

# From the Grove

The Latest News from the California Avocado Industry



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40TH ANNIVERSARY  
AT PMA FRESH SUMMIT**  
View Highlights on page 22

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# Grower Profile

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### From the Grove

Volume 9, Number 4

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Winter 2019

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## 2020

A new board was seated at the California Avocado Commission (CAC) in November 2019 and although many of the faces around the table were the same, there was no lingering in the past or resting on one's laurels. The 2019 season is over, and the prospects of 2020 are already having a sobering effect. Fortunately, the season's strong financial finish favorably positions the Commission to face the challenges ahead.

Top on the list of challenges is the Commission's job number one: marketing California avocados and promoting our brand. The board reviewed the results of a tracking study conducted this past autumn and the task ahead was made clear. The tracking research, based on a survey completed by a nationally representative consumer panel, is one of multiple measures designed to gauge the progress of our marketing efforts. This year, the research findings made everyone in the boardroom shift a little uncomfortably in their seats.

It should be no surprise, perhaps, that Mexico continues to make strides when consumers are asked where their avocados originate. The sheer volume of fruit imported from Mexico makes that rising awareness a predictable fact of life. Overall awareness of California Avocados is comparable to Avocados from Mexico, but Mexico as an origin

became more top-of-mind among the survey respondents over the past several years, likely due to Mexico's heavy advertising. Awareness of ads by Mexico rose significantly since 2016, and again, no wonder, since California is being outspent by Mexico on the order of ten to one.

The research held some bright spots, however, and specific findings are cause for optimism going forward. In California, consumers polled continue to show a strong preference for the home team—California avocados—by a wide margin over Mexico. California avocados are still perceived as being more premium than imports, and they stand out as the best tasting and highest quality, by far. Most importantly, while some Californians surveyed stated that California avocados are the most expensive, forty percent said they “are worth paying more for”. Freshness, appearance, texture, food safety and environmental factors all contribute to this sense of value.

Some degree of comfort can be derived from the fact that positive perceptions are strongest right here in our home state of California. With California on track to reach 44 million residents by 2025 (Public Policy Institute of California), it is not difficult to imagine being able to sell every single avocado grown in California just



*Tom Bellamore*

down the street. After all, California's per capita consumption of avocados is well above the national average, and even a 500 million-pound crop could disappear locally at the hands of hungry consumers. This has been an underlying tenet of our long-term strategy since 2012, and it is borne out in greater numbers, with respect to volume sold in California, nearly every year. This is why California consumers' “willingness to pay more,” as revealed in the research, is critical. Selling close to home also allows us to capitalize on freshness as a differentiator.

The new board also paused to acknowledge some of the non-marketing issues that must be reckoned with, directly or indirectly, in 2020. Among these are succession planning, the potential for product recalls, making the San Diego County Water Authority's Special Agricultural Water Rate permanent, negative publicity about avocados in general, and the next Commission referendum. There is little doubt that the board will have a busy year.

How 2020 unfolds, and the job the Commission does to keep the California Avocado brand prominently in front of loyal consumers will have some bearing on the CAC referendum scheduled to occur in early 2021. Between now and then, the new board, under the able leadership of Chairman John

Lamb, is committed to doing everything within its power to advance the California avocado industry for the benefit of you, the grower. Management is likewise committed to running an effective and accountable organization that is responsive to the needs of growers. As we

face 2020 together and size up what lies before us, board and management are up to the task. We believe that you are too – buoyed by the good returns of the 2019 season, and your continuing belief in the almost inexplicable magic of the California Avocado brand. 🥑

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To contact a CAC representative, please visit:  
[CaliforniaAvocadoGrowers.com/Commission/your-representatives](http://CaliforniaAvocadoGrowers.com/Commission/your-representatives)



## Facing Challenges But Moving Forward

This fall we have seen the implementation of the Public Safety Power Shutoff (PSPS) program by Southern California Edison (SCE) and other power providers around the state. The protocol was developed by SCE to selectively turn off circuits at times of extremely high fire danger to prevent their equipment from causing wildfires. After the recent Thomas Fire and Woolsey Fire, as well as the numerous fires in Northern California purportedly caused by utility companies, they obviously believe this will reduce their potential liabilities for causing these fires.

In Ventura County, many of the agricultural areas were plunged into darkness on three occasions in October for at least two days at a time. Not only were personal lives sent into disarray due to trying to find ways to keep the lights on, prevent food from spoiling and folks scrambling to keep medical devices powered up, our farms and water districts were without power to pump wells and water delivery systems during times of extreme stress to our trees. Avocado growers and other agricultural interests have made a huge investment that requires a stable and consistent power supply. Most growers do not have water storage and even if they did, they do not have the very expensive generators required to power the pumps needed to deliver water during these critical periods. Furthermore, these were wind events of short duration. Had this been a two-week event,

as in the case of the Thomas Fire, what would have been the impact to our groves without water for two weeks?

On October 31, the Maria Fire erupted in Somis. It has been reported that Southern California Edison re-energizing lines after a PSPS may have been the cause. Talk about unintended consequences! Homes were lost and avocado orchards burned. Because the power was then turned off again, many people had no way of fighting the fire because there was no water pressure. The irony of the fact that the cause of the fire was the very policy designed to prevent fires is not lost on many.

Four days after the fire, we were honored to host Congresswoman Julia Brownley at a lunch on our ranch in Camarillo, along with several other California Avocado Commission (CAC) board members and interested growers. Also in attendance were staff members from the offices of California legislators Hannah-Beth Jackson, Jacqui Irwin and Monique Limón. The growers and CAC staff gave a very clear picture of the problems the PSPS protocol is presenting to California growers. In addition to the PSPS, we also spent considerable time discussing water, labor and the desire to pursue trade access to China, Thailand and India. Within a couple of weeks, Rep. Brownley had a sit-down meeting with the CEO of SCE; he at least was willing to have CAC board members, staff and affected growers meet with some of their management to



*John Lamb*

discuss the effects of the policy. While it remains to be seen what, if anything, can be done to change the PSPS program, I would like to thank Rep. Brownley for her time and efforts on the industry's behalf.

After the fires, most of the avocado growing areas have had some nice rains and there seems to be more in the pipeline. There is an abundant crop and fruit is sizing rapidly. Your CAC staff is hard at work planning promotions for the coming year. At the November board meeting, we had a preview of the 2020 marketing program. It is very exciting to see the creative minds in our agencies put these programs together.

We had a very positive experience at the Produce Marketing Association (PMA) Fresh Summit this year. Angela Fraser and the CAC staff did a great job of manning our booth and making sure the right people were talked to. If you have never been to the PMA Fresh Summit show, you should try to make it the next time it is in California. It is amazing to see the variety of produce from around the world that makes it to our shores.

I look forward to serving you during my last term on the CAC board. There will no doubt be challenges ahead, but we look forward to meeting them with conviction and determination. May your winter be wet and your crops bountiful. 🍌

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# Highlights from the 2019 California Avocado Tracking Study

The California Avocado Commission (CAC) has conducted a consumer tracking study annually or biannually since 1996 to evaluate changes in consumer attitudes toward California avocados and avocados of other origins; this information informs marketing plans. In 2019, respondents were recruited from a nationally representative online consumer panel, with large enough sample sizes to evaluate California, other western states, regions and the total United States. There were 1,828 participants who completed the study.

“The 2019 tracking study shows that consumers in our key markets continue to rate California avocados the highest of all origins,” said Jan DeLyser, CAC vice president marketing. “We also saw that competitive brands with far-reaching marketing programs have made inroads with consumer awareness, so it is very important to continue California avocado marketing support.”

Key observations from the 2019 California Avocado Tracking Study, among avocado purchasers in California, include:

- California avocados are perceived as more

## PRODUCT PERCEPTIONS: QUALITY

*In California*

California Avocados continue to stand out as the best quality, by a large margin.

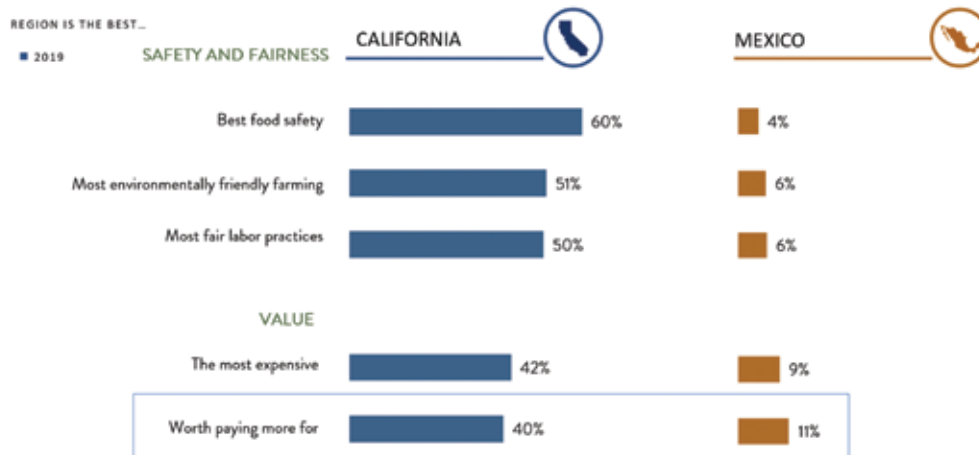


Base: Aware of at least two regions, 2019 (n=434)  
Q10. For each phrase below, please choose the region that most describes the phrase.

## PRODUCT PERCEPTIONS CONT.

*In California*

California Avocados are perceived as more expensive, but worth paying more for.



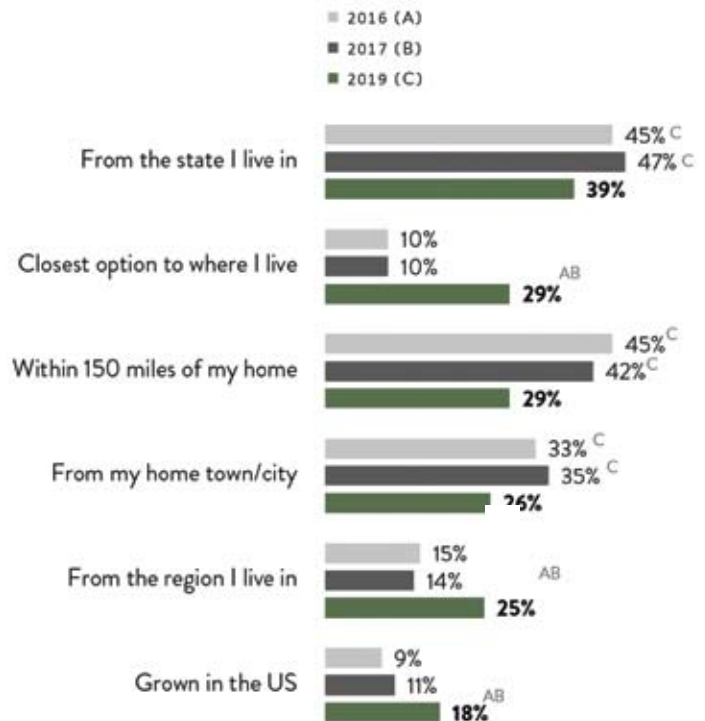
Base: Aware of at least two regions, 2017 (n=697), 2019 (n=434)  
Q10. For each phrase below, please choose the region that most describes the phrase.



# LOCALLY GROWN

*In California*

**There also has been a shift in how consumers define “local” – closer to home.**



Base: Total California, 2016 (n=541), 2017 (n=933), 2019 (n=607)  
 Q36. When you think of “locally grown” fruits and vegetables, what do you consider “local” to be?  
 Statistical significance: capital letters indicate statistically significant difference at 95% level of confidence or higher

premium than imports

- California avocados continue to stand out from the competition for being high quality (see top chart on page 8), including high marks for “freshness” and “best tasting”
- California avocados also rate the highest for safety and fairness (see bottom chart on page 8)
- California avocados are perceived by 42 percent of consumers surveyed as being the most expensive, yet encouragingly, 40 percent say they are “worth paying more for”
- The majority (61 percent) say that it is very or somewhat important to them that the avocados they buy are grown in the United States; however, compared to prior years, fewer feel that way

CAC asked a new question this year designed to help the marketing team understand what messages are most compelling to avocado consumers, particularly in California and other western states where most California avocados are marketed. Three attributes rose to the top: “they have a uniquely delicious taste,” “they are grown in safe environmental conditions” and “they are in season.”

Many sources report that locally grown is a key consumer

concern. The 2019 research showed that there has been a shift since 2017 in how consumers define “local”, with a big increase in people saying local is “the closest option to where I live” (see above chart).

This marketing research project was conducted by Temra Wald Consulting, Inc., which also analyzed the data and presented a summary to the California Avocado Commission Board at its November meeting. Data collection took place via a 10-minute online survey from August 14 through September 11, 2019. Respondents were recruited to meet the following qualifications: ages 18+, 60 percent female/40 percent male, primary or shared grocery shopping responsibility and must have purchased at least one avocado in the last 12 months.

The California Avocado Tracking Study information helps the Commission Board and management evaluate brand performance as well as assists with media planning and evaluation. Also, key observations from the Tracking Study are used to demonstrate to retailers the value of merchandising California avocados. In 2018, in lieu of the traditional tracking study, CAC conducted a different type of research aimed at measuring efficacy of its digital advertising campaign. The California Avocado Tracking Study is slated again for 2020. 🥑

By Ken Melban  
Vice President Industry Affairs

## Commission Meets with Representative Brownley on Labor & Power

In early November, California Avocado Commission (CAC) representatives met with Congresswoman Julia Brownley (D-CA 26<sup>th</sup> District) to reiterate the need for the U.S. Congress to secure immigration reforms that would remedy the labor challenges California avocado farmers are facing. The Commission stressed its support for the Farm Workforce Modernization Act, which has now passed the House of Representatives and is at the Senate. Rep. Brownley understands the ongoing challenges agriculture is facing for a reliable, skilled labor force and voted in support of the Act.

The discussion quickly turned to the Public Safety Power Shutoffs (PSPS) growers had been experiencing. According to the utility companies, when they determine there are “extreme and potentially dangerous weather conditions” they will initiate a PSPS event and “turn off power in high fire risk areas to reduce the threat of wildfires.” Factors that are used to determine whether a PSPS is warranted include wind speed, humidity and temperature. The Commission hosted a meeting with Southern California Edison (SCE) last year to discuss SCE’s plan to utilize PSPS. Now that growers have experienced multiple PSPS events, the discussion with Rep. Brownley centered on specific concerns. CAC representatives com-



municated how the loss of power not only threatened crops but also meant growers had no ability to fight fires that threaten their property or provide water to firefighting personnel for fire suppression. In addition, there is concern that a recent fire in Ventura County that did burn avocado groves started due to a power surge in the lines when power was restored after a PSPS.

Within days of hearing our concerns, Rep. Brownley met with the president of SCE. As of this writing, a meeting has been set up with Commission representatives and senior SCE officials to discuss the impacts the PSPS are having on farmers and explore potential so-

lutions. Of course, no one will ever argue against efforts to protect public safety, but it is imperative SCE and the other utility companies remain open to input on how their programs are impacting their customers and assess whether better options can be developed.

### Sustainability

The Commission recently hosted two grower focus groups concerning sustainability. The purpose was to provide some information on what sustainability means and begin to assess the California avocado industry in terms of our sustainability practices. Most farmers would say sustainability means,



“my business can be sustained for many years to come.” And of course, without a sustained farming operation any other discussion of sustainability becomes moot. However, the discussion of sustainable agricultural production practices focuses on the following three questions:

- Are the practices environmentally sound?
- Are the practices socially equitable?
- Are the practices economically viable?

More buyers are asking for information on the sustainability practices of the suppliers they source from, including information on greenhouse gas emissions; fertilizer and pesticide applications; and child labor use and labor rights. Last year, the Commission conducted a project to identify the federal and state laws that you, as a California producer, must follow. We know that California is one of the most regulated states to conduct business in and wanted to make sure growers are getting credit for what they are already doing. We need to learn more about the industry’s farming practices and determine what, if any, changes could improve our sustainability profile. And yes, that includes improving your bottom line too.

### **TSAWR in San Diego County**

The Transitional Special Agricultural Water Rate (TSAWR) is a program implemented more than 10 years ago by the San Diego County Water Authority (CWA) to provide a reduced rate for agricultural customers within the San Diego County Water Authority’s service area (San Diego County). The program is based on customers agreeing to a reduced level of service and reliability. This has resulted in tremendous savings for growers who have participated; in some instances, growers are only paying about one-third of the rates paid by municipal and industrial customers. The

Commission has worked closely with the CWA since the creation of the program and just recently advocated for the CWA to make the program permanent. In a great first step toward that goal, the CWA unanimously voted in November to direct staff to develop a new and permanent Special Agricultural Water Rate program to replace the TSAWR. In addition, the plan is to open up the pro-

gram to new participants. The current TSAWR will expire at the end of 2020, and it is expected the CWA will take final action by mid-2020. Kudos to the San Diego County Farm Bureau for its help on this important effort. The Commission will continue to stay engaged with the CWA on the development and codifying of this program. 🥑

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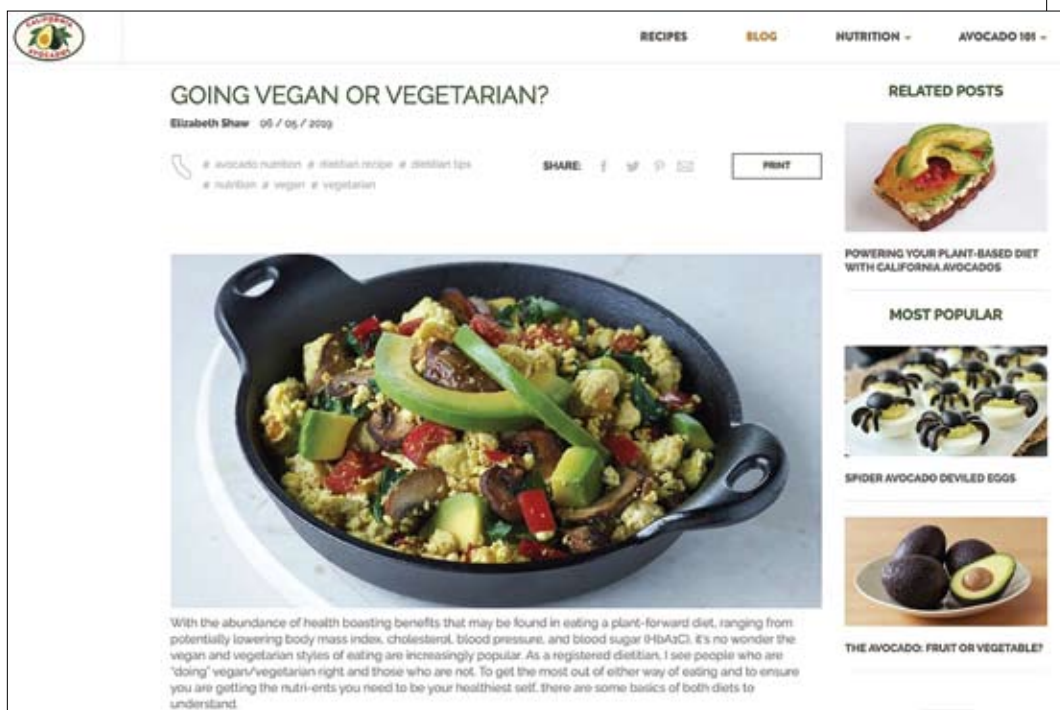
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# The Evolution – and Growing Popularity – of The Scoop Blog

**S**ocial media and on-line discussions are happening all the time. By engaging in these conversations, the California Avocado Commission (CAC) can demonstrate its leadership, grow California Avocado brand awareness, educate consumers about what makes California avocados the premium choice and demonstrate why they should seek out the fruit when it's in season. To maximize the opportunities presented by digital platforms, CAC participates in these online discussions with both succinct, engaging social media posts and with long-form, easy-to-understand blog posts on The Scoop.

Launched in March 2014, The Scoop blog serves as the official content hub for California avocados and has grown significantly since its inception – now accounting for approximately 30 percent of all annual traffic to CaliforniaAvocado.com alongside CAC's nutrition, recipe and avocado101 sections. In some months, the blog garners up to 45 percent of total website visits and in 2018-19 The Scoop received approximately 1 million pageviews.

The increased popularity of The Scoop has been influenced by CAC's evolving content strategy, which has changed from primarily recipe-based content to blogs covering more expansive topics. Today, posts cover an array of topics – ranging from California avocado season updates and recipes to popular lifestyle trends – that educate and entertain consumers while engaging the Commission in trending online and social

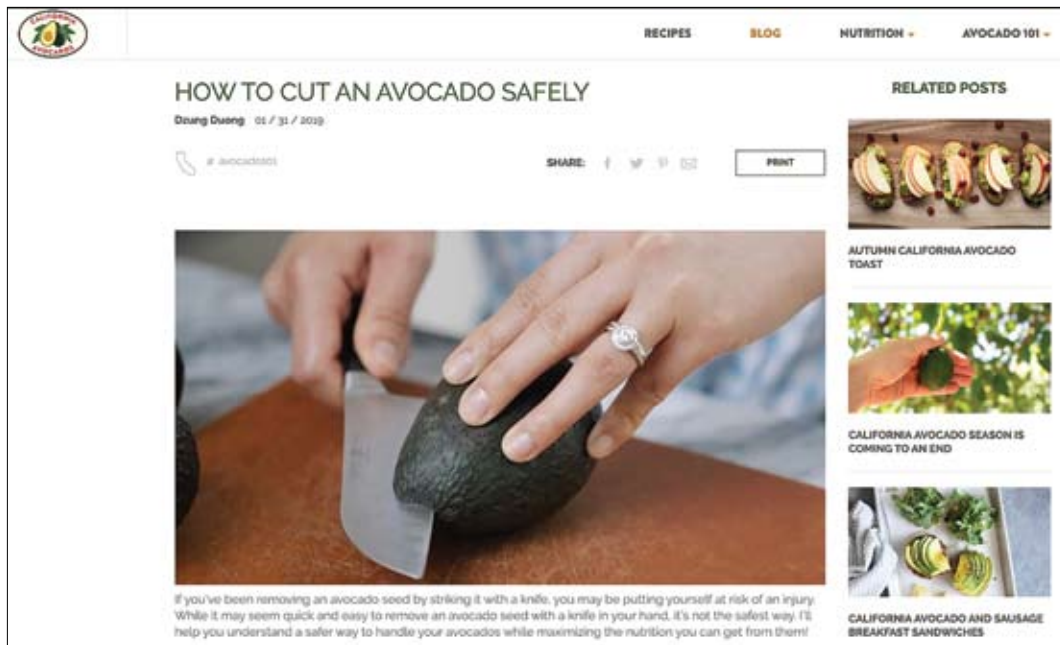


*Based on trending culinary preferences, blog posts share important nutrition information and ideas for how to integrate California avocados into a chosen dietary lifestyle.*

media discussions. Zac Benedict, CAC's online marketing director, oversees blog content contributed by a number of respected personalities, including blogger advocates, retail dietitians, retail partners and CAC staff.

The Commission develops high value content by listening to avocado lovers on social media, monitoring current trends and responding to consumer inquiries. CAC's mythbusting program answers consumers' most pressing questions. The blog posts and videos address topics such as "Is the avocado a fruit or vegetable," "How to cut an avocado without cutting off your hand," "How to ripen an avocado," "Is there a difference between small and large avocados," "How to prevent an avocado from browning" and "Are California avocados available year-round?" While not all these topics directly pertain





self as a go-to resource for all avocado information. Sharing relevant and engaging information with consumers in both short-form social media formats and long-form blog posts provides the Commission with an integrated means of engaging with people and driving traffic to its various digital platforms. Ultimately, educating and entertaining consumers is a powerful means of encouraging them to seek out California avocados in season. 🥑

*CAC's mythbusting program answers questions that are top-of-mind for consumers.*

to California avocados, the blog posts are showcased on CaliforniaAvocado.com and in close proximity to other blog posts that deliver key California avocado brand messages.

The Scoop blog also converses with consumers interested in diet-, nutrition- or wellness-based information particular to their life choices. The Commission identifies popular trends such as gluten-free, vegan, paleo and vegetarian lifestyles and develops content specific to these consumer groups and their dietary needs.

Metrics collected by the Commission indicate the value of The Scoop's long form content. The average time spent on the blog is 50 percent longer than the average website visit (more than three minutes, as compared to the website average of two minutes.) In some cases, blog posts capture the attention of consumers for more than five minutes.

According to Google, six out of 10 people would rather watch online videos than television, and Insivia notes that mobile video consumption continues to rise by 100 percent each year. Indeed, part of what leads visitors to spend so much time on The Scoop is its engaging video content, which covers subjects ranging from California avocado growers and culinary tips to mythbusting and lifestyle meal trends.

Going forward CAC plans to continue to evolve its development strategies and content for The Scoop, adding topics including active lifestyle content to go beyond diet usage ideas and tips. The Commission will develop new videos with a lifestyle focus to further engage followers and drive new ones to the blog. Additionally, the structure of how the blog integrates into the website is anticipated to change greatly as CAC further optimizes CaliforniaAvocado.com.

By actively monitoring, identifying and engaging in topics of interest to consumers, the Commission has established it-



*While The Scoop's content has expanded to include a variety of trending topics, posts featuring unique California avocado recipes remain popular.*

By April Aymami  
Industry Affairs Director

## CAC Board Reduces Assessment Rate While Increasing Marketing Spending

**T**he 2019-20 CAC Business Plan and Budget are built to support a larger crop volume while continuing to differentiate California avocados with the Premium Californian target.

During its October 2019 meeting, the California Avocado Commission (CAC) Board of Directors took up the annual task of approving the budget and business plan and setting the annual assessment rate for the upcoming fiscal year.

We've said it many times before, that no two years are ever alike – and this past year once again proves that point. A year ago, the CAC Board was faced with the possibility of one of the smallest crops in history and financial forecasts of reducing reserves by nearly \$4 million. Fast forward to October 9, 2019, and the financial position at CAC is much better than expected. The 2018-19 crop outperformed all projections, coming in with almost one-third more volume than budgeted at a record-high average value. This scenario is resulting in a projected 2018-19 ending reserve balance at the same level as the prior year.

As you may have read in the Chairman's Report in the Fall 2019 issue of *From the Grove*, starting a year with a strong financial position is not enough, as the CAC Board's work is not done. Board members are tasked with building a balanced budget and setting an annual assessment rate, both of which are highly dependent on fairly

uncertain factors – estimating the size of the crop that won't begin harvest for four to five months in the future and projecting grower value that is susceptible to market volatility. To accomplish this Herculean task, the CAC Board worked through various scenarios involving high and low crop sizes, as well as grower value and assessment rates, and plugged in the numbers to a suggested balanced budget to achieve a target 2019-20 ending reserve balance.

Based on these in-depth analyses, the CAC Board concurred with management's recommendation to decrease the CAC assessment rate and accepted the Finance Committee's recommendation of a rate of 2 percent of the gross dollar value, which is a reduction of 0.3 percent from the prior year. The newly approved assessment rate would generate nearly \$16 million in revenue, based on a crop size of 365 million pounds and average value of \$1.20.

With these factors in place, the Board turned to management's proposed \$16.2 million budget and supporting business plan, examining programs and activities and exploring the cost-benefit of each. The proposed, and subsequently approved, 2019-20 budget and business plan increased spending over the prior year by \$4 million, most all of which goes directly into marketing activities. The result is a marketing budget of more than \$11 million, which represents 69 percent of the total budget – the highest percentage ever allocated

to marketing. The remaining \$5 million in the budget is being allocated to industry affairs and production research, as well as administration – \$1.5 million and \$3.5 million, respectively.

Included below are just a few of the business plan highlights for the 2019-20 fiscal year. The complete business plan and budget can be reviewed online at the following locations:

**Business Plan:** [californiaavocadogrowers.com/commission/accountability-reports/business-plans](http://californiaavocadogrowers.com/commission/accountability-reports/business-plans)

**Budget:** [californiaavocadogrowers.com/commission/accountability-reports/finance](http://californiaavocadogrowers.com/commission/accountability-reports/finance)

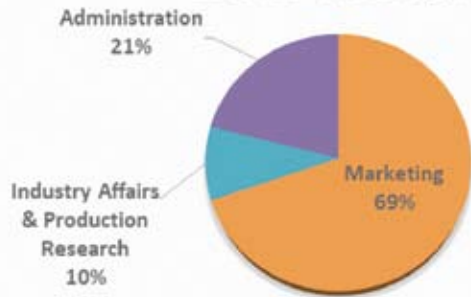
### Business Plan Highlights 2019-20

#### Marketing

- Focus on the locally grown advantage, seasonal availability, and premium quality of California Avocados
- Launch *The Best Avocados Have California in Them* integrated campaign
- Build a comprehensive on- and offline media plan that reaches the Premium Californian target, including Baby Boomers, Gen X, Millennials and Gen Z
- Complete rebuild of consumer website on a more modern Content Management System and migrate content from existing site to the new site; conduct search engine optimization activities
- Develop integrated social concepts that support larger campaign initiatives including Pre-Season, Retailer, Season Opener and California Avocado Month, and encourage sharing of key California avocado messages



## 2019-20 CAC Budget



- Leverage third-party advocates to share key California avocado brand messages, including Artisan Chefs, Blogger Advocates, Registered Dietitian Nutritionists, Retail Dietitians, Health and Wellness Blogger Advocates, retailers and foodservice operators
- Launch the California avocado season at Pebble Beach Food & Wine Festival and host a *Best of California: California Avocado Grove Tour* including consumer media, foodservice, supermarket dietitians, Living Well advocates and trade media
- Create a California Avocado Month program featuring Artisan Chef Partners, including a “take-over” of the famous Los Angeles Vespertine restaurant, consumer promotions, chef recipes, media relations, a coordinated co-promotion partnership with a SoCal brand, blogger advocate posts and press releases
- Continue to develop the Blogger Advocate program with content created by and for Food Blogger Advocates, Wellness Blogger Advocates and Lifestyle Blogger Advocates
- Continue the tiered-marketing approach by targeting retailer and foodservice operators who are willing to pay for premium California avocados and develop customized programs for supporting retailers; create customized menu concepts

and promotions for existing and new targeted foodservice operations

- Create retail communications resource kits, programs, point-of-sale assets, recipes and Superfood Spotlights to be used by retail influencers

- Host a day of restaurant/iconic site visits for Foodservice AvoTour guests focused on the “California experience” through cuisine
- Continue to sponsor and participate in select retail and foodservice events to reinforce CAC’s position as the trusted resource for avocado information
- Disseminate California avocado trade messages with retail and foodservice advertising and public relations outreach

### Industry Affairs

- Monitor water issues, explore federal actions that would improve agricultural water supplies, explore efficiency technologies, represent industry stakeholder interests related to water conservation and pricing and work to improve water efficiency agricultural programs
- Monitor regulatory, legislative and trade issues relevant to the industry and advocate on behalf of growers concerning adjacency issue, food safety/regulation, immigration reform, APHIS/ARS funding for invasive species, conservation/water efficiency, free trade agreements and emerging and foreign market development
- Review draft of California Avocado Sustainability program and Sustainable Agriculture Initiative Farm Sustainability Assessment and develop communications and outreach initiatives to inform

and educate growers about these programs

- Expand the reach of industry communications through CAC’s grower website, *From the Grove* and the *GreenSheet*
- Complete the 2020 California avocado acreage survey, including special condition assessment of areas impacted by the Thomas Fire using satellite imagery and spectral analysis
- Utilize Pine Tree Ranch for grower outreach and education field days to update growers and industry stakeholders about relevant and critical industry issues, food safety, the CAC Decision Support Tools, research and cultural management practices
- Attend seminars and join coalitions to broaden support and awareness for industry-wide initiatives and develop collaborative advocacy and research opportunities

### Production Research

- Examine the extent, causes and symptoms of *Botryosphaeria* branch canker and dieback and anthracnose blight disease
- Conduct avocado micropropagation studies
- Begin commercial-scale field testing for potential release of five advanced rootstocks
- Manage avocado seed and stem-feeding weevils via field surveys, field trials and evaluate weevil trap designs
- Conduct study concerning the safety and efficacy of herbicides in bearing avocado groves
- Run Gem avocado scarring study to determine if wind screens reduce scarring of fruit and whether damage is being caused by thrips’ chewing 🥑

## Results of the 2019 CAC General Election and Election of Board Officers

On November 21, 2019, the California Department of Food and Agriculture (CDFA) announced the results of the California Avocado Commission's (CAC) recently concluded 2019 General Election and seated the new board members for commencement of the 2019-20 CAC fiscal year.

The CAC Board consists of 19 members and alternates, of which 15 are producers representing the five growing districts throughout California (10 members and five alternates), three are handlers representing operations that handle at least 1 percent of the California crop (two members and one alternate), and one public member

who is appointed by the CDFA. Board members and alternates are elected for two-year terms, with half of the producer and handler member seats up for election annually. Alternate producer and handler member seats are elected in odd years. For the 2019 General Election one member and one alternate member were elected to each of the five districts, as well as the handler affiliation.

Below is a summary of the results of the 2019 CAC General Election. A listing of the full Board of Directors can be found on page 5. Please take note of your current District Commissioner. If you are unsure of which district your grove resides in, please contact the

Commission or locate your city/zip code on the following chart: [Californiaavocadogrowers.com/commission/district-map](http://Californiaavocadogrowers.com/commission/district-map).

In addition to CAC's annual election, each year the newly seated board takes up the task of electing the Commission's Executive Committee at its November meeting. The following individuals have been elected to serve as the Commission's Executive Committee for the term ending October 31, 2020:

**Chairman: John Lamb**  
**Vice Chair: Ryan Rochefort**  
**Treasurer: Robert Grether**  
**Secretary: Jason Cole**

### District 1

Member: Ryan Rochefort  
Alternate: Michael Perricone

### District 2

Member: Ohannes Karaoghlanian  
Alternate: John Cornell

### District 3

Member: Rob Grether  
Alternate: John Lloyd-Butler

### District 4

Member: Jason Cole  
Alternate: Doug O'Hara

### District 5

Member: Randy Douglas  
Alternate: *Vacant Seat*

### Handlers

Member: Peter Shore, Calavo Growers  
Alternate: *Vacant Seat*






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# Grower Profile



## It's an Idyllic Life

By Tim Linden

**T**he journey of Cathi and Chuck Wrench is seemingly filled with serendipitous events that would not have foretold their future as progressive growers on a five-acre avocado ranch in Bonsall, CA.

Chuck was born in 1945 in Albany, CA, and lived in San Pablo in the Bay Area until his job as a salesman of pool chemicals transferred him to Long Beach. He started working for Allstate in 1971 and eventually owned the insurance agency in Long Beach.

Cathi was born in 1955 in Los Angeles but grew up in Long Beach. After getting a Bachelor's degree from California State University at Long Beach, she earned a Master's at the University of Southern California. Her first job was teaching music at Long Beach City College. Chuck took a music appreciation class and the two met. "We married in 1987 and I quit teaching to go work full time in his insurance agency," Cathi recalls.

The couple settled into married life, ran the insurance agency together and enjoyed urban living. In 2004, they bought a ranch in Bonsall, CA, to create a more idyllic life...becoming avocado growers was not on their mind. "We bought the farm in 2004 to get out of the city so our barking dogs wouldn't bother neighbors," Cathi said. "What an unexpected blessing that the property happened to have a bunch of avocado trees on it. We knew absolutely NOTHING about being farmers. We were city folks. Our motivation for moving out to Bonsall was to find a place to live outside the city."

The couple admit that the avocado trees on the property



Chuck Wrench



Cathi Wrench





*The Wrenches give Joe Rossi of Rossi Grove Management much of the credit for greatly improving their irrigation system, which has more than doubled their yield.*

were not even a consideration. Chuck, in fact, did move to the farm fulltime while Cathi continued to run the agency while commuting back and forth. They kept their home in Long Beach with Cathi coming down to the farm every weekend until they sold the agency in 2013. In fact, Cathi still drives up to Long Beach one day a week as she still handles the books for the current agency owner.

But soon, they were taking daily walks around the property. “It’s so peaceful out there. When we’re surrounded by the grove, it feels as if the world around us stands still,” Cathi said. “We do what we can to support our trees – such as weed abatement and pruning downed branches but mostly we just like to go into the trees and enjoy their tranquility and beauty. We leave the rest to grove managers.”

In the beginning, the ranch was yielding about 5,000 pounds of fruit per acre, which was good enough for the hobby growers. Life moved on as they settled into full-time living on their farm. “A couple of times each season, I take hundreds of avocados to Long Beach City College Senior Center where my sister, Lucy, is an instructor. I give a little talk about ‘all things avocado’ and give them all free samples. I’m very popular!”

Over the years, the avocado grove had its up and downs but again the couple was not overly worried about its output. On

the other hand, the daily walks, which typically last from about 8:00 to 10:00 a.m., gave the duo great familiarity with the grove and each of their more than 500 trees.

While on a regular morning walk in December of 2017, they noticed some unusual “burn” marks on the leaves of a few trees. “Turning them over, I found a tiny black and yellow bug with wings.” Cathi remembers thinking it probably wasn’t a good thing. “I asked Steve Culley down at Nutrien – my go-to-guy for all bug questions. He identified the bug as an ‘Avocado Lace Bug’ but said he’d never seen one before. He came out to our grove to walk around with me. At that point, I’d only found them in about five trees.”

The couple discovered an article about the bug in an issue of *From the Grove* written by the California Avocado Commission’s Dr. Tim Spann, who soon was contacted and came out to walk the grove with the Wrenches and Dr. Mark Hoddle, an entomologist at UC Riverside.

“Taking advantage of their expertise, I asked all my avocado-related questions and received terrific answers,” Cathi said. “We talked about brown leaves, brown tipped leaves, yellow leaves, phosphorous injections, brown mites, persea mites, thrip, the lace bugs and various bugs I’d collected, root rot, fertilizers, irrigation options and treatment options for all.”



*Every year, Cathi Wrench brings avocados from their grove to her sister's classroom at the Long Beach City College Senior Center.*

Spann and Hoddle noted that the trees seem compromised because of excessive drilling to prevent root rot and also recommended an evaluation of their irrigation system.

Lance Anderson of the Mission Resource Conservation District did evaluate the system and found substantial variance in efficiency. "At the top of our grove we had only 8 percent pressure but about 40 percent at the bottom. Lance was another fountain of information," Cathi said.

The analyses by the experts caused the Wrenches to look for a new grove manager and to begin updating their grove and inputs. They hired Joe Rossi of Rossi Grove Management and have since improved their irrigation system (with the help of a United States Department of Agriculture grant), launched a fertigation program and began a five-year pruning schedule. The Wrenches give most of the credit to Rossi, who, they say, has switched all the emitters, and installed a storage tank, a compression tank, a flow meter plus a controller and all the necessary wires for automating the irrigation system, which he can access from his phone. "He remotely turns our sprinkler system on a couple of hours before he comes out so that the grove is already well watered before he adds the fertilizer or whatever else he thinks we need," Cathi said. "If there's a leak or a break, he's immediately alerted by the flow meter and he can turn off the water until he gets here. Joe comes out at least three times every week to personally walk

our grove and check the system."

Cathi and Chuck say their trees are now thriving under Rossi's care. The trees have produced an average of 14,000 pounds per acre the last two seasons, and there appears to be a very good crop on the trees for 2020. Soon, the ranch will include automatic moisture sensors. The Wrenches reiterated that much of the cost of these new systems are being covered by government grants.

The Wrenches have successfully morphed their personal park into a thriving avocado grove, but the tranquility still appears to be the number one attraction.

"Chuck and I have set up chairs in a couple of spots where we sit and relax and enjoy the beauty of having our own personal park. We love our grove and the tremendous benefit it has brought to all of our lives. We'd never even think of living anywhere else."

Cathi allows that the avocado grove also provides them with a lot of fun. "There's always lots to do. Chuck thoroughly enjoys being 'machete man', chopping apart downed and dead branches. It's our contribution — going through and cleaning up the trees. Our current project is to arrange the fallen, trimmed logs along our pathways in the grove. We don't need to go to a gym as we get plenty of exercise just doing our farm chores." 🥑





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# PMA Fresh Summit 2019 Highlights

**T**he California Avocado Commission (CAC) exhibited at the Produce Marketing Association (PMA) Fresh Summit Expo on October 18 and 19. At the event, CAC wrapped up the celebration of its 40-year anniversary and kicked off its next 40 years of groundbreaking avocado marketing, showcasing innovation, creativity and focused customer service. Commission representatives met with retailers, industry stakeholders, retail dietitians, educators and the media at the event with the goal of building awareness of the competitive advantages of California avocados and communicating information about the 2020 California avocado season expectations and marketing support. Here are some highlights:



*A big highlight of CAC's Fresh Summit Experience was Jan DeLyser moderating the discussion with Queen Latifah at the Women's Fresh Perspectives breakfast.*

*From left, Ellen Koteff of Produce Business magazine with CAC Vice President Marketing Jan DeLyser, Chairman John Lamb and President Tom Bellamore in front of the CAC 40<sup>th</sup> Anniversary photo backdrop.*



*CAC representative Dave Anderson discussed the 2020 California avocado crop with retailers and industry stakeholders in the booth.*





Michael Schutt of Raley's enjoyed California avocado refreshments as he chatted with CAC representatives David Cruz and Carolyn Becker.



Gelson's John Ishii, center, with Zac Benedict and David Cruz of the California Avocado Commission. A professional photographer took pictures that booth guests could keep as mementos.



Jan DeLyser and Carolyn Becker met with Catherine Cowan and Marc Ames from Kroger.





CAC's Angela Fraser educated retail dietitians about California avocados in the booth's second-story conference area as part of the Commission's sponsorship of the Produce for Better Health Foundation Education 2Action Retail Dietitian Summit.



Chairman John Lamb and Jan DeLyser in front of a CAC "photo wall" where attendees could take selfies.



Maggie Hanna from The Produce News interviewed Jan DeLyser for a PMA Fresh Summit 2019 highlight video.



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By Tim Linden

## Good Volume, Great Quality Marks California's 2020 Crop

**A** solid amount of late fall rain, a limited amount of often-devastating wind and a relatively heavy on-tree crop have handlers anticipating a very good season for California avocado growers.

A compilation of interviews with several handlers in early December indicated a California crop probably in the 370 million pound arena with solid pricing, though probably lower than last year, and excellent quality of fruit peaking in the 48-60 size range. For the most part, handlers expect small quantities of California fruit in January and February, with supplies growing in March and the vast majority of production marketed from April through August.

Rob Wedin, vice president of fresh sales and marketing for Calavo Growers Inc., Santa Paula, CA, noted that his projections forecast a very consistent marketing of the crop in the five-month April through August time frame. He projects 15 to 21 percent of the crop marketed in each of those months, with that period accounting for almost 90 percent of total volume.

While some growers will size pick in January and February and oth-

ers might even strip pick young groves, Wedin said the volume out of California in January will most likely be negligible. He does project that as much as 7 percent of the crop, or about 25 million pounds, could be marketed in February.

Ross Wileman, senior vice president of sales and marketing for Mission Produce Inc., Oxnard, CA, believes that very few pounds of California fruit will be moved during the first two calendar months of 2020. He noted that Mexico has a large crop and tends to dominate the January period with very heavy volumes in the weeks leading up to Super Bowl, which will be held on February 2, 2020. Speaking in early December, he did say the f.o.b. price on avocados was strengthening, though it was much too early to know what the price would be in the January/February time frame for California fruit. The Mission Produce executive said, "We are anticipating lower prices this year for California fruit because of the much larger volume."

Gary Clevenger, managing member and co-founder of Freska Produce International LLC, Oxnard, CA, made that same point about the 2020 grove price for California growers. "We ex-

pect California fruit to continue to get a premium (in the marketplace) but it probably won't be as much as we got last year," he said. "There will be a lot more fruit on the market but hopefully when you combine the average price and the increased volume, growers will still get the gross they need."

Clevenger said it appears the fruit will peak in the 48 to 60 range. He said more fruit on the trees typically means smaller fruit size. However, he said late November and early December rain could have the effect of pushing the size distribution up a bit. It is the larger sizes that command the best pricing so each extra notch in average size materially impacts total returns for the year.

Wedin illustrated that point by noting that in early December, 40-48s of Mexican avocados were returning an f.o.b. at the border of about \$36 per carton while 60s were at about \$26 and 70s were at \$21. It clearly behooves growers to do what they can to increase the size of their fruit.

The Calavo executive said there was a lack of large fruit coming out of Mexico in November and early December, but the size profile was expected to increase in January. But he still an-





anticipated a good market in January on large fruit, so it could be profitable for some California growers to size pick their 2020 crop on the early end of the deal. “With a large crop on the trees, size picking can pencil out,” he said.

Clevenger agreed that for some growers the price will be strong enough at the front end of the deal to justify picking the fruit and getting the tree ready for the following year and the March bloom.

As a practical matter, maturity release dates allowed growers to market fruit that was 48 size or larger starting in mid-December. The entire size spectrum will be released for harvesting by January 16. Wedin said that picking date typically results in some growers stripping their trees and getting their fruit into the pipeline. Though Clevenger said the vast majority of growers typically wait until the fruit sizes and the price potentially increases.

Wedin believes that playing the waiting game into late spring on the price may not be as advantageous for the 2020 season. In 2019, Mexico’s volume started winding down in May and June and there was a solid increase in the market price. “That may not be the case this year,” he said, noting that it ap-

pears that both Mexico and California will have more fruit in the May to July time frame. It probably will be late January before the timing and size of U.S. shipments from Peru will be known but early speculation is that the crop will

also be larger than it was in 2019.

The size of this year’s California crop should allow the industry to take full advantage of the Cinco de Mayo and Fourth of July holiday periods. Both of those holidays offer great promotional opportunities for avocados and this year California fruit should be plentiful for each event.

At the back end of the deal, there is expected to be more fruit than in the last couple of years. Wedin has estimated that about 5 percent of the crop will be marketed in September. Last year’s reduced volume meant very little fruit was available in August and beyond except from the most northern growing region of California. And in 2019, San Luis Obispo County growers were still feeling the results of the 2018 freeze that greatly limited their 2019 crop. This year, more late volume is expected from that region. 🥑

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## World Avocado Congress – Medellin, Colombia



*The city of Medellin. Photo credit: Carol Lamb*

**T**he California Avocado Commission (CAC) sent three representatives to the IX World Avocado Congress in Medellin, Colombia at the end of September. Attending on behalf of CAC were Chairman John Lamb, Production Research Committee (PRC) Chair Leo McGuire, and Research Program Director Tim Spann.

### **Colombian Avocado Industry**

The Colombian Hass avocado industry covers about 15,500 hectares (ha), which equals a little more than 38,000 acres. Antioquia Department (state), where the city of Medellin is

located, is the largest producing area with more than a third of the producing hectares. This is a mountainous region, being part of the northern end of the Andes mountain range, and avocados are produced at an elevation of 1,600 to 2,400 meters (5,250 to 7,875 feet). The area receives abundant rainfall, with frequent showers occurring throughout the day as clouds move in and out.

Hass fruit take from 10 to 12 months to mature in Colombia, depending on elevation, with lower elevations maturing sooner than higher elevations. Like Mexico, Colombia has two crops — the main crop from August through

March and the second crop from April through June — and can supply fruit 11 months of the year.

The geographic location of Colombia is ideal for an export fruit industry. The country has both Atlantic (Caribbean) and Pacific ports, allowing it to efficiently export fruit to Europe, Asia (Japan and South Korea) and North America.

### **Cartama**

Our visit started with two days of packinghouse and grove tours in and around Pereira (about 100 miles south of Medellin) with representatives from





*Cartama packinghouse with Globalscan 7 imaging software (inset).*

Cartama. Cartama, which focuses exclusively on avocados, is part of a group of family-owned companies with a 35-year history in Colombian agriculture. Cartama's sister companies, Banafruit and Capiro, produce bananas and cut flowers, respectively.

Cartama started in the avocado business in 2000 with 12 ha (about 30 acres) of Hass. In 2016, Cartama entered into a partnership with Mission Produce (who coordinated our visit). Today, Cartama has about 2,700 ha of land with 800 ha planted to avocados. Their goal is to have about 3,500 ha, 1,000 ha of which will be in partnership with Mission.

The Cartama packinghouse, although small, was built in 2015 and is state of the art, utilizing the latest vision grading and sorting technology.

We visited three different groves during our visit with Cartama — Sinai, a 350 ha grove; La Terracita, a 26 ha grove; and La Pradera, a 22 ha grove. Overall, all the groves were very well managed and professionally run. Sanitation and worker safety were front and center — Leo McGuire and I were scolded for checking out the pesticide

storage shed without the proper personal protective equipment.

None of the groves we visited had irrigation systems due to the abundant rainfall, but they are beginning trials with irrigation systems to better control their fertility program. Nitrogen, not unexpectedly, is very low in their soils and is a major limiting factor to tree growth. Currently, they apply dry granular fertilizer to each tree by hand several times a year, so an irrigation system allowing for fertilizer injection would be very beneficial. Zinc also is a difficult nutrient to supply adequately, given their soil conditions. Generally, the soils are well drained and of volcanic origins with an acidic pH. However, in some areas, like the La Pradera grove, the soil can be excessively acidic — 4.8!

Currently, all the trees are grown on native seedling “Criollo” rootstocks that have been produced in Cartama's own nursery since 2017. A trial is underway at the Sinai grove with clonal Duke 7 trees from Brokaw Nursery and the trees are performing very well. Developing an industry based on

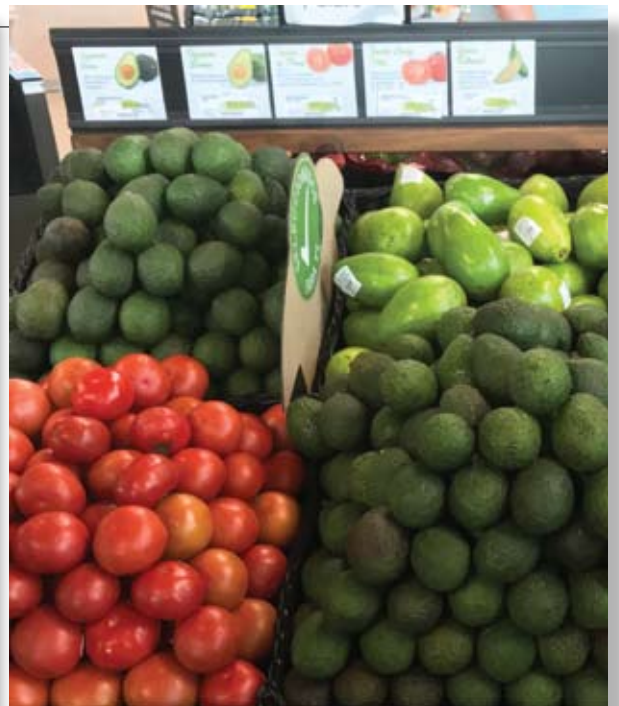


*A view down a mountain valley showing how the clouds move in and out all day. Avocado groves can be seen on the steep slopes along the right side.*





A new planting of trees at Cartama's La Pradera grove. Note the trenches in the lower right foreground as well as in the background that have been dug to improve drainage and control water flow.



An avocado display in a high-end supermarket. Hass fruit are shown in the upper left and lower right. Lorena avocados, a greenskin variety preferred in the local market, are shown in the upper right. Lorena fruit sell at about a \$0.20 premium over Hass fruit in the local market.

clonal rootstocks needs to be a top priority for the Colombian industry given the high rainfall and opportunity for rapid disease spread.

There are two major pests affecting the Colombian industry — the avocado seed moth (*Stenoma catenifer*) and avocado seed weevils (*Heilipus* species). Both pests appear to be taken very seriously by Cartama. We saw posters showing how to identify both pests and the damage they cause on display in the groves and packinghouse.

## IX World Avocado Congress

The Congress itself was held in Medellin, September 24-26. The organizers report that 3,247 people attended the Congress from 50 different countries. That's more than 25 percent of the countries officially recognized in the world, which speaks volumes about the avocado's popularity.

The Congress was comprised of a tradeshow, the Academic Program, AvoTalks and posters. While scientific presentations still dominated the program, there was a very noticeable marketing and international business presence on the program, which again speaks to the avocado's growing world-wide appeal.

Scientific talks were split between the Academic Program and the AvoTalks. The Academic Program



Photo credit: Carol Lamb





*Cartama Commercial Director Luis Maya, CAC Research Program Director Tim Spann, CAC Chairman John Lamb, PRC Chair Leo McGuire, Cartama CEO Ricardo Uribe and a Cartama grove worker pose for a picture in Cartama's La Pradera grove.*

sessions were typically two-hour symposia dedicated to single topics (e.g., rootstocks or avocados and human health) and provided simultaneous translation between English and Spanish. The AvoTalks sessions were short, 20- to 30-minute presentations that were submitted presentations as opposed to invited speakers. The AvoTalks did not provide translation. Between the Academic Program sessions and the AvoTalks there were at least six rooms with presentations going on simultaneously.

I think everyone, especially the

organizers, were surprised by the size of this Congress. It certainly felt larger than Peru and I think the numbers support that. There were two meetings held, one at the start of the Congress and one at its conclusion, to discuss how to improve the Congress going forward. The group agreed to create the World Avocado Congress Committee, which will assist the host country with planning the scientific program. One key takeaway from these two meetings that everyone agreed on is that the next Congress needs to be extended by at least one or two days to better accommodate

all the talks. This will help to reduce the number of concurrent sessions and also will allow for the temporal separation of marketing and science talks so that people can hear both if they choose.

The final event of the Congress was to announce the winner of the voting for the next host country. And proving the adage that the third time's the charm, New Zealand finally won their bid to host the World Avocado Congress in 2023. Rumor is the Kiwis are exploring the idea of hosting the event on a cruise ship! 🍷





*U.S. House of Representatives of the 39th congressional district Congressman Gilbert R. Cisneros, Jr. with members of the Hass family at the La Habra Heights Avocado Festival. Photo credit: Eric Alley*

## Commission Showcases California Avocados at Festivals Celebrating Local Growers

California avocado festivals present a unique opportunity for the California Avocado Commission (CAC) to meet a diverse collection of consumers in a variety of settings that celebrate everything avocado. During the outdoor festivities, California avocado fans can sample unique California avocado dishes from a variety of vendors, obtain information about California avocados and participate in family-friendly activities.

Festival attendees also have the opportunity to speak with Commission staff, avocado handlers and local California avocado growers at the Commission's booth. CAC's booth is always a popular information resource for people interested in obtaining California avocado recipe booklets, learning about the nutrition benefits of the fruit, discovering fun and different

usage ideas for avocados and collecting California avocado-branded giveaways (avocado cutters, bumper stickers, magnets and coloring sheets). Festival attendees also can speak one-on-one with growers to gather advice about backyard growing or ask general questions about California avocados.

This year, the Commission participated in the La Habra Heights Avocado Festival on May 18, the 13th Annual Morro Bay Avocado and Margarita Festival on September 7 and the 33rd Annual California Avocado Festival in Carpinteria held October 4 – 6. The California Avocado brand logo was prominently displayed on each of the festivals' websites, signage and event handouts. The Commission also made a Snapchat filter available at each of these events, encouraging attendees to share festival photos artistically framed with California avocado imagery and branding.





California avocado growers Linda Haque, Arby Kitzman and Bradley Miles answered fans' questions at the Morro Bay Avocado and Margarita Festival.

The La Habra Heights Avocado Festival gathered more than 4,000 attendees to celebrate the "birth" of the Hass avocado in 1926 and honor Rudolph Hass, U.S. House of Representatives 39th District Congressman Gilbert R. Cisneros,

Jr. joined the festivities and congratulated members of the Hass family who were in attendance. Both the Morro Bay and Carpinteria festivals were well attended, with approximately 12,000 and 80,000 participants respectively. 🥑



Local California avocado grower Rick Shade and CAC Board Member and grower Salvador Dominguez engaged with visitors in Carpinteria who had questions regarding backyard growing.



CAC's Dave Cruz greeted visitors at the 13th Annual Morro Bay Avocado and Margarita Festival.





# GEM™ Avocados in New Zealand

By Jonathan Dixon, PhD  
*Chief Technical Officer, Seeka Ltd*

## Why GEM?

Unlike other high value fruit crops (e.g. apples, kiwifruit, berries, nuts), average avocado yields are much the same as 20-30 years ago. This means the costs to grow avocado fruit have increased while yields have stagnated, squeezing profitability. There are new innovations being used such as high density plantings and plant growth regulators, however, change is happening very slowly.

The most commonly grown (greater than 95 percent) and traded avocado variety in New Zealand is Hass as it has good taste and ships well. Unfortunately, in New Zealand Hass is also high vigour, alternate bearing and tends to produce low yields if not managed well. Having a new variety that is low vigour, low alternate bearing and high yielding is highly desirable to improve the profitability of avocado groves.

Additionally, for the New Zealand avocado industry to rely on one variety is very risky as a new pest or disease can appear that could effectively destroy many groves. The New Zealand kiwifruit industry experienced a devastating bacterial disease commonly known as PSA (*Pseudomonas syringae* pv. *Actinidiae*) in 2010. At the time, there were two main commercial kiwifruit varieties, Hayward and Hort16A. The highly profitable

Hort16A was eliminated by PSA causing severe disruption to the industry. With the New Zealand avocado industry almost totally reliant on Hass it is strategically at high risk of collapse should a new pest or disease like PSA become established.

GEM is a variety that has a lot of modest improvements over Hass and is distinctively different from Hass. The only common attribute is the fruit go black when they ripen. In particular, GEM:

- Has a growth habit well suited to high density and does not need plant growth regulators
- Is relatively low vigour compared to Hass
- Has a compact growth habit – it doesn't spread sideways
- Tolerates temperature extremes – both heat and cold
- Is very precocious
- Is low alternate bearing
- Has later maturity
- Hangs well on the tree
- Has thicker, smoother skins
- Ships well
- Is an attractive fruit and has, most importantly, excellent taste



## The New Zealand GEM

GEM avocado trees are grown and marketed in New Zealand through a grower club type arrangement where members pay a license fee. Around 16,000 GEM trees, about 100 acres, have been planted starting in December 2017 (summer in New Zealand) through November 2019 (spring in New Zealand). Typical tree spacing is 13 feet by 19.5 feet or 160 trees per acre (400 trees per hectare at 6m x 4m). Initial plantings of the GEM trees were in December 2017 to April 2018 (fall), and 66 percent were on clonal Dusa rootstock, 10 percent on clonal Bounty rootstock and 25 percent seedling Zutano rootstock across 13 sites. Other trees were planted from October 2018 to April 2019.

There is a very enthusiastic community of early adopter GEM growers and the demand for trees far exceeds the numbers of trees being propagated each year. The first GEM tree in New Zealand was planted around 1999 with three copies made in 2003. Tree numbers have been slow to increase as all the budwood had come from these four trees in the New Zealand Avocado geneblock in Te Puke. Additional budwood trees have been created since 2014, and this budwood bottleneck has now been overcome and tree supply is increasing each year.

## Learning to grow GEM in New Zealand

Being at the start of the commercial development of a new avocado variety is something of a privilege and an opportunity to learn as much as possible as the trees are planted. A number of research trials have been initiated, and a system is in place to maintain records of detailed observations on the trees' growth and development. The most important finding has been that GEM has a unique growth habit and fruit characteristics distinct from Hass. As a result, researchers have modified or avoided some of the common tree management practices used for Hass when managing GEM.

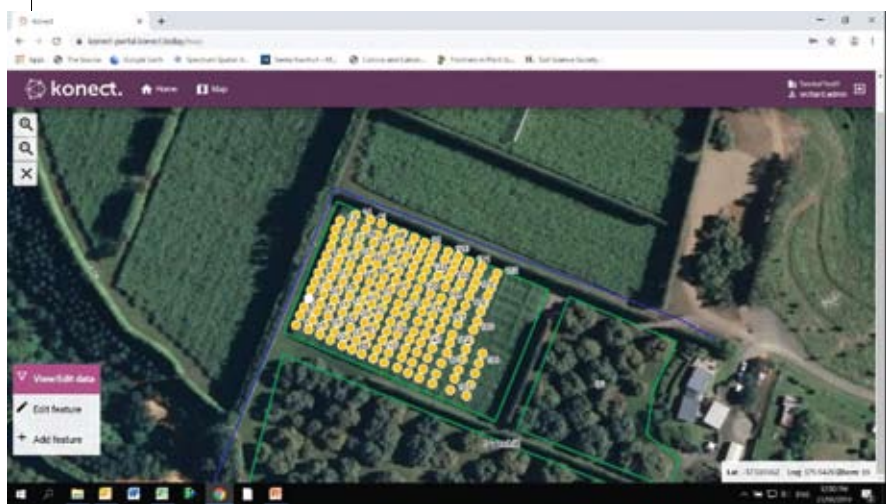
Commercial GEM plantings in New Zealand are only a cou-



ple of years old and the first lessons have been around best practices for planting. This includes evaluating rootstocks, planting month and structures to support the trees. Trials are underway for two different tree spacings and sheltering trees from wind.

With the first plantings we have observed tree decline when the trees were planted using the same method as planting Hass trees for the same rootstocks. This tree decline was worst in the first spring after planting and characterized by excessive flowering and defoliation, followed by tree death for about 20 percent of trees. The decline was very unusual as the symptoms were similar to Hass trees when their roots die and was largely confined to trees on the Dusa rootstock. While the GEM scions had poor health, the roots were very healthy and robust lacking any disease symptoms.

To learn as much as we could, growers were surveyed for their management practices. About 4,800 individual trees were mapped by GPS location to be individually assessed for tree health every few weeks. Attention was paid to the best type of foliar fertilizer applications used by growers.





We identified three main factors in the tree decline:

- Planting method – possible overwatering of the trees (the Dusa rootstock is known to be sensitive to over watering during establishment)
- Month of planting – trees planted in summer and fall had more tree deaths
- Negative rootstock to scion interactions

In addition, it was noted that trees exposed to wind established poorly compared to trees well protected from wind.

In the second spring, very few newly-planted and second-year trees have gone into decline and tree death numbers have been very small. Trees still defoliated and flowered excessively, but then responded with plenty of bud break and shoot flush. GEM trees in New Zealand flower very heavily every season; we speculate this is due to the relatively cold winter temperatures compared to California. The three and four-year-old trees in our research blocks have had low amounts of leaf drop and the defoliation we see may just be a feature of newly planted or young trees in New Zealand conditions that disappear as the trees age. Trees planted into “shelter cages” have had very little leaf drop and excessive flowering and may have been less stressed than the trees fully exposed to wind.

As a result of what we have learned during the first sea-

son, we have developed the following GEM tree management practices: avoid over-watering the trees; conduct two weekly foliar fertilizer applications of nitrogen; remove flowers from stressed trees as the flower buds break; and develop and increase shelter from wind for newly planted trees.

As the trees get older new challenges will occur. There are two issues that will need management when the trees have reached their mature height and are crowding onto each other. They are minimizing wind scarring of the skin and pruning to maintain productivity.

We will continue to carefully observe the GEM trees as the groves are planted and the trees age. There are long-term research trials underway with monitoring of flowering and fruit set, maturity and postharvest quality, rootstocks and tree spacing as well as growing GEM trees on trellises to explore ultra-high density canopy management methods. The acreage of GEM is forecast to keep increasing over the next five years to reach 400 - 500 acres. The main markets for New Zealand grown GEM fruit look to be winter New Zealand and Asian markets where the attractive appearance and excellent taste of the fruit will be well received. We see the future of GEM as a useful addition to reduce reliance on Hass, allowing the New Zealand avocado industry to have greater resilience to unexpected negative events.







# Florida Researchers Deliver Warning to California Growers

By Jeff Wasielewski  
Commercial Tropical Fruit Extension Agent  
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Daniel Carrillo inspects an avocado tree for potentially harmful insects.  
Photo credit: Jeff Wasielewski

**E**arlier this year, a group of scientists and extension professionals from the University of Florida (UF) visited three avocado growing regions in California to deliver a dire warning: beware of the deadly disease laurel wilt. Laurel wilt has killed more than 120,000 avocado trees in South Florida and more than 500 million native trees in the southeastern United States.

The disease is a fungus called *Raffaelea lauricola* and it is vectored by tiny ambrosia beetles. The ambrosia beetles carry and farm the fungus to feed their young. Once they find a suitable tree, they hollow out galleries to grow the fungus and raise their young. Trees in the Lauraceae family, such as avocados, are hypersensitive to the presence of the fungus and try to wall off the disease, which is found in the xylem portion of the tree. Because the xylem is responsible for transporting water to the tree's leaves, if it is blocked, the trees will wilt and die. The presence of the disease sets off a chain reaction where the tree blocks the xylem so aggressively and effectively that the tree can no longer get water to its leaves, resulting in wilt and rapid death.

Once the disease is in an orchard, it can move by beetle activity or through root grafts. If trees in the orchard are old enough, their roots are most likely grafted together. Root grafting allows the disease to easily move from one tree to its neighbor and you will often see trees die one by one right down a row. There seems to be no resistance found within different cultivars or races of avocado as every cultivar of avocado that has been exposed to the disease has died.

At this point, there is no cure for the disease and there are no measures that will effectively prevent the disease from attacking individual trees or orchards. There has been some work done with injecting trees with a prophylactic fungicide before the disease arrives. This has been met with mixed results, although some growers continue to use the fungicide and have had good results. Growers are advised to frequently scout their groves and to immediately rogue trees that show symptoms of wilt and beetle activity. Trees that are removed should be immediately destroyed through chipping or burning. Some work also has been done to show that ambrosia beetles prefer shade, so well-pruned orchards have less of a



chance of being attacked by beetles.

The University of Florida scientists and Extension professionals visited the growing regions of Fallbrook, Ventura and San Luis Obispo. Tropical fruit Extension agent Jeff Wasielewski (the author of this report) began each presentation by explaining a little about the disease and how it has affected the commercial avocado growing region in South Florida. Tropical fruit entomologist Dr. Daniel Carrillo talked about the different ambrosia beetles that are spreading the disease, as well as how his team has shown that the ambrosia beetles attacking the avocado trees were different from the species that was attacking the native Lauraceae trees. Dr. Bruce Schaefer, plant physiologist, spoke about his studies regarding using different rootstocks and scions to try to find some resistance to the disease. Unfortunately, no pairing has been found that shows any resistance. Dr. Romina Gazis, plant pathologist, spoke about the disease itself and that one positive is that because the disease was introduced to the United States as a single introduction, it is easier to study because there is only one form of the disease. Fredy Balean, economist, spoke about the economics of battling the disease. Finally, Dr. Jonathan Crane, tropical fruit specialist, talked about techniques used to battle the disease including roguing, pruning, and keeping your trees healthy.

The UF scientists and Extension professionals rounded out each of their three days of presentations with visits to avocado orchards in all three growing areas. They noted that avocado orchards in California are generally well pruned, so that would be something that would help deter beetles from entering the orchards in the first place. One other positive for California growers is that because their orchards are typically on terraces, the likelihood of trees being root grafted are less.

It has been shown that California has an ambrosia beetle that is capable of spreading the disease, as well as a native tree, the California bay laurel, *Umbellularia californica*, that would be susceptible to the disease. These two factors will make it easier for laurel wilt to spread to avocado orchards in California.

At the present time, the disease has only spread as far west as eastern Texas. It is possible the disease could present itself in California at any time if someone brings contaminated wood from Texas to the west, or it could show up over a longer period of time through natural beetle movement. It's thought that laurel wilt could dip south into Mexico and then come back northwest to the avocado groves of California.

In any case, it is imperative that growers and regulatory agencies in California are ready for the disease and that they have a plan to quickly remove and destroy trees infected with laurel wilt. Having a plan in place now will greatly lessen the impact of the disease on the California commercial avocado industry. 🥑



Romina Gazis speaks to avocado growers about laurel wilt.  
Photo credit: Jeff Wasielewski



Jonathan Crane surveys a commercial avocado orchard.  
Photo credit: Jeff Wasielewski





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