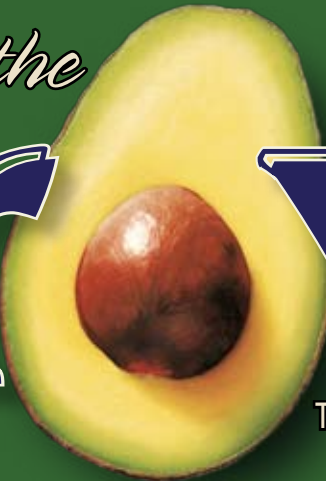


Fall 2016

From the
Grove



The Latest News from the California Avocado Industry



Unifying CAC's
Corporate Identity

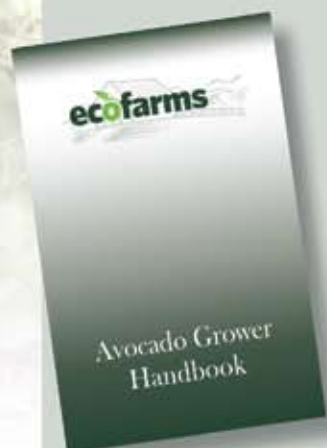
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Media Tour

A Slice of Avocado Life

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From the Grove

Volume 6
Number 3

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Tom Bellamore

Living Within Our Means

One year ago, there was considerable diversity of opinion about the size of the 2016 California avocado crop and what its farmgate value would be. Yet it still fell to the California Avocado Commission's (CAC) Board of Directors, as it does every October, to set the parameters necessary to establish a budget for the year. Crop size, expected average price per pound for the season and assessment rate form the basis for the Commission's revenue projection. Before the first avocado was harvested last year, the board forecast having roughly \$15 million available to run the 2016 marketing, industry affairs and research programs of the Commission.

Predicting crop size for the coming year in October is always challenging, and forecasting price, even more so. The one stable part of the equation — for the recent past at least — has been the assessment rate, which management has endeavored to keep stable, so growers have some predictability with respect to that single element of their overall operating costs. In October 2015, the board based its budget on a 360 million pound crop averaging 95 cents per pound across the season, while keeping the assessment rate level at 2.3 percent (of the first wholesale value of the fruit, or the price paid to

the grower by the packer).

As of this writing, the 2016 season is quickly winding down. Remarkably, the final numbers were not far off from the Commission's initial projections and the revenue target was realized, but getting there was a wild ride. Through the first half of the fiscal year (beginning November 1, 2015), the price per pound averaged a meager 66 cents and management began making program adjustments that corresponded with reduced revenue. It's a little like tapping on the brakes in your car when you see traffic slowing down ahead of you. If you are alert, you anticipate the conditions, adjust your speed and prepare to keep moving or brake harder. If you are not paying attention, you have to brake hard and may crash.

Adjusting spending when the season plays out differently than expected requires some careful pedal work, because you do *not* want to undermine marketing programs that strengthen the market when the California harvest is either beginning to build or going strong — you don't want to brake hard or crash. Here is where the Commission's marketing committee helps, and frequent communication between CAC's marketing team and the packers provides essential insights to guide the marketing effort. So the 2016 season, while off

to a terrible start, finished strong, with enough brake-tapping along the way to keep us well positioned for 2017. We're ending with a crop size of around 380 million pounds, at an average price for the year that should be close to the forecasted 95 cents per pound.

Management of the Commission's finances entails operating with a balanced budget, where possible, and living within our means. No one can predict what might happen as a season unfolds — this year we contended with oversupply, atypical sizing, upside-down prices, excessive heat, fruit drop and a host of other problems — but once we have set our plans in place, we can usually make any needed adjustments. By doing so, we not only prudently adjust our spending to match what is happening in the marketplace, but we prepare for what is to come.

Looking ahead, the 2017 crop is expected to be smaller — perhaps 250 million pounds — and the aggregate supply in the United States from all sources (imported and domestic fruit) is projected to be close to 2.8 billion pounds. That would give California avocados a market share of around 9 percent. Expect a smaller harvest window with aggressive pricing by competitors on the front and back ends of the California season.

A reduced crop size generally means less revenue and more focused spending. Instead of \$15 million in revenue, the new crop should bring about \$11.2 million.

Nonetheless, it is imperative that we maintain our visibility with key retail and foodservice accounts and capitalize on our quality and proximity to market, especially in a small crop year, lest we risk becoming lost in a sea of imports. Fortunately, packers of California fruit are increasingly seeing the California season as its own “deal” and countless hours have been spent by CAC Vice President of Marketing Jan DeLyser and marketers at the packinghouses to identify those accounts that *want* California fruit when it is available in promotable volumes and are willing to pay a premium for it.

Some growers think that the crop sells itself when volume is low, but that simply is not the case – unless you are content to accept “commodity” pricing that accompanies the failure to differentiate your product in the eyes of your trade customers. In short, marketing dollars must work even harder in short crop years, and there are fewer dollars to bring to bear on the effort.

Here is where “living within our means” gains some dimension. With lower revenue and a formidable task at hand, belt-tightening is not uniform. Limited funds must shift in favor of marketing to keep programs strong under challenging conditions. Other non-marketing functions may have to defer plans for a year to enable this to happen. And we may have to dip into our reserves. By tapping the pedal in 2016, we were able to return some funds from planned expenditures that were no longer needed back into reserves, giving us some much-needed breathing room for 2017.

Our overall marketing spend in 2017 will be significantly less than 2016, but the dollars will go against a shorter harvest period and will still

account for about 60 percent of the budget. In short, we expect the 2017 programs to deliver good value for growers. All of this can be done with the CAC assessment rate remaining

stable at 2.3 percent, which helps the grower’s bottom line, and without digging too deeply into reserves, which keeps your Commission financially sound. 🥑



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What A Year!!!

As the season winds down one word that comes to mind: "Wow!" After 23 years in the avocado industry, I have never seen the price per pound of avocado rise so quickly and sustain at such a high level. I see this as a sign of not only the increasing demand for avocados — but specifically the California avocado. Even with a good supply of import fruit retailers were willing to pay a much higher price for California avocados, which is very positive for us as California avocado growers.

Not only was the sustained high price positive for growers, it was a budgetary blessing for the California Avocado Commission (CAC). As you all know, the majority of monies used to run CAC and its programs come from grower assessments, which is currently 2.3 percent of the gross dollars returned to the growers. As you can image, Tom Bellamore and his staff were very concerned when the return during the first seven months of the season was a net of 73 cents per pound as compared to the budget predictions of 95 cents per pound return for the year. Tom went into action by notifying all departments to prepare to look for ways to cut expenses in preparation for a budget shortfall.

I congratulate Tom for his quick action, and all staff members who worked to cut almost \$1.0 million from the budget. Thankfully, it looks

like we will hit the crop estimate and be close to the \$0.95. Because of these cuts, we are able to add to our beginning reserves for 2016-17.

What about next year? The outlook for next year may not be as positive as we hoped. Because of heat, lack of water, etc., the initial word from the field is the California fruit estimate will be around 250 million pounds. In the coming months we will refine that number, which could cause a large reduction of income for CAC. At our last board meeting, staff was alerted and Tom presented a budget keeping all programs strong even with the decrease in revenue. The best part for growers? No increase in the 2.3 percent assessment! I applaud Tom for sticking to his guns when he said a few years ago he wanted to keep the assessment as low and consistent as possible; ac-



Doug O'Hara



tually, this will be the third year in a row with the same assessment!

The 2017 market for the growers is an unknown at this point. History has shown a light crop means higher dollars per pound and a heavy crop means lower dollars per pound; this may not be the case in the future. The avocado market is now a global market; this must be factored into future marketing and harvesting strategies. The number of avocado-exporting countries and increase in total volumes has made it difficult to predict returns on a year-to-year basis. The increase in world avocado consumption and the number of countries accepting imported fruit is helping the situation, but the strength of the U.S. market will always be attractive to other avocado-producing countries. If it is cheaper to send avocados to the United States and the



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To contact a CAC representative, please visit:
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returns are higher, fruit will come and our market will be impacted – especially if it is during our peak season. This situation helped create the problem this year and will continue to be an issue in the future. The best case scenario would be for the other countries of origin, the importers and the packers to watch the inventories of fruit in the United States and keep a steady flow of fruit moving through the system. As we saw this year, once the inventories dropped the prices spiked, which benefited everyone. Can this happen in 2017? I am confident it can, and I think the groundwork has already begun by way of increased communication and improved relationships. We have a way to go, but to avoid this situation in the future it is imperative that we continue the work.

I mentioned in my last column that this is the end of my second year as chairman, but it also is the end of my time as a board member. Af-

ter eight years I have decided not to seek a seat for the next term and will spend more time with my family and doing what I love — growing California avocados. I have enjoyed my years on the board and appreciate the hard work that Tom, Jan DeLyser, and all the staff put into our industry. They all take our industry very seriously and I am proud to have them working for us.

Lastly, if there is one thing I learned over the years it's this: Get involved! I encourage every grower to attend board meetings, committee meetings, seminars, and field days. Only so much can be learned by reading articles or minutes of a meeting. Experiencing it first hand is invaluable. All meetings are open to the public and staff/board/committee members are always open to questions and comments. Stakeholder input and involvement will help build the industry and allow it to grow stronger for future generations. 🥑

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CAC's Peak Season Consumer Events Garner Lasting In-Person Impressions

More Than 3 Million Social Media Impressions

Consumer events are a powerful means of engaging with California avocado fans — both in-person and via social media channels. This season the California Avocado Commission (CAC) selected food-centric events where Commission representatives could provide relevant, interesting California avocado information, share branded materials and treat tens of thousands of consumers to innovative California avocado dishes. By posting on the Commission's social media channels during the events, CAC expanded its consumer reach into the millions.

Chipotle Cultivate

This year, CAC was a sponsor of two Chipotle Cultivate festivals — one hosted in Scottsdale, AZ, on April 30 and the other in Kansas City, MO, on July 22. Chipotle Cultivate festivals are popular because they combine live music and food demos by well-known chefs with delicious meal offerings and informative “idea” booths that focus on fresh food and sustainability. California avocados were featured at Chipotle's “from scratch” guacamole booth and the Commission participated with an interactive booth that allowed California avocado growers, packers and CAC representatives to engage with consumers one on one. Attendees brought home avocado cutters, recipes and bumper stickers, as well as photos they took against artist Michael Schwab's signature California by Nature backdrop.

The Phoenix event, which was attended by 21,000 consumers, resulted in nearly 56,800 Twitter impressions and 200 engagements while CAC's Snapchat filter was viewed almost 17,200 times. The Kansas City event was attended by 23,000 consumers and the Snapchat filter was even more popular with the Kansas City crowd; it was viewed more than 28,000 times.



CAC's team engaged with fans at the Commission's Chipotle Cultivate booth in Kansas City.

Concern Foundation Block Party

As a value-added extension of CAC's advertising with *Los Angeles Magazine*, the Commission became an official sponsor of the Concern Foundation Block Party, an event held on July 9 to raise money for cancer research. The party is an upscale food event — with tickets priced at \$400 a piece — hosted on the Paramount Studios lot.

The Commission worked with 14 restaurants that were featured at the Block Party to create dishes showcasing fresh California avocados. In addition, CAC sponsored the official event photo booth with three California by Nature backdrops created by California artist Schwab. Attendees



The Concern Foundation Block Party in Los Angeles featured many dishes made with California avocados and signage with the logo.

enjoyed striking poses with their friends while holding a variety of California avocado props, and then digital copies of the photos were sent to them so they could share the picturesque fun with their friends on social media.

Of the 4,000 consumers who attended the Block Party, more than 1,000 used the CAC photo booth and opted to share their photos digitally. The Commission logo was featured on signs outside the booths of their restaurant partners and on all promotional materials, including two issues of *Los Angeles Magazine* for a total circulation of 280,000.



Chef David Hands of Bouchon Bistro prepares a California avocado dish for a dineLA influencer preview event.



DineLA's promotional messaging highlighted the California avocado partnership.

dineLA

Each year in July the Los Angeles Tourism Board hosts a two-week dineLA Restaurant Week that features prix fixe menus from some of the best restaurants in the area. The Commission partnered with five of those restaurants whose chefs created unique California avocado dishes for the dineLA event. Each of the five chefs also contributed one California avocado recipe that was posted on the dineLA blog.

To generate excitement prior to the two-week event, dineLA hosted an influencer preview event at Bouchon Beverly Hills, one of the Commission's partner restaurants, which featured a kitchen demonstration by Chef David Hands. The influencer attendees in turn promoted the event through their own social channels.

DineLA also created three chef videos that included tutorials on how to prepare California avocado dishes featured on the dineLA menus and then shared the videos on both CAC's and dineLA's social media channels.

The dineLA promotion had an outstanding reach to consumers in the largest market for California avocados. Photos from the preview event were picked up by Snapchat — a social media network focused on real-time events — and published on the L.A. story, making the photos viewable to all Snapchat users in the Los Angeles area. This resulted in roughly 3.5 million impressions. DineLA sent out an e-blast to its 170,000 subscribers announcing its partnership with the Commission. The announcement was featured in *The Los Angeles Times*, *CBS Los Angeles* and *The Chalkboard*, among others. The three chef videos showcasing California avocado recipes garnered an additional three million impressions. 🥑

California Avocado Month Activities Reach Millions

In recognition of June as California Avocado Month, the California Avocado Commission (CAC) implemented a multi-faceted campaign that utilized supermarket registered dietitians (SRDs) at targeted top tier retailers, included a nationwide media outreach campaign and established partnerships with popular bloggers and chefs to showcase the versatility of the fruit in a variety of new on-trend recipes.

Top tier retailers celebrated California Avocado Month with in-store events, television appearances, email blasts and giveaways that provided customers with new usage ideas, recipes and nutritional information. As part of the celebration, CAC distributed 4,000 copies of *Superfood Spotlight: Making Mealtime Easy for Moms* to 40 SRDs at 12 top tier retailers. Those retailers included Albertsons, Balls Food Stores, Dierbergs Markets, Harmons, HEB, Hy-Vee, King Soopers/The Little Clinic, Lunds & Byerly, New Seasons Market, Northgate Markets, PCC, Save Mart and Schnucks.



A Kroger RDN showcased grilled California avocados at King Soopers/The Little Clinic Diabetes Wellness Festival.



George's at the Cove in San Diego celebrated California Avocado Month on its social media channels and with unique California avocado specials on its menu.

Portland-based New Seasons Market featured California Avocado Month in its June "Newstrition" e-newsletter and on its website, and included a link to *Guacamole Potato Salad* on CaliforniaAvocado.com. The Nutrition Educator for PCC Natural Markets in Seattle provided customers with CAC's *Wake-up to Breakfast* recipe booklet, recipe tear pads and California avocado cutters. Harmons' RD distributed the *California Avocados Plant-based Diet* recipe booklet at the National Senior Health and Fitness Day held in Salt Lake City, Utah.

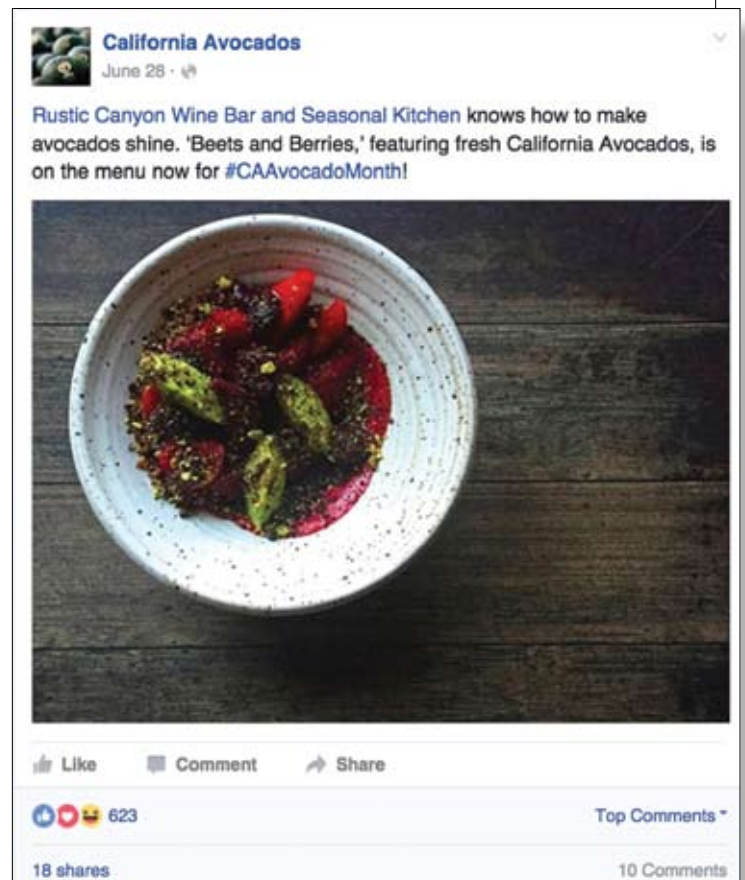
The Denver-based Kroger banner King Soopers/The Little Clinic participated in a variety of ways. Four locations hosted a Diabetes Wellness Festival where they prepared and served grilled California avocados for the attendees and distributed California avocado cutters and *American Summer Holidays* brochures. Additionally, their registered dietitian nutritionist (RDN) showcased California avocados as one of her "unexpected foods for grilling" during a televised segment on Colorado's Best KWGN-TV, which has an audience of 15,400. During the segment she also shared her "favorite trick" for peeling an avocado and reminded viewers that avocados are a "great way to get your healthy fats for the day."

To build additional awareness of the peak California avocado season, CAC conducted a media outreach campaign and partnered with popular bloggers and chefs to showcase

the versatility of the fruit in a variety of new on-trend recipes. The multi-faceted campaign featured press releases, California avocado shipments, partner blog posts, retail partnerships and artisan chef menu items, and was supported on social media by partner chefs and CAC's own channels.

Throughout June, CAC's artisan chefs featured specialty California avocado menu items in their restaurants. These unique dishes represented a wide range of creative meals. In downtown Los Angeles, Chef Josef Centeno added a special to each of his three restaurants: California avocado guacamole at Bar Ama, a luxe California avocado toast at Ledlow and his popular California avocado grain bowl at Orsa & Winston. In Santa Monica, the Rustic Canyon restaurant group joined in by adding California avocado toast variations at both Esters and Huckleberry, mixing fresh California avocados with the crowd-favorite Beets & Berries dish at Rustic Canyon Wine Bar and spinning a limited edition California avocado and prosciutto pizza at Milo & Olive.

Chef Trey Foshee in San Diego added two new California avocado tacos to the menu at Galaxy Taco and several new dishes to the patio menu at George's at the Cove, including



This Facebook post, showcasing Rustic Canyon Wine Bar's Beets and Berries featuring California avocados delivered an engagement rate of nearly 7 percent, more than seven times the industry standard benchmark.



California Avocado Cardamom Ice Cream.

a delicious summer salad with mozzarella and California avocados. In Sacramento, Chef Partner Mike Fagnoni added specials at both of his restaurants as well — a *California Avocado Toast* for guests at Public House and *Smoked Pork Belly with California Avocado, Buttered Shrimp and Pickled Tomatillo* at Hawks Restaurant. In Seattle, the Tom Douglas restaurant group added specials at four of their restaurants throughout the city, including *California Avocado Fries* at Assembly Hall, a *Summer Salad with California Avocados* at the Dahlia Lounge, a *B.L.A.T. Sandwich* at Seatown and a delectable *Chilled California Avocado Soup with Dungeness Crab* at Palace Kitchen.

CAC celebrated these artisan chef partnerships on its Facebook, Instagram and Twitter channels, featuring beautiful imagery of the California Avocado Month dishes. These posts drove awareness of the dishes and prompted those in relevant markets to visit the restaurants for a taste themselves. Overall, the social media posts garnered nearly 1.4 million premium Californian impressions.

One of the hottest consumer trends this summer was creative ice cream recipes. To engage with consumers eager for unique ice cream flavors, Chef Partner Jessica Koslow (SQIRL) developed a *California Avocado Cardamom Ice*

Cream with Fermented Carrot Custard in partnership with local artisan ice cream parlor, Salt & Straw. The specialty treat was served at three of their Southern California locations, featured in a press release and in a pre-written article developed by CAC. The recipe can be found at <http://bit.ly/avo-icecream>.

The Commission also sent ice cream party kits and fresh, ripe California avocados to its 2016 Blogger Ambassadors, as well as other popular bloggers and influencers, encouraging them to create their own adventurous California avocado ice cream flavors and share them with their fans.

Overall, CAC's California Avocado Month activities helped to promote the peak of California avocado season and create excitement for the fruit. This year, California Avocado Month activities resulted in more than 150 million impressions. 🥑



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High Density Planting for Avocado Production: A Chilean Perspective

By Dr. Philippe E. Rolshausen,
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University of California Riverside*

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University of California Riverside*

Dr. Ben Faber,
UCCE Advisor, Ventura County

To remain profitable and competitive within the marketplace, California avocado growers must maximize productivity and lower production costs. But several factors limit the productivity, profitability and competitiveness of the California avocado industry — the rising price of irrigation water, salt toxicity, shortage of qualified labor and pests and diseases.

One business model used by several crops within the agricultural industry is to increase productivity per acre by planting trees at a higher density. While one could argue that the challenges of high-density plant-

ing (HDP) are greater for avocado due to its growth habit and the lack of dwarfing rootstocks, several countries have shifted the industry standards towards higher planting density for avocado. In this article, we highlight the numerous advantages and challenges of HDP for avocado production — a practice largely adopted by the Chilean avocado industry.

In May, Dr. Mary Lu Arpaia and I (Dr. Philippe Rolshausen) visited six Chilean orchards with different planting densities, under the management of Francisco Mena Volker and Juan Enrique Ortuzar, two consultants for

GAMA and Agricom, respectively. In addition, UC Cooperative Extension Advisor Ben Faber and I had the opportunity to visit three California orchards that are evaluating HDP. In light of our observations, we discuss some of the hurdles for implementing this strategy on a large scale under current California standard practices.

HDP in Chilean Avocado Groves

In Chile, there are approximately 70,000 acres of avocados planted in a range of latitudes similar to those in California. Chile has pushed



Figure 1: Ultra High Density Planting (4x4 feet; 2700 trees per acre) in a Chilean orchard (Mexicola x Hass) planted in 2013. Look how crowded, compact and short the trees are next to Mary Lu Arpaia. Production in 2015 was 17,000 lbs. per acre.

for higher levels of production efficiency by increasing tree density and lowering labor costs. Planting at 7.5 x 7.5 feet (774 trees per acre) is the current standard density in Chile for new plantings. We also observed densities as high as 4 x 4 feet (about 2700 trees per acre; Fig. 1). Obviously, at that spacing trees are very crowded, compact and short. Tree height is managed from the time of orchard establishment. Orchard management practices include removal of water shoots, tree topping and cutting side branches to reduce shading (Fig. 2).

Pruning is commonly done in spring right after harvest and again in the fall to ensure pruning does not stimulate vegetative growth during summer and early autumn that can affect flower bud induction. Failure to follow those guidelines implies that severe tree pruning would need to be done later on, which in turn would have a short-term negative impact on productivity. But with tree heights of only six to eight feet, fruit harvest is more cost effective. At 5-6 cents per pound (vs. 25-30 cents per pound for California), pickers can make \$50 per bin (versus \$80-100 per bin in California) and at these attractive prices owners can secure and retain their workforce.

At an ultra HDP (4 x 4 feet) grove, trees come quickly into production (20,000 pounds per acre, two years following planting in one orchard) with yield expectations of over 30,000 pounds per acre at full production after four years



Figure 2: Post-harvest hand pruning of lateral shoot in an HDP orchard (Mexicola x Hass; 7.5 x 7.5 feet; 700 hundred trees per acre) to keep tree height under control and limit shading effect.

(Fig. 3). At lower planting densities, maximum productivity is reached after six years with yields of at least 10,000 pounds per acre.

In HDP, managing tree vigor is key, therefore growers have adopted several practices, including girdling, selecting rootstocks with low vigor and applying plant growth regulators (PGRs). The application of commercial PGRs that inhibit gibberellin production is standard practice in Chile. A PGR foliar spray in the spring at flowering (around peak bloom) increases fruit size in the “on” flowering year and increases yields in the “off” flowering year. A second PGR application through the irrigation system in late spring also is recommended to manage tree vigor. PGR application also influences the growth habit of the tree with treated trees typically having a “bushier” growth habit and reduced internode distance, as well as a downward or weeping growth habit. There also is a tendency for increased branching (Fig. 4). One ad-



Figure 3: Orchard 7.5 x 7.5 (Mexicola x Hass). Note the large amount of fruit in a small window. Depending on planting densities these orchards average 15,000 to 30,000 pounds per acre.

ditional advantage for using a soil application of PGR is that it appears to increase salinity tolerance and allows growers to reach higher production under saline water conditions. PGR

application timing is critical because some PGRs stay in soil for up to 140 days and residual product in the plant in the fall could have a negative effect on flowering the following spring.

Some growers also girdle scaffold branches to reduce vigor. Girdling starts in year three of the orchard, on established trees. The girdled branch will typically flower more heavily than a non-girdled branch and ultimately set more fruit. It is common for girdled branches to look more yellow in the spring — the reason for this is unknown. In some situations the girdled branch is removed following harvest of the fruit to allow increased sunlight penetration into the tree. Girdling is currently practiced in the California industry by some growers as well.

We also saw plantings of ‘Hass’ on seedling selections of West Indian rootstocks. In Chile, the problem of avocado root rot is considered to be minimal, and currently there is little use of clonal rootstocks. West Indian rootstocks are considered to have a higher level of salinity tolerance as compared to rootstocks derived from the Mexican or Guatemalan race.



Figure 4: A) Nabal x Mexicola orchard planted at 18 x 7 (350 trees per acre) and soil treated with high rates of PGRs to manage the elevated levels of salt. Look at the stunted and droopy aspect of the trees. Note the lack of salt toxicity on leaves. B) In contrast, note the salt toxicity (marginal leaf burn) on trees from the same orchard treated with lower rates of PGRs. C) Note the branches with short internodes caused by the PGR treatment.

Tree vigor on some of the West Indian rootstocks is lower while we observed other seedling lines to be more vigorous. These West Indian rootstocks are gaining popularity in Chile since salinity is a problem in some production areas, as well as perennial water shortages in some areas.

**In Comparison:
California Avocado Groves**

California growers have traditionally planted at a 20 x 20 foot spacing (109 trees per acre), and have thinned trees when the canopy closed. Closer spacings have been used, especially on steep slopes where trees tend to grow smaller, but with varying success. Under California conditions, HDP has displayed different optimal planting densities (300-500 trees per acre) in part because of the limited number of cost-effective strategies to manage tree vigor.

In California, PGR treatments are not registered and growers are mostly left with pruning, girdling and selection of varieties with lower vigor such as 'Gem' or 'Lamb Hass'. These varieties can be planted at higher densities such as 12 x 15 or 12 x 12 feet. Trees are pruned once or twice a year, in the winter and after harvest, depending on planting densities, tree vigor and market conditions. In addition, girdling is implemented at an earlier age than in Chile with California girdling typically occurring the first or second year following planting. One HDP in California that we visited yielded 18,000 pounds per acre at 6 x 15 foot spacing (484 trees per acre), comparable to similar planting densities in Chile. However, California growers do not typically plant at high densities and one can argue that the absence of a registered PGR may be a limiting factor. All the growers we visited unanimously said they would consider using a PGR if it were registered for California avo-

cado production.

We could certainly speculate about the benefits and implications for the California industry of HDP managed with PGR applications:

- Higher productivity per acre with higher tree density
- Lower labor costs with less pruning

- Faster, safer harvest because of smaller trees
- Increased salt tolerance especially in areas that use reclaimed irrigation water

Together, these factors would increase California growers' competitiveness in the marketplace. 🥑

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Food Safety Certification Key to Future Marketability of California Avocados

By Ken Melban
Vice President of Industry Affairs

The Food Safety Modernization Act (FSMA), signed into law in 2011 and effective on January 26, 2016, was created in response to several food safety incidents during the previous decade related to the consumption of fresh produce. FSMA mandates that *most* growers demonstrate compliance with specific food safety practices. (Specific information on “Exemptions” and “Compliance Dates” may be found in the sidebar at the end of this article.)

In response to the FSMA, the California Avocado Commission (CAC) introduced a Good Agricultural Practices (GAP) program for growers in August 2011. Adherence to a GAP program mitigates the risk of microbial contamination on fruit by following scientific-based policies, practices and procedures. Over the last five years a majority of California avocado growers have implemented GAPs and completed annual certification.

While the Food and Drug Administration (FDA) was developing the FSMA requirements, retailers and foodservice companies were concurrently creating their own food safety certification demands. Over time, these divergent buyer requirements created a very difficult market environment. One buyer would accept the United States Department of Agriculture’s (USDA) GAP audit while another would only accept the Primus Ranch audit. Due to diminishing acceptance of the USDA GAP audit from buyers, the Commission’s initial GAP program – which was built around the USDA GAP audit – was modified in 2014 to support the Primus Ranch audit.

During the past few years, multiple commodity organizations (including CAC) have worked to identify one audit scheme that would be universally accepted by all (or the

majority) of buyers. In 2000, a group of the world’s leading retailers formed the Global Food Safety Initiative (GFSI) to collaborate on the development of consistent requirements throughout the supply chain. Since that time, GFSI has become well respected for its role in creating a benchmarking model that provides credibility in determining equivalency between food safety schemes. GFSI doesn’t conduct audits or own an audit scheme. Rather, GFSI determines that audit schemes meet certain benchmarks at which point those audit schemes are verified in alignment with GFSI standards. This allows for more flexibility and choice in the marketplace, with the common goal of “once certified, accepted everywhere.”

Buyer demands, in most instances, are greater than those required under FSMA. Recently, Walmart announced that by January 1, 2018, the following requirement will be in place:

“All Avocado Suppliers for Walmart and Sam’s Club must align with GFSI and recognized benchmarked schemes for their entire operation including their packinghouses, storage and distribution centers, and growers/fields. Suppliers who still have growers/fields which have not yet achieved certification should provide to the Walmart Food Safety & Health a commitment letter indicating the date when all these sites will meet our requirements. **We expect all fields to be certified no later than the end of 2017. Should this process not be adhered to, we will reconsider our relationship with your firm.**”

Consider that on average a large customer like Walmart may purchase more than 10 percent of California’s volume in a season. With total U.S. domestic consumption surpassing 2.5 billion pounds, as we all know, there is no lack



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of supply options for retail and food service customers. If California fruit doesn't meet with a prospective buyer's food safety requirements, the time will come when they will look for another supplier.

Since the Commission launched the GAP program, some industry members have continued to question the need for GAP certification. Some say avocados are not at risk for microbial contamination while others argue that we shouldn't do anything until all the countries exporting avocados to the United States are certified (and verified). Not only are those positions indefensible, they significantly hinder the future marketability of California avocados and our progress as an industry. We know from FDA's recently-completed microbial sampling assignment on avocados that there were positive finds for bacteria on domestically-grown avocados. We also know that the primary offshore producers are working on food safety certification. In fact many of their groves are Global GAP certified, a more stringent audit required for shipments to Europe.

Over the next couple of years as food safety requirement deadlines are enforced, increasing pressure will be placed on handlers to supply buyers with certified fruit. If they are unable to do so they run the risk of losing that customer. Handlers already have to separate GAP-certified fruit from non-certified fruit, which is less than ideal. There will come a point in time when non-certified fruit will be difficult to

sell through normal market channels.

While you may not like that food safety certification is important to your business, or agree with its need, that doesn't make it any less real. The time to debate the importance of GAP certification in the California avocado industry is over. If California-grown avocados do not meet the level of food safety standards required from buyers how can we expect a premium price? Let's go a step further. Food safety certification is no longer considered an "added value," but the expected norm. In all likelihood, probably sooner rather than later, if your fruit is not GAP certified it will be below market standards and result in below market prices.

To assist growers who want to remain competitive, the Commission is in the process of modifying the GAP manual to support the Primus GFS audit. For those of you who have previously been GAP certified, the majority of changes involve additional record keeping. Many of the handlers are involved in this effort and stand ready to work with growers who would like to become GFS certified. The Commission will conduct another series of GAP workshops in early 2017. In the meantime, if you would like to learn more about GAP certification additional information can be found here: californiaavocadogrowers.com/growing/gap.

If you have any questions please give me a call at (949) 341-1955 or send an email to kmelban@avocado.org. 🥑

FSMA Exemptions:

The Standards for Produce Safety Rule does not apply to:

- Farms that have an average annual value of produce sold during the previous three-year period of \$25,000 or less.
- The Rule also provides a qualified exemption and modified requirements for certain farms.
- To be eligible for a qualified exemption, the farm must meet two requirements:
 - The farm must have food sales averaging less than \$500,000 per year during the previous three years; and
 - The farm's sales to qualified end-users must exceed sales to all others combined during the previous three years. A qualified end-user is either (a) the consumer of the food; or (b) a restaurant or retail food establishment that is located in the same state or the same Indian reservation as the farm or not more than 275 miles away.

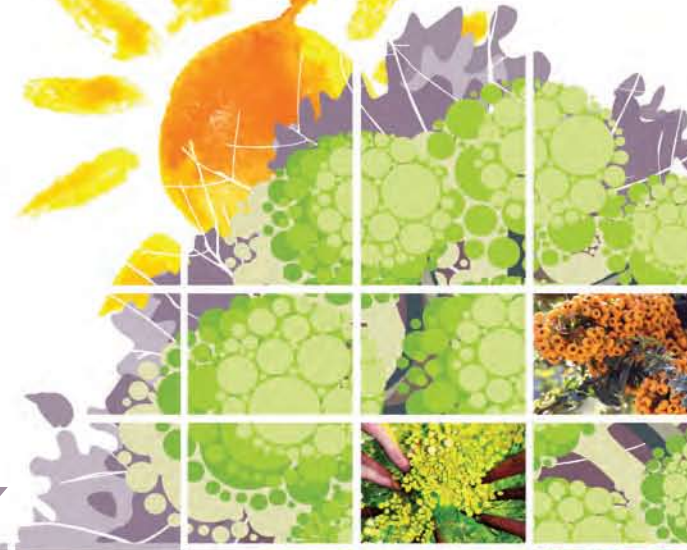
FSMA Compliance Dates:

Most avocado farms will not have to show compliance for two or more years following its inception, based on the following criteria:

- Very small businesses, those with more than \$25,000 but no more than \$250,000 in average annual produce sales during the previous three year period: Four years (January 26, 2020).
- Small businesses, those with more than \$250,000 but no more than \$500,000 in average annual produce sales during the previous three year period: Three years (January 26, 2019).
- All other farms: Two years (January 26, 2018).
- The compliance dates for certain aspects of the water quality standards, and related testing and recordkeeping provisions, allow an additional two years beyond each of these compliance dates for the rest of the Rule.



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Summer Fun

Avocados Garner Much Consumer Attention This Year

By Tim Linden

The avocado, specifically the California avocado, received a lot of attention this summer for a variety of reasons — ranging from an acute shortage and a freak heat wave in California avocado country to a cutting-edge social media campaign.

As temperatures in California soared to 105 to 115 degrees in late June, damage in groves was extensively reported. Dozens of stories fed to consumers also focused on a potential heat-induced avocado shortage. In late June, *Time* magazine headlined a story, “A Major Avocado Shortage Might Hit for 4th of July Weekend.” An on-line story on

a popular Pennsylvania website, *PhillyVoice.com*, specifically blamed the warm temperatures: “California heat wave leads to avocado shortage” screamed the headline. Though some articles — including the *Time* magazine piece — did report that Mexico’s avocado growers’ miscalculation of the market this year also had an impact, from the consumer’s viewpoint, heat was the main culprit.

The “Handler’s Report” in this issue accurately reflects all of the factors that led to the summer shortage of avocados, with the heat wave, on balance, playing a relatively minor role. There was a shortage of avocados during much of June,

July and August, which is when the California avocado is at peak supply and demand. In fact, the 4th of July period has become the number one avocado consumption holiday of the year. While there were challenges this year because of the supply demand equation, the California Avocado Commission (CAC) moved forward with its promotions and retailers followed suit.

California avocado volume for the 4th of July consumption event exceeded 48.7 million pounds, which is the largest on record for California, even exceeding a recent 500 million pound crop year. "With demand exceeding supply from mid-May into August, traditional promotional opportunities such as the 4th of July took on new meaning," said Jan DeLyser, vice president of marketing for CAC. "We were pleased to see our core customers continue to prominently display California avocados and feature them in their ads throughout the summer months."

Though f.o.b. prices were high and sustained that level for about three months, retailers continued to promote, albeit at a higher retail price than is typical. There were ads and displays with retailers throughout the region, supported by point-of-sale materials and CAC's *American Summer Holidays* recipe booklet. Retail highlights included sales contests with Gelson's and Mollie Stone's, July demos with Walmart and Sam's Club, digital coupons with Kroger and social media programs with retailers including Fairway.

Part of the branding strategy of the new promotional campaign launched this year is to align California avocados with iconic California images. The consumer marketing campaign is centered on associating avocados with the California lifestyle. Using iconic California images, such as the beach and the mountains, the campaign makes the connection between avocados and California.

As part of the campaign, the MullenLowe agency utilized a "show and share" strategy that encourages millennials and others to snap pictures of themselves in front of strategically-located California avocado posters in the state's larger urban markets and share those images with their friends. Early in the season, posters were placed in high traffic areas of the country's largest market for avocados, Los Angeles, and through its social media postings, CAC encouraged people to "show and share" themselves in photos with those posters.

CAC and its agency took that strategy one step further



Artist John van Hamersveld and CAC's Jan DeLyser in front of the San Francisco mural as it was being painted.

with the production of a large San Francisco mural painted in mid-June at 1052 Folsom Street, a high-traffic area in San Francisco's trendy SoMa district. CAC commissioned artist John van Hamersveld to incorporate the Bay Area's iconic landscape with the state's iconic fruit, avocados. You may know of John Van Hamersveld from some of his legendary pieces including *The Endless Summer* film poster and album covers for The Rolling Stones, Kiss and The Beatles, among others.

The mural is free of any logo or brand name, however there are digital breadcrumbs that link the painting back to California avocados. For example, the logo is featured in a custom filter when the mural is photographed via Snapchat.

In recognition of how people, especially millennials, choose to communicate in current times, the Commission constructed the mural to tap into the social media habits of that group. From inspiration to creation, the entire process was captured and shared on social media with making-of and behind-the-scenes videos to engage California avocado fans. Check out the behind-the-scenes video: <https://youtu.be/nK4GGgO8QAK>

"The mural concept is new media and a tactic designed to support CAC's show and share strategy, also implemented through digital and social media. We'll evaluate its effectiveness in our post campaign review to determine plans for the future. At a minimum the graphics developed by John Van Hamersveld will be incorporated into our media campaign moving forward," noted DeLyser.

All in all, it was a pretty incredible summer for California avocados. 🥑

Grower Profile



Avocado Production

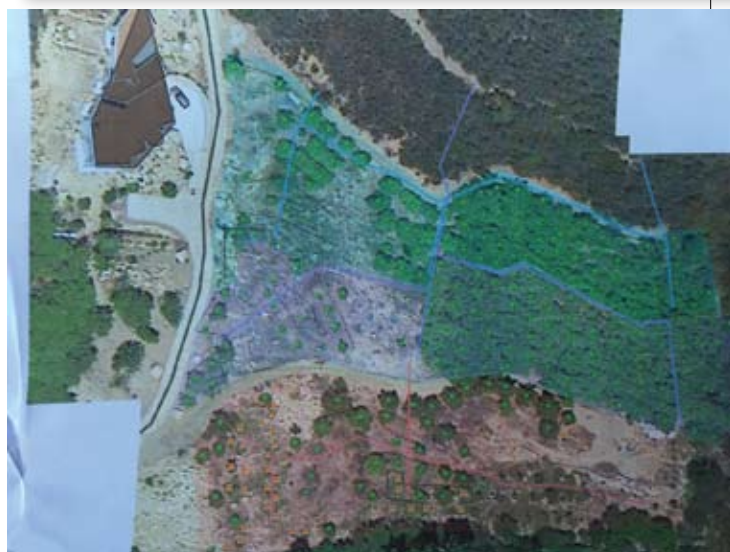
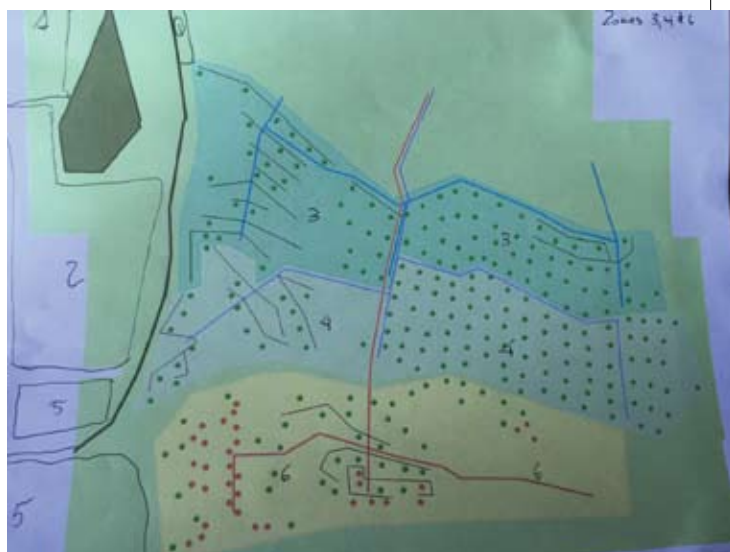
A Labor of Love

By Tim Linden

Maura Lundy's involvement in the California avocado business took a circuitous route from Italy through Kansas, Oregon, London, and even Saudi Arabia, before she joined the industry as a hands-on grower.

Today, the 72-year-old Lundy is heavily involved in her crop of 600 trees and lovingly babies them as she would her own kids. In fact, her long-term succession plan involves turning her Toro Canyon Road hilltop ranch over to her kids, especially her opera singing son, who will take care of the trees and his mother once she can no longer do so, though she doesn't expect that will be any time soon. This year, she is extremely giddy about avocado production as she had her best year in a long time with her trees producing more than 24,000 pounds of commercial organic production. "And I also gave away a couple thousand pounds to the rescue mission and food bank. I am so excited about how my trees did this year," she notes.

Lundy's journey began in Italy, which is where she grew up. In 1968, she came to the United States to visit her sister during the student strikes in her native country. In her 20s, she enrolled in the architectural school summer program at the University of Kansas (KU) and ended up staying, marrying a professor and receiving a degree in Environmental Design from the School of Architecture at KU in 1972. Maura moved with her husband to Oregon and they settled into life there for a while. They also moved to other locales and she became involved in a couple different lines of work. She developed a love for the financial world and fashioned a career in that field for some time, including managing the business affairs of her stepfather, which eventually led her to California and avocados.



Her mother and stepfather moved from Italy to South America and eventually ended up in Santa Barbara County. Maura began vacationing in the California community and fell in love with the region, especially Montecito. Family circumstances, including her own divorce, altered her path. In 1998, she bought a 14-acre parcel of land on Toro Canyon Road above Montecito. "For a historical perspective, the first oil well in Santa Barbara County was at the top of Toro Canyon Road, and I have found traces of the old Chinese workers' camps while hiking at the top of my property," she said, adding that "Roy Rogers used to own many acres on this mountainside where my farm is."

Her parcel included 900 avocado trees, which were initially cared for by a neighbor. But because her mom was in the area, Maura began spending more and more time in Santa Barbara and then moved there. Eventually, with her architectural background coming to the forefront, she set about the task of designing and building a house on the property. "That was quite an ordeal," she said. It took more than four years to progress from the permitting process to the finished product."

"In 2012, I moved into my home and started managing my own grove," she said. The grove now consists of 600-700 trees, which have been transitioned to organic production. Lundy said the grove is planted on a very steep hill, so she must use ropes to stay upright as she tends to the various cultural practices. It gets very hot on the hilltop so the use of fabric and mulch – installed by Lundy – helps cut down on the water use. She marvels at the ingenuity in planting the grove initially, noting that the very steep terrain and heavy clay soil surely presented a challenge.

While it may be hot in her steep hillside grove, Lundy does have a relatively new well so "water is not an issue." This distinguishes her grove from that of her close neighbors. Several nearby groves have fallen by the wayside precisely because of lack of water. Using Google maps, she created six watering zones and today waters each zone twice a week for three hours at a time. Initially, she was watering each zone once a week for a 12-hour time period, but trial and error have allowed her to cut the watering in half and still get very good results.

She calls "labor" her biggest challenges as the steepness of the hill and the small size of her grove make it difficult to find people willing to pick the avocados. Currently, Lundy very much enjoys the work but knows that is not going to last forever. Already, she hires an outside worker to come in every once in a while with a weed whacker in hand to knock down that unwelcome growth.

She said her top-of-the-hill perch is also a magnet for all kinds of wild life including bears, which have wreaked havoc on some beehives that were being stored on her ranch by a neighbor.

In the past, when she had more trees and was produc-



ing conventional fruit, Lundy's ranch produced as much as 55,000 pounds of avocados in a year. She was very happy with this year's output but knows next year is going to be a different story. Her trees have not set much of a crop for 2017.

Lundy said her avocado knowledge is self-taught as she read many technical articles penned by California researchers, as well as some from Israel.

Though she loves her avocado trees and has clearly enjoyed a career that has taken several turns, painting is her passion and she happily shares some of her work via the internet. "Most of my works range from 11 to 16 feet in width and 6 to 18 feet in height and they are all works in progress, even after they hang from the ceiling."

Lundy herself appears to be a work in progress as well. In setting up a time to discuss her avocado avocation, she noted her full schedule, including an afternoon swim in the ocean every day. 🥑



Tours Serve Slice of Avocado Life To Retail, Foodservice & Media Influencers

By Tim Linden

Connecting with the people who grow their food is an increasingly important part of the purchasing decision for many consumers and has been a key component of the California Avocado Commission's (CAC) marketing strategy for the better part of a decade. One important tactic in pursuing that concept is California avocado grove tours that connect retailers, foodservice operators, media and other influencers with how

the fruit is grown and packed.

This summer CAC hosted four different tours that brought key representatives to the groves where they interacted with growers and gained hands-on knowledge about the California avocado. In early June, a dinner for San Diego-based registered dietitians and food bloggers was held in a Valley Center grove. Later that same month, members of the Ralphs Grocery Company's marketing and advertising team were treated to a tour and other goodies at a Somis, CA

grove. In early August, CAC hosted two of its most ambitious endeavors. First, a media tour for nearly two dozen influencers that included several avocado-centric meals with stops at a packing shed, grove and nursery in Ventura County. Days later, 28 chefs and other personnel from top restaurant chains across the nation attended CAC's foodservice "AvoTour" in San Diego and Orange counties.

Dinner en Green

On June 4, Valley Center, CA, avocado growers Mike Sanders and Chris Ambuul promoted California Avocado Month by hosting a "Dinner en Green" at their Rancho Santo Tomas avocado grove. The growers led San Diego-based bloggers and Registered Dietitian Nutritionists (RDN) on a tour of the grove. The guests enjoyed a spectacular dinner in the grove created by Chef Trey Foshee of George's at the Cove and Galaxy Taco, located in San Diego County. California avocados were featured in every course.

Katie Ferraro, a registered dietitian (RD), added value to the event by contributing a post on CAC's The Scoop blog, highlighting the care local avocado growers take with the crop and showcasing the fruit's versatility in meal preparation.

Ralphs' Influencers Visit Somis

On June 30, led by Marketing Director Alli Green, six social media influencers working with Ralphs Grocery Company's advertising team toured grower John Grether's grove in Somis. Joining John in discussing the California avocado industry were CAC Board Member Rick Shade and Dana Thomas, president of Index Fresh, a Ralphs' avocado supplier. All three industry representatives, along with CAC staff, presented the Ralphs' group with an overview of avocados from grove to grocer and discussed the importance of "locally grown" to consumers.

The tour group had lunch at Grether's home and participated in a "Guac-Off" in which each attendee created fresh guacamole using the provided ingredients. Each Influencer left the event with a California avo-

cado gift bag as well as a Ralphs gift bag.

Media Tour

From August 5-6, about two dozen bloggers and other consumer influencers, retailers, foodservice operators and trade media toured several different Ventura County sites, and enjoyed a number of meals as they were inundated with the joys of the California avocado.

This first stop on the tour encapsulated the changing world in which we live. Just as an avocado packing shed



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Two bloggers – Katie Quinn and Megan Roosevelt – take a video of avocado picking at Randy Axell’s grove in Ventura County.

– complete with its highly computerized equipment – is much different than the facilities used a generation ago, the media members participating in this tour were only distant cousins of their predecessors from a generation before.

As Mission Produce Vice President Robb Bertels toured the company’s state of the art facility and explained the advanced technology utilized in packing avocados, his audience included millennial bloggers armed with equally technologically-advanced video devices that captured his every word for replay later.

When Bertels discussed the steps involved in packing and, later in the day, Ventura County grower Randy Axell sat on a cart in his grove and talked about avocado farming, the media took it all in with video cameras. Note taking was minimal.

Katherine Quinn, who reports as “The Q Katie” on her YouTube channel, turned the camera on herself and shared what she had seen with her followers using Facebook Live. She also quickly walked through the grove creating what became vlogs (video blog) on her digital platforms.

During that same grove tour, Registered Dietitian Michelle Dudash, a CAC RD Ambassador who entertains her followers on several social media platforms under the title of “Dish with Dudash,” conducted a live Facebook feed from Axell’s packing shed. She used her video device to record Chef Pink preparing an avocado feast for the tour participants. The CAC-sponsored chef created several dishes featuring the star of the day including California avocado gazpacho soup, an avocado-watermelon sashimi and avocado ice cream “cooked” with nitrogen oxide. Axell participated by demonstrating how California avocados are harvested. Dudash’s video was watched live by 1,500 people logged on to Facebook during lunchtime, and of course, many others tuned in later to see the piece and can still see it on both her own and CAC’s Facebook page.

These opportune postings can live on for perpetuity in cyber space, which is one of the reasons that CAC courts social media food and wellness bloggers, editors and writers and invites them to the media tour. This year, the media included several influential registered dietitians, supermarket representatives, photographers, writers and editors who are employed by or contribute to many different digital and print outlets. That list includes *Good Housekeeping*, *Epicurious*, *FoodBeast*, *Food & Wine*, *Men’s Journal*, *The Today Show*, and *Southern California Life*. Christine Tran, who writes Los Angeles Goodie Girl, also participated, as did Megan Roosevelt — whose YouTube channel is called Healthy Grocery Girl.

At the Mission Produce facility in Oxnard, Bertels was able to take the crowd through the facility and explain the various steps the avocado goes through on its journey from field bin to carton. The group learned of the relationship between fruit size and pack count, Mission’s predilection for hydrocooling its fruit, avocado ripening and bagging operations.



An expert at Brokaw Nursery demonstrates to the crowd the painstaking grafting every commercial avocado tree must endure.

A trip to Axell’s Rancho Rodoro 40-acre ranch was next on the agenda. His family first started planting avocados in Ventura about 65 years ago. This year his acreage produced about 450,000 pounds of fruit with an average yield of 14,000 pounds per acre. He told the media reps that 2016 gave a heavy crop and next year he expects a yield of less than half that volume. Axell noted that an average tree has about one million blooms that result in a fruit set of about 250 avocados per tree, indicating just how difficult it is for a bloom to eventually become a piece of fruit.

The group got a hands-on feel for picking avocados as each tour member was allowed to pick and take home some Lamb Hass avocados using clippers or a so-called telescoping “cherry picker” that demonstrated the difficult art of picking.



Joanna and Randy Axell flank CAC's Jan Delyser, who presented the pair with a framed avocado poster for hosting the Media Tour lunch

Nearby Brokaw Nursery was the next stop where CAC Research Director Dr. Tim Spann explained the arduous process of starting with an avocado seed and ending up with a commercial avocado tree after several grafts, time in a dark room and 18 months of growth. That process, he said, is why an avocado tree costs about \$30 wholesale. Spann also noted that there is about a two-year lag time between ordering and delivery of avocado trees. "You need to order now for delivery in 2018," he told the media members.

The group also was shown the art of grafting by one of the Brokaw workers. Kat Sacks, an assistant editor at *Epicurious*, took a stab at grafting and discovered just how difficult it is. The Brokaw staff does that painstaking work on 300,000 avocado trees per year.

The day-and-a-half media tour featured four avocado-infused meals that this group of self-avowed foodies found irresistible. James Beard Award Winner and Hollywood Bowl Chef Suzanne Goin launched the food fest Friday night. Chef Pink served lunch the next day and Chef Ari Taymor of the Alma restaurant in Hollywood capped the gastronomic feast Saturday night. Each of the chefs specifically touted California avocados for both their superior taste and their geography. Chef Pink said the richness of a California avocado cannot be matched by those of other origins and she noted that her commitment to serving only products within close proximity to her Solvang, CA, Bacon & Brine restaurant makes the California avocado a natural ingredient in many of her dishes.

The dinner was preceded by an avocado demonstration with Registered Dietitian Bonnie Taub-Dix who works with CAC as an RD Ambassador. Taub-Dix revealed what she called "exciting news" regarding the USDA announcement that the recommended serving size of an avocado has changed from one-fifth of a piece of fruit to one-third. This is important to the avocado industry because with a larger

serving size now it can be said that one-third of a medium avocado (or 50 g) is a good source of fiber and folate.

On August 7 and 8 CAC's foodservice "AvoTour" took place in the Valley Center, Murrieta and Newport Beach areas. Personnel from restaurant chains across the nation met California avocado growers and toured groves and packing houses. Attendees sampled a wide variety of California avocado dishes designed to showcase the depth and breadth of California avocado menu applications. American celebrity chef Jet Tila (who has appeared on *Chopped*, *Cutthroat Kitchen* and *Iron Chef America*), conducted live demonstrations.

Each of the tours was successful in serving up California avocado facts to an impressive list of retailers, foodservice representatives, digital media people, the trade press, Registered Dietitians and bloggers. This information is sure to find its way to the all-important consumer over the next several years. 🥑



Robb Bertels of Mission Produce gave a tour of the firm's state-of-the-art packing facility.



Chef Pink and partner Courtney Rae served an avocado-infused lunch to the group.

Reason for Optimism in 2017

This was definitely a mixed year and a tale of two seasons. If you picked all your fruit early, you probably have a bad taste in your mouth. But seemingly most growers were able to participate in the stronger market from May to the end of the season. A tour of the five districts revealed a good amount of optimism in this new district report from your CAC Commissioners throughout the State. (The responses are in first person and were edited and paraphrased in some cases.)

District 1

Board Member Jerome Stehly was interviewed on September 1. The district he represents is CAC's most southern district.

2016 Crop:

We finished harvest in August and had a very nice finish to the season which helped a lot of people out. How growers judge the season depends who you talk to and when they were able to pick. I'd say it is a 50/50 mix. When the prices were very low, we had some growers going into panic mode as they didn't know how low it was going to go and they started stripping their trees. Those who didn't do that did much better. Hopefully there were lessons to be

learned, as it always seems better if you can spread your pick out over a longer period of time. Orderly marketing works best. It works better to pick some fruit early and save some for later, which we saw was the case this year.

Water Situation:

There is plenty of water to buy this year but it is going to be expensive. In my district, we do see growers pulling the plug especially on older trees. Most of those who are replanting are putting in high density plantings.

Labor:

Labor is definitely one of our biggest problems and I think more and more growers are going to have to get involved in the H2A program. I have been doing it for several years and we have been very successful. This year I brought in 22 workers. Next year I'll probably shoot for 30-35. A lot of people ask me about my experience but I don't see too many people following our lead. We contracted the 22 people for 10 months, which is the longest you can do. About 70 percent of them stayed with 30 percent leaving early. Housing is the biggest concern. I ended up buying some property with two

houses on it and that's how we take care of that provision.

2017 Crop:

It's too early to tell.

District 2

Board Member Leo McGuire was interviewed on Friday, Sept. 2. His district consists of Temecula, parts of Fallbrook and other territory in Riverside and San Diego counties.

2016 Crop:

On June 21, the longest day of the year, we got snookered by the highest temperatures I've ever seen in all my years in the avocado business. For two days we were well over 110 degrees, which resulted in an awful lot of drop. The good news is that because of the heat we had very little insect pressure. I'm also a PCA (pest control advisor) so I look at that and I have to put an optimistic spin on it.

The heat also had a positive impact on market price which allowed the majority of growers in the district to be in the positive side of the ledger for the year. It could have been a lot worse.

Water:

The price of water is the number one topic in our area. In Temec-

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edzybura@charter.net

ula we still have water for less than \$1,000 an acre foot. If you are in San Diego County, you are paying more than that. And it's awfully hard to survive with that kind of water bill. There are trees being removed, especially if you have an older grove or one that has problems. The heat (on June 21 and throughout the summer) really showed up on the trees with root rot.

Labor:

We did not have enough labor. It was very difficult to find sufficient labor to harvest the crop. As a result it took a lot longer to harvest the fruit in my district. That was both good and bad. The fruit picked later did have a better price but if we could have gotten it off before the June 21 heat wave, we wouldn't have lost as much.

2017 Crop:

We had an okay set in my district. It's probably comparable to 2015, which was about 30 percent less than 2016. And we got through August without having a lot of drop. But as my Dad always said, 'Never count your bloom until it's in the bin.'

Optimistic Look at the Future:

If you are an avocado grower, or a farmer of any kind for that matter, you have to be optimistic. I think there can be a lot of optimism about what happened in 2016. Late in the season, we did get a premium for our (California) fruit. If we can continue to get a premium, we can pay the bills, and we can stay in business. If you've been at this awhile, you have to be excited about what happened this year. My family has been growing avocados in this district since the 1950s and we had a lot of years when we didn't get over 20 cents per pound.

District 3

Board Member Ed McFadden was interviewed on Sept. 2. He rep-



Leo McGuire traveled to Thailand and Southeast Asia in August and was very excited by the avocados he saw being marketed. "I looked and I couldn't find any California fruit but I did find fruit from other places and they were getting a lot of money for them." He said the prices varied but were as high as \$3 per avocado.

resents the Fillmore/Piru growing region of Ventura County which is currently in District 3, but will be moving to District 4 in 2017.

The 2016 Season.

It was a very interesting one full of ups and downs for the district. The fruit matured early, which resulted in some drop because labor could not be found to harvest it all in a timely manner. It is the fifth year of drought for the area and that did contribute to early maturity. There were also several heat waves, including temperatures as high as 112 degrees in June.

The failure to get all the fruit off the trees in a timely manner proved to be a blessing in disguise. We were forced to stretch out the harvest which turned out to be a good thing. Lack of labor worked in our favor this year. Early in the season, the field price fluctuated from 50 to 80 cents per pound depending upon the

size of the fruit. If you couldn't get your fruit picked you ended up getting two to three times that much.

Overall, our area probably had returns that averaged very close to the pre-season estimate of 95 cents per pound. But it was a mixed bag with some growers doing far better and others doing worse.

Water:

This remains the scariest issue we face. The El Niño was supposed to create a wet year but sometimes those conditions don't result in a wet year which proved to be the case this year. We did have several very good rains which helped leach the soil of salts. Now we are looking at a La Niña which typically means drier and cooler. But we may end up with more water than we think. We can hope for that.

Our aquifers are low and the lack of water released from our reservoirs has prevented us from managing our water supply. This year it is all going to depend on the rain and how deep your wells are. But we did have some rains last winter and the trees are in better shape than they were a year ago.

Fire Danger:

Another worrisome situation is fire. There are a dozen fires currently burning in Southern California as the water content of the brush is very low. We are doing what we can to create fire breaks but one hot weekend with Santa Ana winds and we could have a situation worse than 2003 and 2006 when fire caused a lot of problems. We are as ready as we can be, but it is scary. Right now we have 8-10 more weeks where we have to grit our teeth and hope for the best.

2017 Crop:

It's definitely down from 2016. In our area, I would say 2016 was a "weak on year" and it looks like 2017 will be less of an off year. I am see-

ing more fruit on the trees than I did a month ago. There has definitely been a late set. I was looking at some trees yesterday and saw some fruit that I did not see a month ago.

The Future:

In my area there are more trees being planted than being taken out. Water is a limiting factor, but one piece of good news is that the shot hole borer does not appear to be as bad as we first expected. We do need some leaching rains. We can irrigate, and we are doing that as much as we ever have, but we need a good natural rain to get rid of those salts.

But there are a lot of cultural practices that growers can do to help themselves out, including not letting the trees get too large and making sure the trees aren't stressed.

District 4

District 4 Board Members Art Bliss and John Lamb submitted this report in late August and represent the Santa Paula, Somis and Ojai areas of Ventura County.

2016 Crop:

The 2016 avocado year is winding down. Picking crews are turning to pruning or moving on to other cultural tasks. This year has been a rollercoaster and growers were either happy or distressed – depending on when they picked their fruit and the prices they received. When all is said and done, it appears the domestic volume and average price received were remarkably close to CAC's projections. Yet, it isn't too soon to begin thinking about next year.

2017 Crop:

After preliminary meetings with handlers, the CAC staff and marketing committee are projecting a smaller crop for next year – 250 million pounds. However, Hass Avocado Board (HAB) is projecting a larger total volume to be sold domestically – over 2.5 billion pounds. All in all, it

means California avocados will comprise less than 10 percent of the total volume sold...and this volume may be compressed into an even tighter marketing window.

Taking Care of Business:

This year may have been an anomaly but in any event, what is a grower to do? If next year is anything like this year, each grower should:

- Be aware of CAC's marketing plan and media promotions. The prices received before the implementation of this year's plan were significantly lower than after the plan was initiated. It appears next year's crop will be marketed during another short time frame making picking decisions critical.
- Make sure fruit is mature and it offers the quality buyers expect from California avocados – CAC's tiered approach is beginning to reap benefits with the most loyal customers paying premiums for California quality and remaining loyal throughout the season. Unless your trees are stressed, consider picking later in the harvest season.
- Coordinate with your packer and talk to the field staff to maximize your returns and coordinate picking. With a smaller picking window, this coordination becomes even more critical.

District 5

On August 31 Rick Shade reported the highlights from his district. District 5 is comprised of all growing regions north of Ventura County.

On 2016 Production:

We still do have fruit on the trees but by the end of next week it will almost all be gone. There is fruit in the Morro Bay region but I am not sure how much. They've carved out a nice niche for themselves but it's hard to leave that fruit on the trees when

you are getting \$2 a pound.

A Sign of this Year's Crop Value:

We had a theft problem this year and lost about \$100,000 worth of fruit. There was a thief working a few hours a night every night of the week, stealing about 300 pounds per week going from grove to grove. The rural ag crime officer did a great job of staking him out. The thief is now sitting in jail facing a felony charge. We think he was selling them to restaurants, according to the business cards that he had when he was arrested.

Interesting Year:

This was a strange one. We are lucky that it was a relatively mild summer so that reduced the water requirements, but it was a strange year. It was the first time I ever had harvesting crews having to dodge planting crews. As a ranch manager, I had trouble lining up enough labor so everyone could participate in the higher price that were available later in the season.

2017 Crop:

Very difficult to say. I tell everyone the trees look green. The trees that are 15 years old or less seem to have a pretty good crop on them. Some of that fruit looks big enough to almost pick. But the older trees – we have some in my district that are 40, 50 even 60 years old – they have been hurt badly by the drought. There is just not much fruit on those trees. Different zones and different tracts are telling different stories.

What People Are Talking About:

Of course the big question is water. There are rumblings of a dry La Niña year. We are just going to have to keep irrigating. Water is still the number one topic. It used to be everyone talked about the price. Now availability has taken over the conversation. 🥑

California Avocados and the California Avocado Commission – A Unified Identity

By April Aymami
Industry Affairs Manager

What's in a corporate logo? On its own, a logo is a symbol used to identify a company. If you look around, corporate logos are everywhere and are so pervasive that many people become indifferent to those logos and what they represent. But, certain iconic corporate logos, like those for Google, Apple, Nike, McDonalds or Coca Cola, are memorable because the logo isn't simply a symbol used to identify the company — it embodies that company's brand and conveys their brand message. When you see the Nike logo, for example, you think "Just Do It." The logo can then play a critical role in a fully integrated marketing communication platform.

Corporate identity has been defined as the set of multi-sensory elements that marketers employ to communicate a visual statement about the brand to consumers, which can include the company name, logo, slogan and company colors. To present a strong corporate identity, typically a company has worked to build consonance — a unified message offered to all of its audiences (the public, media, consumers, employees) at all touch points. A strong corporate identity sends a consistent message that builds acceptance and trust of the brand.

The California Avocado Commission (CAC) faces an interesting predicament when tackling its corporate identity because its brand isn't simply the fruit grown in California, but the issues management, production research, industry-related activities and trusted information and resources it provides in order to ensure the California avocado industry is sustainable. CAC has, for nearly 39 years, worked to build marketing programs that promote increased consumption

and usage ideas while differentiating California avocados as a premium product. The California avocado logo and CAC's marketing campaigns are focused on consumers, retailers and foodservice operators — audiences who care about the California avocado brand, but aren't as concerned with the California Avocado Commission brand. But the Commission has another group of 'customers' — those who turn to CAC for relevant and important industry information and research — and they need a logo that identifies trusted information from the Commission.

Faced with two different sets of customers, the Commission has worked in recent years to identify an iconic symbol that could serve as the basis for CAC's corporate identity. In truth, this process may have started with a bottom-up approach. While the high-level end goal was always the development of a corporate identity with staying power, the devil was in the details because we needed to develop assets for use at every touch point — from on-fruit labeling to corporate letterhead. And so, we started with the smallest asset that packed the largest punch — the California label that would be placed on the fruit at retail.

The California label has limited, yet valuable real estate space with room for only the most important information — the fruit's origin and an iconic symbol that communicates the power of the California's premium brand positioning.



With consumer focus groups supporting the on-fruit California label and handlers throughout the industry jumping on board to begin placing the California label — or customized variations of the label — on the product, CAC was then able to turn its focus toward its consumer, retail and foodservice marketing programs.

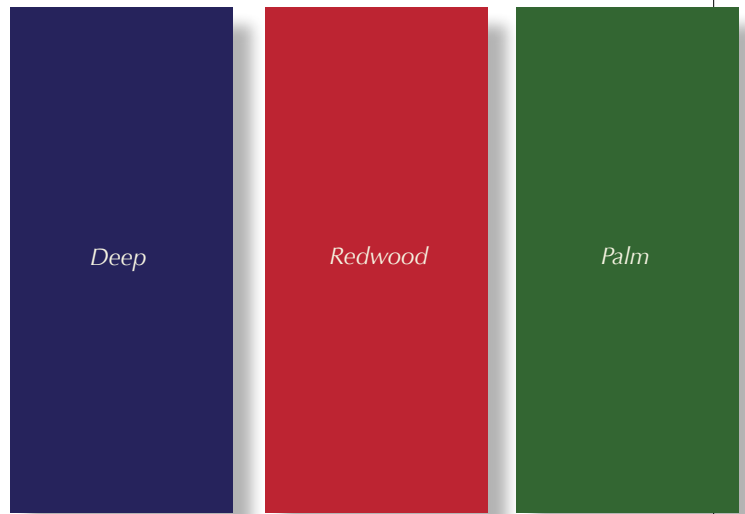
While CAC had more flexibility when developing a consumer marketing logo, the main goal was to communicate a consistent message across all platforms and build a strong brand identity. At the same time, it was important that we utilize the brand equity that had been built during the past 20 years with the 1995 introduction of the California Avocados consumer marketing brand. With these priorities in mind, earlier this year the Commission rolled out the new 'California Avocados' consumer logo and began widespread use of the logo in the marketing programs, promotions and activities implemented throughout the 2015-16 season.



With on-fruit labeling finishing up its second season, and the new California Avocados logo completing its first season, CAC began to see data indicating that these new assets were resonating with all its customer bases — not just consumers, retailers and foodservice operators, but growers and industry stakeholders alike! Use of the 'California Avocados' logo began to pop up in presentations when referencing the California Avocado Commission as an organization. And so, with the seeds sown years ago now beginning to bear fruit, CAC has moved to unify our corporate identity among all stakeholders with the development of the California Avocado Commission corporate logo.



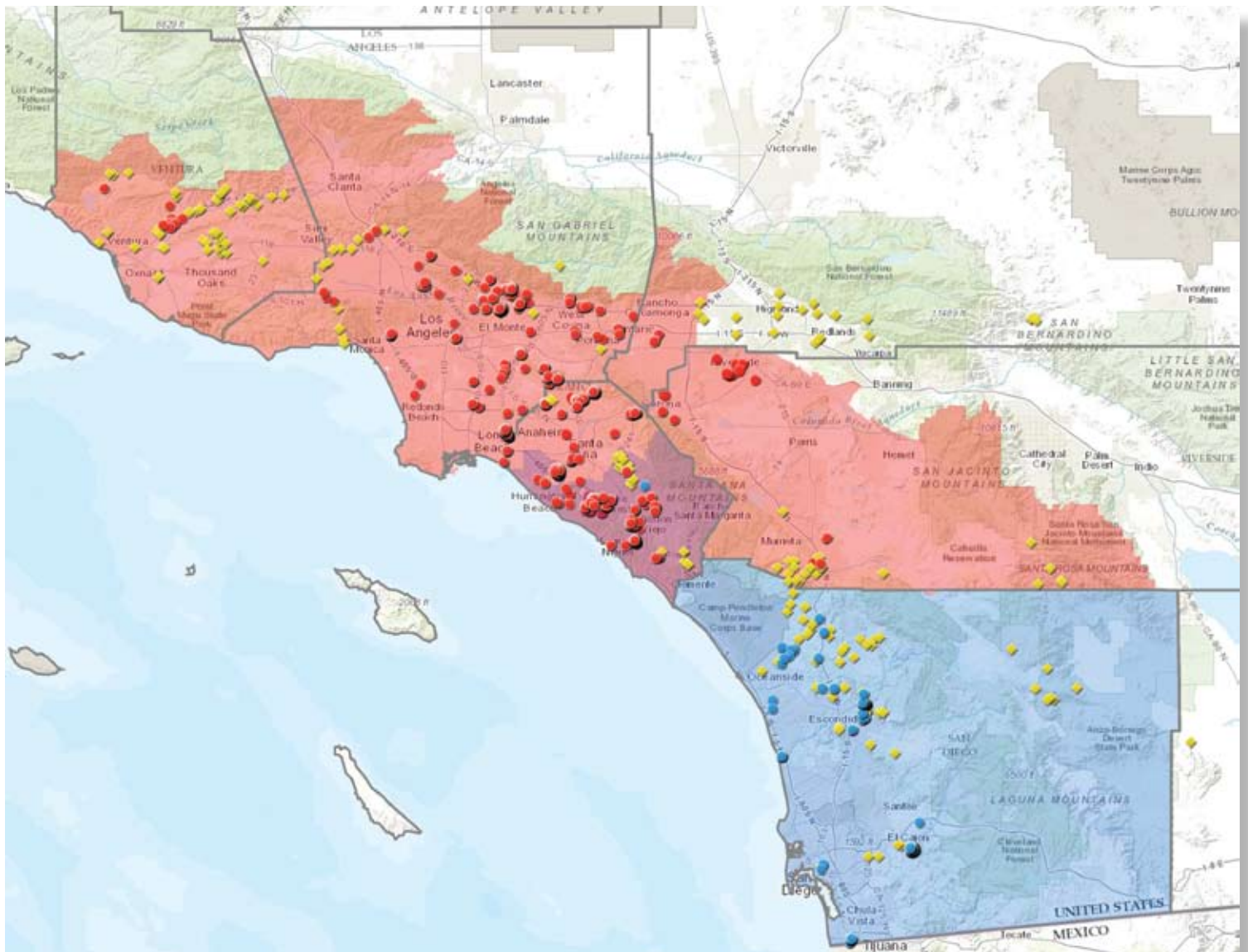
In October, the Commission will unveil the new corporate logo as it celebrates its 45th year as a Produce Marketing Association Fresh Summit exhibitor in Orlando. In the meantime, CAC will continue to roll out the new corporate identity with the development of new corporate assets such as business cards and letterhead that will utilize a bold, new color palate and artistic variations of the iconic 'California' font and avocado imagery (sneak peek to the right). Once finalized, these assets will join the already fully-loaded, now unified, California-branded toolbox that your CAC team uses to differentiate your premium product in the marketplace. 🥑



Bold new color palate utilizes Deep, Redwood and Palm colors.



New artwork developed for use with business cards and stationary.



Polyphagous shot hole borer (red) and Kuroshio shot hole borer (blue) distribution in southern California as of September 2, 2016. The yellow diamonds indicate the locations of traps, and red and blue dots represent PSHB and KSHB trap finds, respectively. The red and blue layers indicate the presumed range of PSHB and KSHB infested areas, with the purple area in Orange County showing the overlap of the two beetle populations.

Shot Hole Borer Research and Monitoring Programs Evolving

By **Tim Spann**
Research Program Director

Since 2012, when what is now known as the polyphagous shot hole borer (PSHB) was first discovered in the Whittier Narrows area of Los Angeles County on backyard avocado trees, the California Avocado Commission (CAC) has invested about \$2.6 million in research and grower education on this pest.

When first discovered, it was unknown what this beetle was, where it came from or what it would do to trees. Thanks in large part to CAC's funding, we now have answers to these questions.

The PSHB, and its very closely related cousin the Kuroshio shot hole borer (KSHB), are ambrosia beetles — fun-

gus farmers. This group of beetles carry with them fungal spores, which they grow in their host trees to feed on. Although they bore into the wood of trees they do not actually eat the wood, they merely shovel out the sawdust and inoculate the walls of their gallery with the fungal spores. The adults and all stages of the immature beetles then feed on this fungal garden.

Through DNA analysis, Dr. Richard Stouthamer's lab at UC Riverside was able to determine that the PSHB most likely originates from Vietnam and south China. The KSHB, which looks identical but is slightly different genetically, originates from Taiwan. How both of these beetles made their way to Southern California is a mystery, but the most likely route was through wood packing material.

Both beetles carry with them, in specialized mouth parts, the spores of their fungal symbionts. In the case of PSHB, there are three fungi – *Fusarium euwallacea*, *Graphium euwallacea* and *Paracremonium pembeum*. All three of these fungal species were described in whole or in part by Dr. Akif Eskalen and his lab at UC Riverside. KSHB carries with it two fungi, a *Fusarium* species and a *Graphium* species, which are still being described. Dr. Eskalen's group has shown that all of these fungi are pathogenic to avocado trees.

In addition to avocados, these beetles attack more than 137 tree species from more than 35 different plant families. Not all of these species are suitable reproductive hosts in which the beetles can cultivate their fungal garden and lay eggs. Currently, about 43 species are known to be suitable reproductive hosts for PSHB and 15 species are suitable for KSHB. At least 14 of the known reproductive hosts are California native trees. Dr. Eskalen is the lead on host identification and maintains a current list on his lab's website (<http://eskalenlab.ucr.edu/avocado.html>).

Drs. Joe Morse and Frank Byrne at UC Riverside have taken the lead on trying to find effective pesticides against these shot hole borers (SHB). Unfortunately, because these beetles spend so little time outside of their galleries they are difficult to target with pesticides. Drs. Morse and Byrne developed efficacy data that allowed CAC to successfully apply for a Section 18 emergency exemption for Hero® EW insecticide. This Section 18 is effective until April 8, 2017. CAC will make a decision on applying for a renewal later this year based on usage data.

In addition to work on Hero®, Drs. Morse and Byrne have been looking at systemic pesticides, which would be a more effective treatment and provide for a longer period of efficacy within the tree. Although a number of different chemicals have shown activity against SHBs in lab bioassays, many of them either are not systemic or those that are will be difficult or impossible to register on a food crop. Regardless, the best-case scenario for a full registration for a pesticide against this pest is at least four to five years.

Dr. Eskalen has been complementing the work of Drs. Morse and Byrne by evaluating fungicides for use against the beetles' fungal symbionts. Again, a number of different fungicides have shown efficacy under laboratory conditions, but there are many hurdles to develop these into commercial solutions, not the least of which is movement of the products within the tree.

Drs. Stouthamer and Eskalen also have been working on finding biocontrol solutions for the beetles and their associated fungi. Their approach to this has been to look at the beetles' native ranges and see if there are any potential biocontrol agents. They have found a wasp and a nematode associated with the beetles in Southeast Asia and are working with collaborators there to determine what they may be doing to the beetles. As luck would have it, it appears that the nematode may have hitchhiked to Southern California along with the beetle when it first arrived since the same nematode was recently discovered in Dr. Stouthamer's lab colony of PSHB. It is still unknown if the nematode can be found in field populations of the beetle and what role it may be playing, if anything.

In spite of all the funding and research, Lady Luck may just be the greatest asset our industry has right now. Although many tree species have suffered tremendous losses due to the SHBs — 140,000 willow trees dead in the Tijuana River Valley, virtually all box elders dead in Los Angeles County — avocados appear to be escaping this fate.

In early July, I visited the avocado variety block at the Huntington Gardens along with a member of CAC's Production Research Committee (PRC) and a concerned grower. This block, like the rest of the Gardens, was hard hit by the beetle in 2012 and 2013 when it was just a few years old. Dr. Eskalen's lab had done a survey of the trees at the time of the original infestation and marked existing beetle attack holes with red paint. We were pleasantly surprised to find that almost four years later the trees were growing well, bearing fruit, and had very few new beetle attacks (one tree had three fresh attacks, a couple had two, and the majority had only one or no fresh attacks). This is despite the ongoing trapping of large numbers of beetles in the Gardens. Similar observations have been made in infested groves in San Diego County.

It appears that avocados show some branch die back from the initial beetle attack, but they are able to "shake it off" and pull through. This may be because avocado is not as suitable a host as other species so the later generations of beetles move on. It appears an unknown biocontrol agent is at work, or something else entirely is going on. Whatever the reason, it seems that avocado growers may have caught a break with this pest, at least for now. It's interesting to note that the Israeli avocado industry, which has been dealing with PSHB since 2009, has documented essentially this same thing.



Specimen trees in the avocado variety collection at Huntington Botanical Gardens 4-years after the first shot hole borer attacks, displaying vigorous new growth and overall good health.

Based on the current situation of SHBs in avocado, the PRC made a critical evaluation of SHB spending at their August meeting. Most of the ongoing SHB projects are finishing at the end of the current fiscal year and the Commit-

tee recommended not to fund new proposals for SHB work at this time. Two projects that continue beyond the current fiscal year — biocontrol work and an epidemiology study — will continue to be funded.

In addition, the PRC concurred with staff recommendations to make changes to the ongoing trapping and monitoring program in San Diego, Riverside and Ventura counties. This program, which was initiated in late 2014 when Dr. Stouthamer discovered an effective lure, was intended to monitor SHB movement and keep growers apprised of where the SHBs are relative to avocado groves. In San Diego and southern Riverside counties, the SHBs are widespread in virtually all avocado growing areas. Thus, the PRC believes that in San Diego and Riverside counties, the program has served its purpose and growers must now be responsible for monitoring their own groves for SHB. In Ventura County, where SHB is still restricted to a relatively small area on the west side of Santa Paula, the PRC believes there is still value to the industry to continue the monitoring program. The CAC Board confirmed the PRC's recommendations on SHB funding and monitoring at its August meeting.

Although the number of research projects and monitoring efforts are being reduced, CAC will continue to be alert for any changes in the SHB situation as it relates to avocados and is prepared to jump back in if warranted. 🥑

PSHB/KSHB Traps and Lures

Lindgren funnel traps are currently the trap of choice for PSHB/KSHB. These traps come in different configurations with varying numbers of funnels. The 12-funnel version with a wet collection cup is recommended. The wet cup should be filled with about one inch of soapy water. Antifreeze can be used, but is more hazardous and you must make sure the antifreeze does not contain alcohol, which will repel the beetles. The cups will need to be checked every three to four days (up to one week if using antifreeze).

Both beetles are attracted to a quercivorol lure. There are two companies currently producing this lure for sale in the United States and both work equally well, but there is a significant cost difference between the two. Lures last approximately 60 days and old lures should be removed when a new one is installed on the trap. Lures should be installed about mid-way along the length of the funnel trap. Although lures and pheromones are exempt from import restrictions under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Customs and Border Protect is now requiring an EPA Notice of Arrival Form to be completed **prior to** the lures arrival in the U.S. This form can be downloaded from the EPA's website (<https://www3.epa.gov/>) by searching for form 3540-1. As a service to growers, a number of PCAs have imported lures and offer them for sale.

Lures and Traps

Synergy Semiochemicals Corp (Canada)
604-454-1122
synergy@semiochemical.com
Lure item # 3361 — \$12
Trap item # 4021 — \$60

ChemTica Internacional (Costa Rica)
506-22615396
cam@chemtica.com
Lure item # P548-Lure — \$6
Trap item # P218-Trap — no price info

Traps Only

BioQuip Products
<https://www.bioquip.com/>
2321 Gladwick Street
Rancho Dominguez, CA 90220
(310) 667-8800
Trap item # 2854 — \$72

A Year of Extremes

The price of a carton of avocados dipped as low as it has for years and then rose to heights for a duration of time never seen before. Imported volumes on a weekly basis were greater than ever before for an extended time period and then fell far below demand for an even longer period. To top it off, some growers in the southern districts experienced June temperatures never seen before.

It was a year of extremes for the California avocado industry, and some are actually predicting that the wild fluctuations won't end for a while with next year's crop just possibly coming in at the lowest volume in the modern era.

"I've talked to some large growers who think we might not hit 200 million pounds next year," said Steve Taft, president of Eco Farms Avocados, Inc., Temecula, CA. "That would be one of the smallest crops in the modern era."

He explained that in his thinking the "modern era" began in 1980 when the California crop in that '80/'81 season approached 500 million pounds. There have been up and down years ever since, but Taft said only once before has the crop ever fallen below 200 million pounds. For the record, he does not believe that will happen in 2017. "As the fruit on the trees starts to size, it actually



looks like we might have a bigger crop than first estimated," he said in late August. "I'm seeing more fruit than a month ago."

But the point is that "extremes" have been the order of the day for the California avocado industry this season. Talking about the first quarter of the marketing year, especially in March and April, Taft said, "We had the lowest prices I have seen in a long time. We just couldn't get rid of the fruit." The field price reflected this, dropping to unsightly lows.

And then in May through July, California growers couldn't pick it

fast enough to keep up with demand. For the sizes in the most demand, the field price rose to \$2 and more per pound. Though there was a small tumble in price in August, on August 30 Taft said demand again far exceeded supply with some f.o.b. quotes as high as \$60 per carton. He anticipated that the demand-exceeds-supply situation would continue throughout September and not reach equilibrium until October.

Echoing what everyone was saying, Taft noted that supplies from Mexico were the chief cause of the low prices in the spring and the

high prices throughout the summer. When Mexico's shipments topped or approached 50 million pounds on a weekly basis, the market reacted very negatively. When they fell to 30 million pounds per week and less for much of the summer, the market price moved much higher.

Taft said the unprecedented June heat wave that hit Riverside and San Diego counties for a few days, with temperatures maxing out near 115 degrees, did take its toll on some growers. "It was a big event. The industry lost 20-30 million pounds," he estimated. "Some growers had huge losses."

While losses to individual growers should not be minimized, in the grand scheme of things, Taft said the heat wave is not what created the hot market for most of the past four or five months. "It did have a positive impact on price," he said, noting though that Mexico's lack of volume was the chief influencer. He added that even with that lost tonnage, California growers are going to come very close to making the pre-season estimate.

Rob Wedin, vice president of sales and marketing for Calavo, headquartered in Santa Paula, CA, agreed with Taft's assessment of the root cause for both the downward and upward spike in prices. Speaking specifically of the high price period, Wedin said, "In early June we ran out of fruit. Going into the heavy 4th of July period, we couldn't meet demand."

Despite the efforts to pick as much fruit as possible, Wedin said "money was left on the table" because demand was not met. Of course, the sting of that situation abated as the market remained hot. For those with fruit in late August and early September, field prices were as high as any other time during the year.

Despite the high prices and lack of fruit, Wedin said the marketers did a good job of filling orders and retailers were able to promote for the

4th of July period "though the ads ran at higher prices than originally expected."

Wedin believes there were some great lessons learned by Mexican producers in 2016, and he is hopeful that a more orderly marketing situation will occur in 2017. Quite frankly, Mexican growers were encouraged to send lots of fruit to the U.S. market in the post Super Bowl run up to Cinco de Mayo. That fruit was picked and shipped and the price suffered. Mexican growers were not too happy and much discussion has occurred in Mexico ever since.

Of course, he added that nature also played an important role as Mexico's summer floral loca crop was smaller than the previous year and lower than anticipated. This led to many weeks of Mexican shipments near the 30 million mark. While the Calavo executive has no doubt that there could have been better coordination between Mexican growers and packers, some of the shortage situation was unavoidable.

"Transparency is the key," Wedin said, indicating there needs to be more communication among Mexican growers and packers and U.S. importers. He noted that growers are working within their associations to improve the situation.

What is going to happen in 2017 when California has a crop that has a very early estimate of about 250 million pounds?

Both Wedin and Taft believe that number, at this point in time (late August), is accurate. As does Robb Bertels, vice president of marketing for Mission Produce, Oxnard, CA. "We believe that's a reasonable number but it may be a little high. We see the range as being 225 to 250 million pounds."

All three handlers said it is difficult to estimate the volume as some groves appear to have very good crops and others have virtually nothing on the trees. But in aggregate there is

little doubt that next year's crop is going to be far lower than this year's volume. Wedin is estimating a drop of about 30-35 percent in tonnage.

So the question is where will the fruit come from to fill demand? Wedin said there is a significant increase in certified acres in Mexico and shipments from Jalisco loom on the horizon. Bertels expects Peru to play a bigger role next year by shipping more fruit into the U.S. market during the summer months. This year, he said Peru opted to utilize Europe more heavily as a landing spot for its production. The strong market in the United States was tempting but most exporters had their plans in place and it was hard to make a major adjustment to capitalize on that strong market. With California's expected dip in volume, Bertels said Mission is anticipating scheduling more volume from Peru.

And the Mission executive agrees that Mexican growers and packers will probably do a better job of evening out shipments next year. He noted that the grower and exporter associations are examining this year's situation and will likely exert some influence for change.

With regard to California's potential 250 million pound crop next year, there is little doubt that the bulk of it will be marketed in a smaller window of time. This year, California showed the ability to move in excess of 20 million pounds during its peak weeks. It won't take many of those weeks to put a big dent in next year's volume.

What is more difficult to gauge is the premium price that California avocados will be able to command. As this year proved, the global marketing situation plays a huge part in the weekly price fluctuations. There are certainly many accounts that will be clamoring for the limited volume of California avocados next year; only time will tell what they will pay for that fruit.

Production Research: Leaner and More Focused

The California Avocado Commission's (CAC) Production Research Committee (PRC) met in early August to review the production research program and develop funding recommendations for the 2016-17 fiscal year. In the current fiscal year, CAC funded 12 research projects totaling a little more than \$1 million. Six of those projects concern pests and diseases, with five being shot hole borer/fusarium dieback related (see *Shot Hole Borer Update* in this issue), and the remaining one on persea mite and avocado thrips. Two projects are related to avocado breeding — rootstock development and scion variety germplasm preservation. The remaining four projects are related to cultural management practices.

The PRC was faced with the difficult challenge of reducing the production research budget by about 30 percent to meet anticipated budget reductions due to the industry's small crop for next year. Five of the existing 12 projects are finishing this year, which helped to account for a large portion of the budget reductions. The remaining projects were then examined individually to determine where the remaining budget reductions could be made.

Dr. David Crowley has been working on developing Decision Support Tools for the industry for the past five years and the project is set to wrap up early in the next fiscal

year. Given the large investment in this project to date — about \$700,000 — and the fact that Dr. Crowley has worked hard to complete the project about 1.5 years early and return \$125,000 to CAC, the PRC felt the project should be funded through to completion. (See the Fall 2015 issue of *From the Grove*, for an update on Dr. Crowley's project.)

A large portion of the production research budget is allocated to rootstock breeding. However, the PRC has made a significant investment of time and resources in this program over the past several years (see the Summer 2015 issue of *From the Grove*) and recognizes the necessity for continuous funding to keep this type of work moving forward. In addition, Dr. Patricia Manosalva is still relatively new to the program (she started in January 2015), and the PRC wants to help her get established and strengthen the program so she can successfully compete for grant funding from other agencies to help fund the rootstock breeding program.

Drs. Joe Morse and Frank Byrne have been receiving funds to monitor for resistance to abamectin in avocado thrips and persea mite populations and to develop additional pesticide efficacy data to register new chemistries for use against these pests. The PRC is keenly aware of the need to prevent pesticide resistance for these pests. However, based

on previous work by Drs. Morse and Byrne, the industry now has five different chemistries registered for use against persea mite and four for use against avocado thrips, in addition to abamectin. Thus, the PRC believes that to meet the current budget constraints this project could be safely terminated without serious risk to the industry.

In the end, the PRC was able to meet the budget target that had been set, but they recognized the lack of projects in the area of cultural management and have made this a priority going forward. Some topics of potential interest for future funding are:

- Cultural practices to minimize the effects of chlorides
- Optimizing irrigation delivery and quantity
- Exploiting the root microbiome to improve tree performance
- Real time chloride measurement to improve mitigation strategies

Furthermore, the PRC knows that a lot of work has been done on these and other important topics in other crops and in other parts of the world. A goal for the next year is to delve into the scientific literature and assess what is known, glean any possible recommendations for our industry that we can and formulate specific researchable questions for future requests for proposals. 🍌

By Tim Linden

Avocado Marketing Dependent On World Supplies & Demand

If there ever was a year illustrating the interdependence of world supply and demand on the avocado marketplace, it was 2016.

When supplies from Mexico peaked in the spring, the U.S. market fell quickly. When Mexico's supplies dropped in the summer, the U.S. market spiked. In the meantime, Peru has seen its shipments to the United States decline over the last few years, precisely because there is a huge worldwide demand for avocados and Europe has proven to be a very good customer for the product from that South American country.

Emiliano Escobedo, executive director of the Hass Avocado Board (HAB), told *From the Grove* in early September, after that group's board meeting, that increasingly one can't look at a single production or consumption region and make any accurate predictions without knowing world supply and demand. He said there are two distinct parts to that equation with HAB having a fairly good handle on demand and where avocados are being consumed, what point of origin is selling to that destination and when consumption peaks in each region.

The world supply situation is not nearly as clear. Of course, it is much harder to gauge supplies as that is a fluid situation, subject to weather, water and many other factors. For example, in September he noted that California is predicting a crop of around 250 million pounds next year but no one knows for sure. And there is a lot of unknowable weather that

can influence that number significantly over the next eight months.

And even when one knows volume from a particular region, it's difficult to determine how that volume will influence a particular market. Case in point is Peru. While that country's volume has grown over the last three years, its shipments to the United States have declined from about 140 million pounds in 2014 to 80 million in 2016. A strong European market is the reason. And even an off-the-charts marketing opportunity in the United States this summer didn't alter Peru's European marketing plans. Even if Peru increases its U.S. shipments by 50 percent next year, which would be 40 million pounds, that won't even come close to offsetting California's expected drop in production. Put it another way – that will equal about one week of Mexican avocado shipments into the United States. Yet those extra 40 million pounds could be extremely important considering they will no doubt be marketed in a relatively short time frame.

Chile is in a similar position. Escobedo said we know Chile has a big crop this year – as much as 500 million pounds. But it appears that almost an insignificant amount of that fruit will be marketed in the United States. Chile could alter that dramatically with extra U.S. shipments but with a very strong domestic market and several strong export markets, why would it? “That's 500 million pounds that on the world market is very important but it makes no dif-

ference in the United States,” said the HAB executive.

What this all points to, said Escobedo, is the need for a lot more information on the supply side. He said the world needs to know production numbers, timing and the size of the fruit. This summer, he said major discrepancies in size distribution clearly exacerbated the market price causing wide fluctuations. It is generally agreed that a market price making huge moves up or down is not a good thing as it doesn't allow for stability in the marketplace. It's difficult for a retailer to put avocados on promotion three weeks out if the price is highly volatile. And in the same vein, food-service operators will have trouble committing to a menu item featuring avocados if they aren't certain about the price or size availability.

But the cavalry is on its way. HAB has a six point strategic plan looking five years out, with one of those points being bringing more clarity to the supply situation. Representatives from all major production regions sit on the board and discuss the supply situation in their country before every meeting. Escobedo said compiling all the data and making it completely transparent isn't an easy task but it is one that HAB believes falls under its purview.

He believes the price fluctuations this year were driven largely by speculation. Greater transparency and collection and dissemination of data, he believes, will allow the market to react to actual supply and demand, not speculation of such.

But with that said, he also believes the world avocado industry is in great shape, especially if one takes the long view. Another goal of HAB is to make the Hass avocado the number one fruit consumed in the United States by 2021. Escobedo believes that lofty goal is within reach. He said both world supply and world demand are increasing significantly, which is great news for avocado producers. 🥑

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