROWING BIGGER, BETTER AVOCADOS

Scan to learn more


(208) 678-2610 REDOXGROWS.COM @REDOXGROWS

personal stories that brought key California avocado differentiators to life — locally grown, sustainably farmed, responsibly grown and fresh from the grove — in a trusted, approachable and engaging manner.

The ads were crafted in a three-act structure. They open with the growers in their groves, speaking directly to the camera and sharing their histories. The ads then transition to consumers enjoying California avocado-centric dishes and close with beauty shots of the fruit and an emphasis on the shared commitment of California growers to produce the best avocados on the planet. By creating a strong emotional connection between the grower and consumer, CAC will shine a light on the care and stewardship it takes to bring every premium California avocado to market. To make it easy for consumers to find when and where the fruit is available, these ads will be combined with a call-to-action to purchase California avocados in season and call outs that identify retailers carrying the fruit.

This year's ad campaign delivers messaging that aligns with target retailer values, strengthening the call-to-action when retailers are tagged in the content to ensure consumers know where to find California avocados.

Curious Plot, the Commission's consumer advertising and public relations agency, leads the advertising creative devel-


*California avocado-branded bins showcase the unique care and pride of California avocado growers.*

*This QR code directs consumers to the 60-second "Voice of the Grower" video ad.*


*Digital out-of-home includes digital screens inside grocery stores and retail environments,to influence shoppers during key purchase decision moments.*

opment. Curious Plot is a full-service marketing communications agency specializing in food, agriculture, and produce. In addition to its work with the California Avocado Commission, the agency's portfolio includes collaborations with organizations such as the Mushroom Council, the National Watermelon Promotion Board and other food and commodity boards.

# California Avocado Recipes Encourage Seasonal Purchases

## Spring and Summer Grilling Recipes Featuring California Avocados

For today's food brands, recipes are more than meal ideas — they're powerful demand drivers. The California Avocado Commission develops consumer-focused recipes not just to inspire usage, but to motivate purchase, showcase versatility and reinforce the premium quality of California avocados. These recipes serve as a gateway to CaliforniaAvocado.com, support promotions and public relations efforts and are frequently requested by retail partners to strengthen their California avocado merchandising programs. In short, recipes help turn shopper interest into sales. Below are two CAC-developed grilling-themed recipes that are perfect for peak California avocado season during spring and summer.

### *Grilled California Avocado, Peach and Burrata Salad*

This fresh, vibrant salad features grilled California avocados paired with grilled peaches. Showcasing how to grill avocados and providing consumers with delicious, easy recipes encourages new usage ideas for the fruit in season. Scan the QR code below for full recipe details.

## *Green Goddess California Avocado Burger*

Retailers frequently request recipes to support their in-store programs, including promotions around popular American summer holidays such as Memorial Day, the Fourth of July and Labor Day. This *Green Goddess California Avocado Burger* recipe is perfect to inspire their customers to use California avocados at one of their summer holiday meals and thereby drive purchase. This dish combines grilled burgers with a trending creamy sauce made from fresh California avocado, ranch dressing and herbs. Scan the QR code below for full recipe details.

For more California avocado recipes for grilling season, visit CaliforniaAvocado.com/recipes/BBQ-Grilling/.

Make a difference in 2026! Please call 949.341.1955 or advise one of the CAC staff if you have a California avocado recipe for use in Commission programs.

# An Overview of Licensing New Varieties

By Tim Spann, PhD
Spann Ag Research & Consulting, LLC

### *Plant Patents*

When new plant varieties are developed in the United States, the breeder or whomever the breeder works for or did the breeding on behalf of, will often apply for a plant patent. Plant patents are intellectual property rights that can be granted to anyone who invents or discovers and asexually reproduces a new, distinct variety of plant, such as hybrids, mutants, or cultivars — except for tuber propagated plants such as potatoes. Plant patents are good for 20 years and prohibit anyone from asexually reproducing, selling or using the plant without permission from the patent holder.

Plant patent rights are recognized internationally under World Trade Organization agreements whereby members agree to provide protection for plant varieties. Although plant patents are unique to the U.S., most other countries protect breeder's rights through plant variety protection laws, which are equivalent to plant patents internationally.

Importantly, plants must be able to be asexually propagated to be patentable. Asexual propagation creates genetic clones of a plant by methods such as cuttings, grafting or tissue culture. In contrast, sexual propagation through seeds, resulting from the pollination and fertilization of flowers, produces offspring with unique genetic characteristics, which are therefore not patentable since the traits that made the parent plant unique are not maintained in the next generation.

### *Plant Breeding and Patents*

Plant breeding is conducted either privately or publicly. Private breeding programs are conducted by private individuals or, more commonly, by private companies. Driscoll's breeding program for various berry crops is a good example of a private breeding program run by a company. Rudolph Hass's namesake avocado variety is an example of a private individual holding a plant patent. Public breeding programs are usually run by public universities or sometimes other institutions such as botanical gardens.

Private breeding programs often (but not always) keep their patent protected germplasm for their own use or for use by their contracted growers. The patent is used to prevent anyone from outside the company from growing their unique varieties so they can have a market advantage. In contrast, public breeding programs often make their germplasm available to anyone ("public") who is willing to sign a license agreement to use the patented variety. In both cases, plant patents are being used to make money — for private programs by keeping close control of the patented plants and for public programs by charging licensing fees and royalties to whomever wants to grow their patent-protected varieties.

Often plant patents filed by public universities are owned by the university itself and the breeder or breeders who developed the specific variety are listed as inventors. In some cases, universities will create non-profit corporations to own and manage varieties developed by their plant breeders. For example, the University of Florida created Florida Foundation Seed Producers, Inc., which is a direct service organization of the university, and owns all the patents for germplasm developed by the university's numerous breeding programs.

### *Funding Support for Breeding Programs*

Usually, those absent from ownership of plant patents are organizations who provide funding support to the university, such as the California Avocado Commission. This is often for two reasons. First, the funding agency usually only pays a small percentage of the actual costs of a breeding program. For example, greenhouses, electricity, tractors or other farm equipment, land, and the breeder's salary and benefits are

usually paid for by the university as part of operating expenses or overhead, i.e., the indirect costs of the research. In California specifically, agricultural commodity boards, like CAC, are exempted by the state from paying the University of California for overhead. Thus, when CAC was funding the avocado breeding program our costs were for direct expenses — potting soil to germinate seeds, irrigation costs, pruning and maintenance of breeding stock, travel to and from field locations, etc. Significant costs no doubt, but they are not anywhere near the full cost.

Second, funding agencies usually relinquish their rights to own intellectual property developed with their funding, including plant patents. This is often in recognition of the costs paid for by the university as well as the recognition that managing intellectual property is a specialized job that is often beyond the ability of a funding agency. In the case of CAC specifically, the research agreement that was renegotiated with the University of California in 2011 specifically states: "All rights and title to discoveries or inventions arising from the University's performance of the Project under this Agreement shall belong to the University." That said, funding agencies will often have understandings with universities that provide them with favorable terms to license any intellectual property developed with their funding.

### *Licensing and Royalties of Varieties*

Again, the purpose of plant patents for a public breeding program is to generate money. Money is generated by issuing licenses that allow individuals or companies to propagate and grow the patented variety. Typically, a licensee will pay a fee for the right to the license and then pay a royalty for every plant propagated under that license. Depending on the plant, royalties can be a few cents per plant for something that will be propagated millions of times (e.g., poinsettia cuttings) to a couple of dollars per plant for a perennial tree crop that may only be propagated a couple of hundred thousand times during the life of the patent. Sometimes, an additional royalty fee may be imposed on production (volume or pounds) of specific crops (e.g., a royalty per harvested stem of cut roses).

Historically, in recognition of the various commodity boards' support for breeding programs, the University of California would not charge a licensing fee to nurseries in California to propagate their patented plant material. Instead, they would only collect the royalty, often at a reduced rate, for each propagation. They would look to make the bulk of their money from other states and international license agreements.

Licenses and royalties can be huge money makers for universities. And in the best examples, the breeding programs become self-sustaining from the royalty stream. The University of Florida blueberry and peach breeding programs are excellent examples of this. Both of those programs generate enough revenue from royalties to fully support their continued breeding efforts with no external funding.

### *University of California's Plant Breeding Model*

Unfortunately, the University of California has not adopted a model that directly returns revenues to support continued breeding of the plant that generated the revenue. Their model allocates net income into a 35% share for the inventor(s), 15% for campus research, and 50% for the campus "general pool." Specifically, the 15% research share is designated for research-related purposes on the inventor's campus. Depending on the campus administration, some portion of this 15% may be returned directly to the breeding program. The remaining 50% general pool share is used to cover the costs of the technology transfer office, with the remainder used for discretionary research support at the chancellor's discretion.

Under their model, it is in the University of California's best interest to sell as many licenses as possible and/or encourage as many propagations of a plant as possible to generate the largest revenue stream. How they go about this varies depending on the crop, but they often partner with entities specifically set up to manage varieties. For example, citrus varieties like the 'Gold Nugget' and 'Tango' mandarin are licensed to the New Varieties Development and Management Corporation (NVDMC) for the U.S. and to Eurosemillas, S.A. for overseas management.

Historically, there wasn't much concern about who controlled the licenses for the avocado varieties since the program was not very productive. In fact, the University of California, Riverside's avocado breeding program website (https://avocado.ucr.edu/) lists 114 avocado varieties in their collection, only seven of which are credited to the University's breeding program: GEM, Gwen, Harvest, Holiday, Lamb Hass, Sir-Prize and Whitsell. And of those, only Lamb Hass and GEM have seen any level of commercial success, but not until their patents had nearly expired, which happened in 2015 and 2022, respectively.

The avocado rootstock breeding program has not performed much better. To the author's knowledge, the University of California has only released three avocado rootstocks, Steddom, Uzi and Zentmyer. Their patents expire in 2031 (Steddom) and 2032 (Uzi and Zentmyer) and to date they have only seen moderate adoption in California.

### *Evolution of Commission Funding Related to Avocado Breeding*

In 2017, it was determined that CAC had spent $8.3 million since 1991 on the avocado breeding program for very little return (see "Avocado Breeding Program Continues to Evolve" in the Summer 2017 issue of *From the Grove*). Thus, the decision was made in 2018 to discontinue funding the va-

riety breeding program all together. This would allow funding to focus on rootstock breeding, which is arguably more critical to California avocado growers given Phytophthora root rot and salinity issues. Dr. Patricia Manosalva was hired in 2015 to take over the rootstock breeding program, and since that time CAC has provided Dr. Manosalva with more than $1.9 million in funding for the rootstock breeding program. Despite promises that several selections that have been lingering in the program for decades would be released, for the past five years no additional rootstock varieties have been released by the university. Thus, rootstock breeding funding was discontinued at the start of the 2025-26 CAC fiscal year.

When CAC decided to pull funding for the variety breeding program in 2018, the university developed a proposal looking for new outside funding, which was reviewed in the article "The University of California Avocado Breeding Program" in the Fall 2022 issue of *From the Grove*. Briefly, the university tried to put together a consortium of California avocado growers and handlers to provide $1 million of funding annually for 10 years. When this failed, they began searching outside of California and eventually put together a deal with Eurosemillas for $2.25 million total for five years — far less than their original ask — and developed Green Motion to license and release avocado varieties and rootstocks developed by the UC breeding programs around the world. What has been released commercially since that agreement was signed? One single variety, Luna.

### *The Case for Not Funding Avocado Licensing or Breeding in the Future*

That original five-year agreement with Eurosemillas is nearing its end. Should CAC or the California avocado industry in some way try to step in and negotiate a master license with the university? To what end? To try to control the market for fruit from any new varieties? To try to recoup the investment that California growers have made in the breeding program?

Plant patent rights, the legal basis for licensing varieties and rootstocks, only control genetic material and prevent propagation without the patent owner's permission. Since avocados, and most other crops, cannot be clonally propagated from seed, the fruit is not controlled by plant patent rights. In fact, some years ago the University of California tried to claim that their international licensing agreements for GEM precluded California-grown GEM fruit from being exported, as this would violate their international licensing agreements. CAC pushed back on this assertion and demanded the University explain the legal reasoning for this claim. After much back and forth, the University finally acknowledged that their license agreements could not restrict the trade of GEM fruit.

There is one major exception to this generalization and that is citrus. Seeds of citrus fruit (and a very few other species) are polyembryonic, a process whereby seeds contain one sexual embryo and multiple clonal embryos that are genetically identical to the mother plant. Often in citrus, the sexual embryo is aborted, thus the seedlings that grow from a citrus seed are genetic clones of the mother tree. For this reason, it may be possible for plant patent rights to be used to control citrus fruit. Otherwise, the shipment and sale of fruit is largely regulated by national and international laws of commerce.

Additionally, if licensing agreements were used to try to restrict fruit sales, this would largely take away the incentive for anyone to pay to license a variety of avocado. The United States and Mexico are the world's two largest markets for avocados. If licensed fruit is restricted from either or both of those markets, there would be little incentive for anyone to pay the costs to grow a licensed variety.

What about keeping new varieties exclusively for California growers so they have a unique product to sell that Mexico, or other importing countries don't have? Crop estimates for 2026 indicate that 94% of the crop is estimated to be Hass, 3.3% of the crop is estimated to be GEM, 2.4% is estimated to be Lamb Hass, and less than 1% for all other varieties. Lamb Hass has been available for 30 years and GEM has been available for 23 years and they are still just a tiny portion of production. Bringing new varieties to market is a slow, arduous, and costly process. Not to mention, if varieties are kept out of the world market, all the licensing costs and royalties will need to be paid by California avocado growers because the university still wants to make money.

In an industry where growers normally keep trees for 30, 40 or more years, there is no model by which avocado licenses make money within the life of the patent. Avocado breeding, not just in California but worldwide, is an excruciatingly slow process with far more failures than successes. Since 1982, the University of California has patented and released eight avocado varieties including Luna - arguably one of the more successful breeding programs in the world, and only two have seen any level of commercial success (Lamb Hass and GEM). That's an average of one variety every 5.5 years. However, there was a 20-year gap between the last two varieties — Harvest in 2003 and Luna in 2023.

In my opinion, it would be foolish for CAC or the California avocado industry to consider being the master licensee for University of California avocado varieties. The industry has heavily invested in avocado breeding for essentially nothing. That's a hard pill to swallow, but it is reality. Do I think it's good for the world avocado industry to be dominated by a single cultivar? No, absolutely not. The risks are tremendous, just ask the banana industry which is currently going through its second varietal extinction event due to Panama disease in the past 100 years. But that is a topic for a future article.

*By Tim Linden*

# Early Movement Slow Due to Market Conditions

In 2025, California sent fresh avocados to the market every month of the year. The season began with a very strong market leading to early sales and ended with a weak market leading to late sales as some growers held fruit back searching for better returns. The 2026 season, which is expected to produce a crop of comparable size, clearly has vastly different market conditions.

A trio of handlers interviewed for this story agreed that there is no clear timing strategy for marketing this year's expected volume of 330-350 million pounds, as growers are most likely looking at challenging market conditions through the bulk of the California season.

The U.S. avocado FOB price has been at the low end of the spectrum – often trading in the mid to high $20s per carton on most sizes – since the middle of last summer. There is no ambiguity about the reason as Mexico has had a robust crop every bit as large as the 3 billion pounds forecasted for their fiscal year (July 1 to June 30) last summer. And they are still sending huge volumes to the market, with 150 million pounds coming into the United States from Mexico during the first two weeks of March, according to the numbers posted on the Hass Avocado Board's website.

Understandably, California growers are reluctant to enter the market.

Through March, the state's growers had put fewer than 30 million pounds in commerce since the beginning of the season, which was much less than the previous year. Though Mexico is still expected to send big volumes at least into May, California growers have to start picking their crop for a variety of cultural management and marketing reasons. They do have to sell more than 300 million pounds this year, which does require that volume kick in by mid-April.

Keith Blanchard, who oversees all California field and facility operations for Index Fresh, confirmed that the slow start is the result of California growers waiting for improved market conditions. He noted that it does appear this year's fruit will be marketed most heavily in spring and summer, with April producing the first high volume weeks. He reasoned that the early Easter date of April 5, followed by Cinco de Mayo a month later and Mother's Day on May 10 could give the California fruit some solid momentum at the front end of its season.

He noted in late March that Mexico growers were not showing signs of slowing down their shipments, but California growers should still be able to get a premium for their fruit from their loyal retail customers.

On the plus side, Blanchard said the California crop is sizing very well

with very clean fruit, which should play well in the marketplace. He also noted that the organic market price saw a significant jump in late March, which seemed to be signaling that Mexico's organic avocado volume was ebbing as it typically does in the spring.

Patrick Lucy, president of Del Rey Avocado Company, agreed that California growers would most likely be faced with less-than-ideal market conditions all season long. He said Mexico is in the midst of its largest crop ever and observers are also expecting its summer flora loca crop to be on the high side. He said California growers have to start getting the fruit off their trees by mid-April or the industry will be in a crunch to get it all harvested and packed as the season wears on.

Lucy did see a silver lining in this year's relatively low market price as he hopes it can trigger some consumption growth by consumers. "The market price on avocados has been pretty high over the last several years and we have seen stagnant growth," he said. "Mexico has a ton of volume this year and we should see many promotions."

He added the opportunity exists "to promote the heck out of avocados (at retail) and create some new users." He said those promotions will be able to feature larger fruit as California should have a size curve this season that is better than past years.

Lucy does expect California organic avocados to have a larger premium above conventional fruit this year because of a drop in organic volume. He noted that organics make up about 10% of California's volume but this year he believes the number will be closer to 5%. The Del Rey president isn't exactly sure why the volume will be down but he suspects some organic growers have pulled acreage. He said the high costs associated with growing organics – including crop inputs and water – have led to some growers eliminating low performing groves and allocating their resources to their better producing trees.

As he searches for marketing strategies that growers might consider this year, Lucy said it is possible that late fruit will have a stronger market than the early market as well as last year's very low late season prices. He reasoned that after such a huge crop this year, it is reasonable to expect that Mexico's 2026-27 crop will be down. He also noted that Peru, which sends more of its avocados to Europe on average, has good market conditions in that market this year, which could lower its U.S. volume. While it's a gamble to hold fruit on that expectation, Lucy said growers are already in the gambling business and these circumstances could attract some takers.

Peter Shore, vice president of product management for Calavo Growers Inc., echoed the sentiments of the other two handlers. "I thought we would have more California fruit to sell in March but the market conditions led to this slow start," he said.

But putting an optimistic spin on it, Shore said demand has been very good with the amount of volume coming into the United States being very high and moving well. He said over the first three months of the year Mexico has sent a huge volume of fruit to the U.S. market, which should lessen its inventory moving forward. He added that while Mexico does appear to have a good summer crop, history tells him that the market price will eventually go up.

"I do think we will have a better market in May, June and July when Mexico is typically at its low point," Shore said, but cautioned that the market price still will not get anywhere close to the highs reached during last year's spring and early summer period.

He also noted that the strong European avocado market should cause there to be less Peruvian fruit in the U.S. market this summer, which could have a positive impact on the field and market price for California growers.

Another factor that could impact the market price on avocados, according to Shore, is the high fuel costs caused by the disruption in the flow of oil in the Middle East. He didn't want to guess as to what impact it will have on marketing opportunities, but he said both overland haulers and ocean freight carriers are seeing higher costs and are tacking on fuel surcharges to their customers.

One might surmise that this could be advantageous to California growers who market the great majority of their crop in a relatively small geographic area near point of origin.

# FARM CREDIT

AgWest Farm Credit | American AgCredit | CoBank

## Community Driven. Agriculture Focused.

Our community depends on agriculture and we're committed to financing each operation, one field at a time.

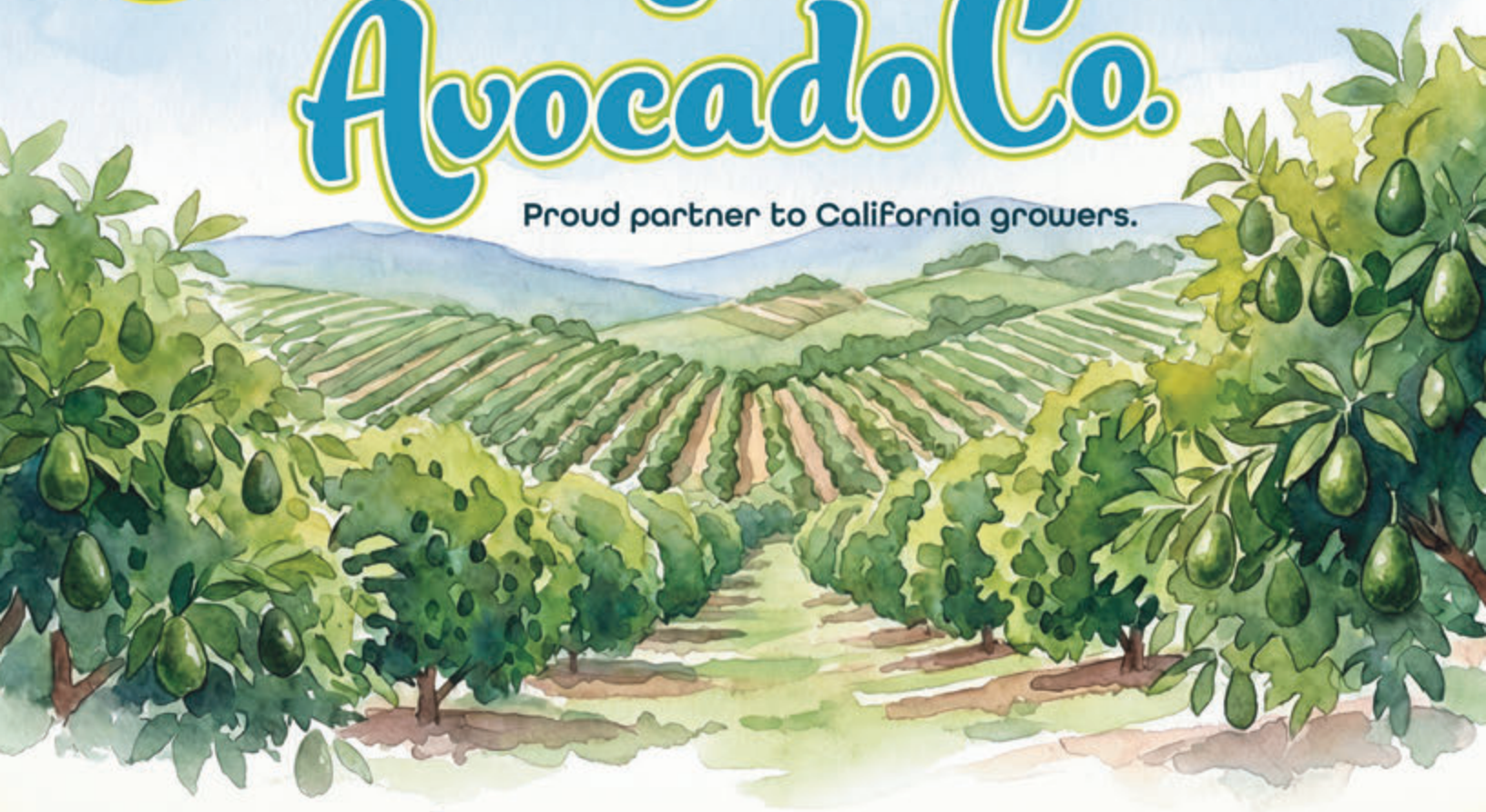
**SCAN ME**

## WE ARE FARM CREDIT

A network of customer-owned associations supporting California's rural communities and agriculture with reliable, consistent credit and financial services.

# Del Rey Avocado Co.

Proud partner to California growers.



**As a Del Rey grower partner, we are committed to supporting you every step of the way to help maximize each harvest.**

Be on the lookout for our California PLU, dedicated to California growers.


**CONTACT OUR TALENTED FIELD STAFF TO LEARN MORE.**

**DelReyAvocado.com**

**@delreyavocadoco**

AVOCADO Fallbrook DEL REY California COMPANY