

From the **Grove**

The Latest News from the California Avocado Industry



Commission Intensifies Fight Against PSHB

Read more on page 9.



Photo by G. Arakelian





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Give our Field Department a call. See first hand what sets Mission apart from the competition.





Grower Profile

Don Thompson
Carpinteria, CA

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From the Grove

Volume 4
Number 4

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PSHB - Leave No Stone Unturned



Tom Bellamore

The polyphagous shot hole borer (PSHB) continues to be at the forefront of the numerous issues commanding the Commission's attention. It is first on a formidable list long enough to make any grower question the future of avocado production in California—competition, water pricing and availability, labor, regulation, and more—and it is not our problem alone. In Israel, the invasive pest has been attacking avocado groves since at least 2005. And a close relative, the red bay ambrosia beetle, *Xyleborus glabratus*, has been threatening Florida avocado groves for the past decade as well.

These are not your typical, garden-variety pests; rather, they have followed a convergent evolutionary path that has prepared them to be survivors. Ambrosia beetles belong to the weevil subfamilies Scolytinae and Platypodinae (Coleoptera, Curculionidae) and live in nutritional symbiosis with ambrosia fungus. Carried by female beetles in their mouthparts, the fungus is used to infest host plants and is used as a food source by the adult and larval stages of the beetles.

Shot hole borers are a group of ambrosia beetles that make tiny entry holes in trees. Specimens collected in California and Israel are morphologically similar to *Eurwallacea fornicatus*,

but DNA evidence suggests they are another species. Confused?...it gets worse: shot hole borers collected from Los Angeles County appear to be different from those first found in San Diego County, near El Cajon. This could be significant if the two forms of the beetle exhibit differences in behavior, for example, but this remains to be seen.

Clearly, there is nothing simple about this problem, not even the name. In California, “polyphagous shot hole borer” has been suggested as a common name for the beetles and it will be used here, generally, in reference to the enemy before us, despite what genetic diversity might dictate. Scientific debate over nomenclature aside, the one thing ambrosia beetles in Florida, California, Israel, Sri Lanka, and Vietnam have in common is that they are difficult, if not impossible, to control. The longevity of the infestations in Israel and Florida attest to that fact.

The reason stems, in part, from the reproductive biology of many of these insects. Mated female shot hole borers tunnel into trees and create galleries, where they cultivate fungal gardens and lay eggs. The sex ratio among offspring is heavily biased toward females and brothers mate with sisters within the gallery. Only females fly, and mated females leave the

gallery to create their own galleries for offspring production. Time spent outside the gallery is limited and beetles do not rely on sex pheromones for reproduction, making chemical control and trapping challenging.

A single mated female can initiate a new beetle population. Heavily infested trees appear to suffer from the sheer number of tunnels that may be bored into the xylem tissue as well as the growth of fungus introduced by the beetles. Hundreds of entry holes can be found on heavily infested branches. Branch dieback, fruit shriveling, and tree death have all been observed where infestations are severe. Like a combination knockout punch, the biology of the beetle and the beetle-fungus interaction make PSHB the most daunting pest-disease complex ever encountered by the California avocado industry.

The Commission began funding PSHB research soon after the pest was discovered in a backyard avocado grove in Los Angeles County in 2012. Since that time, more than \$1 million has been committed toward monitoring the spread of the pest, understanding its biology and origins, searching for biocontrol agents, and examining various means of suppressing populations. Researchers at the University of California-Riverside have also looked to federal

sources, such as the U.S. Department of Agriculture (USDA), for funding, and several have been successful at receiving grants. The Commission advocated strongly before USDA's Animal and Plant Health Inspection Service in early 2014 on PSHB funding, and at CAC's appeal, California Secretary of Agriculture Karen Ross made PSHB the focus of a multi-agency Summit in May 2014 to broaden awareness of this latest invasive species and build upon the task force model used in similar situations.

Once PSHB appeared in commercial avocado groves in mid-2014, the Commission was able to commence field chemical trials based on previously conducted laboratory work. Much of the recent focus has shifted to the very difficult task of searching for chemical treatments that offer some promise of being either prophylactic or curative. With the assistance of researchers and industry members in Israel and Florida, a short list of chemicals was developed for testing here in California. Ultimately, however, materials will only be made available to California avocado growers following emergency use or full registration with the California Department of Pesticide Regulation, and efficacy must be proven under California conditions.

Work is also in progress on lure development and trapping. The idea is to use traps to detect the presence of PSHB before infestations become severe. Optimization of the lure may ultimately make traps more attractive to beetles, and although this, by itself, is not likely to become an effective means of control, as one scientist put it, "Every dead female beetle is one less chance of starting a new population."

At this juncture, the Commission's approach to the PSHB issue may be summed up as follows: 1) understand what is known about the pest-disease complex and what has



Tom Bellamore meets with Dr. Tom Atkinson, Dr. Dustin Meador and Jim Bethke to discuss PSHB strategies.

been done worldwide, thus far, to control its spread; 2) bring experts together to provide the best independent and collective thinking about next steps; 3) identify any knowledge gaps and areas of research that either show promise or need to be done in order to advance toward our goal; 4) address the knowledge gaps by finding experts to do the necessary work and pooling resources with all parties interested in having that work performed; and 5) continue to raise awareness about PSHB across a broad cross-section of interests and advocate strongly for federal and state support for the exploration of potential solutions.

The situation warrants that the Commission remain engaged with key scientists working on PSHB so that informed and reasoned decisions can be made in the quest to find practical solutions for the grower. Toward that end, CAC Issues Management Director Ken Melban recently attended a technical workshop at the Instituto de Ecologica in Xalapa, Mexico, dedicated to *Xyleborus glabratus* and *Eurwallacea* species. At that meeting, Ken made vital connections with researchers from Florida, Israel,

Mexico, South Africa and Canada who had gathered to share the latest knowledge about these pests and control efforts to date. These direct contacts have already yielded dividends by guiding the consideration of chemicals being tested in field trials in California avocado groves.

Over the next several months, the Commission plans to tap the expertise of many of the experts Ken met in Xalapa, and invitations have been extended to several scientists to come to California to view the PSHB infestations in avocado groves first-hand. The motivation behind the invitations is simple: the more conversations that occur between the California researchers working on PSHB and their counterparts in other parts of the world, the more likely a new idea will emerge that warrants exploration. Collaborative problem-solving, heightened awareness, vigilance with respect to monitoring and early detection, and coalition-building to share resources are all part of the Commission's leave-no-stone-unturned strategy when it comes to addressing the most difficult invasive species ever encountered by California avocado growers. 🥑



Doug O'Hara

A New Year; A New Chairman

As the 2014 California avocado season winds down, we quickly gear up for the upcoming 2015 season. With a new avocado season comes the seating of a new Avocado Commission board along with a new executive committee. I have the honor of being elected to serve as your new chairman and I look forward to the challenges ahead.

I would like to thank Ed McFadden for serving as chairman for the last three years. His passion and dedication to the job have paved the way for the future success of the California avocado grower and makes my job that much easier. I appreciate all his hard work and I look forward to working with him in the future to continue our success.

I have been farming avocados for more than 20 years, the first 12 years in San Diego and Riverside Counties and the last eight-plus years in Ventura and Santa Barbara Counties. I graduated from Cal Poly San Luis Obispo in 1993 with a B.A. in Soil Science and have been farming ever since. There has always been talk about how different it is farming in the north and south, but working in both areas makes me believe this is not the case. Issues such as water costs/availability, labor, etc. have impacted growers all over California and will continue to do so. I think it

is important to stand strong as California avocado growers and battle these issues together to come up with solutions; this is what I intend to do as chairman.

This proves that demand is ever increasing and that our marketing team is doing an excellent job promoting our product as premium; they must continue to do so.

Before I look into our industry's future, I would like to reflect on the past year. On a positive note I think the price per pound returns were very good. There are people that thought the returns should of and could have been much higher, but as we all know anything can happen in the avocado market. I looked back at some returns from last July: packers were returning anywhere from \$1.00-\$1.40 per pound, depending on size, with inventories of around 50 million pounds! In past years inventories this high would have been devastating to the California grower.

This proves that demand is ever increasing and that our marketing team is doing an excellent job promoting our product as premium; they must continue to do so. More about why this is so important when I discuss the future of our market.

Obviously with great successes come challenges. Lack of rain and the high cost of water are probably our biggest obstacles and will continue to be so if we don't see some consistent rainfall in the future. There is a good chance for El Niño type weather in the coming months but we all know one year of rain will not solve the problem. Our CAC Water Committee, including Charley Wolk, has been working hard to alleviate some of the increasing costs but it has been a struggle. Now, with the state in a drought emergency, the challenges will increase. All of us at CAC will keep fighting and do whatever we can to address this issue but it will be an uphill battle. I do appreciate their hard work and perseverance, I know they become very frustrated at times but they continue to fight.

On to the future and what I believe to be the most pressing issues. The obvious immediate threat is the polyphagous shot hole borer (PSHB), which has been found in groves in San Diego County. I will not give you an update on status of finds and/or re-



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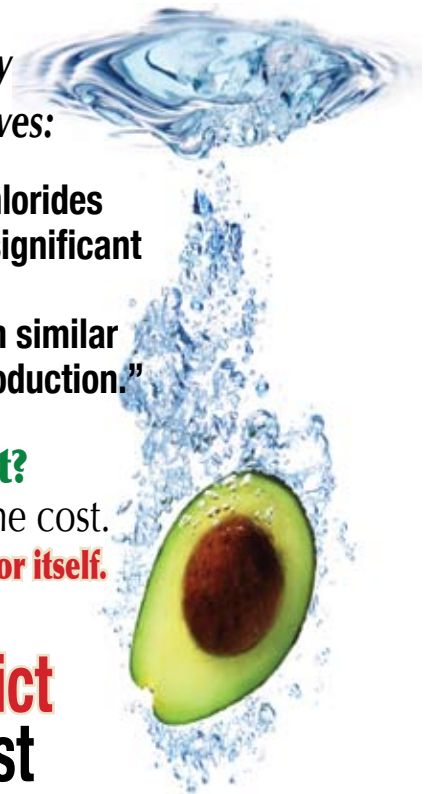
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Ventura & North Contact Joe Haslett at 805.748.4033 or joe.ecoflow@gmail.com





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Alternate/Bill Rice

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Alternate/Alex Gonzalez

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Alternate/Kellen Newhouse

Member/Leo McGuire
Alternate/Cristina Leon

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Member/Doug O'Hara-**Chairman**
Alternate/Mario Martinez

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Alternate/Donny Lucy

Member/Reuben Hofshi
Alternate/Wayne Brydon

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Alternate/Robb Bertels

Public Member

Leesa Eichberger

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

search as this is changing on a daily basis and will be old news by the time this is published. I will tell you that your CAC board and staff are taking this very seriously and are doing everything necessary to attack this pest. We have researchers working on products to kill the beetle, procedures to dispose of infected wood, traps that attract and possibly kill the beetle and other research that is forthcoming. CAC has held meetings and workshops to help get as much information out to the growers as possible and they will continue to do so as long as the threat exists. I firmly believe we must continue on this path, but must do so in an organized manner. With the limited funds CAC has, we must be sure to spend them wisely and on work that will directly help the grower. CAC has also started to secure funding from outside sources so the cost burden will not lie solely on CAC but will be shared by other affected industries. I suggest you continue to read the GreenSheet and look for emails from CAC for updates. If you are not currently receiving these communications, please contact CAC and staff will make sure to put you on their e-mail list.

The final issues I want to discuss are imports and California premium positioning. I somewhat touched on the amount of fruit we are moving in this country during the year, but this is only the tip of the iceberg. I recently attended a Hass Avocado Board meeting and heard some very important information when the other countries were discussing future production. At the present time, most of the fruit imported to the USA comes from Mexico, Chile, and Peru. Of these three countries, Mexico and Chile have been able to open markets around the world to sell their fruit when the inventory in the United States increases to a point where movement slows and price is negatively affected.

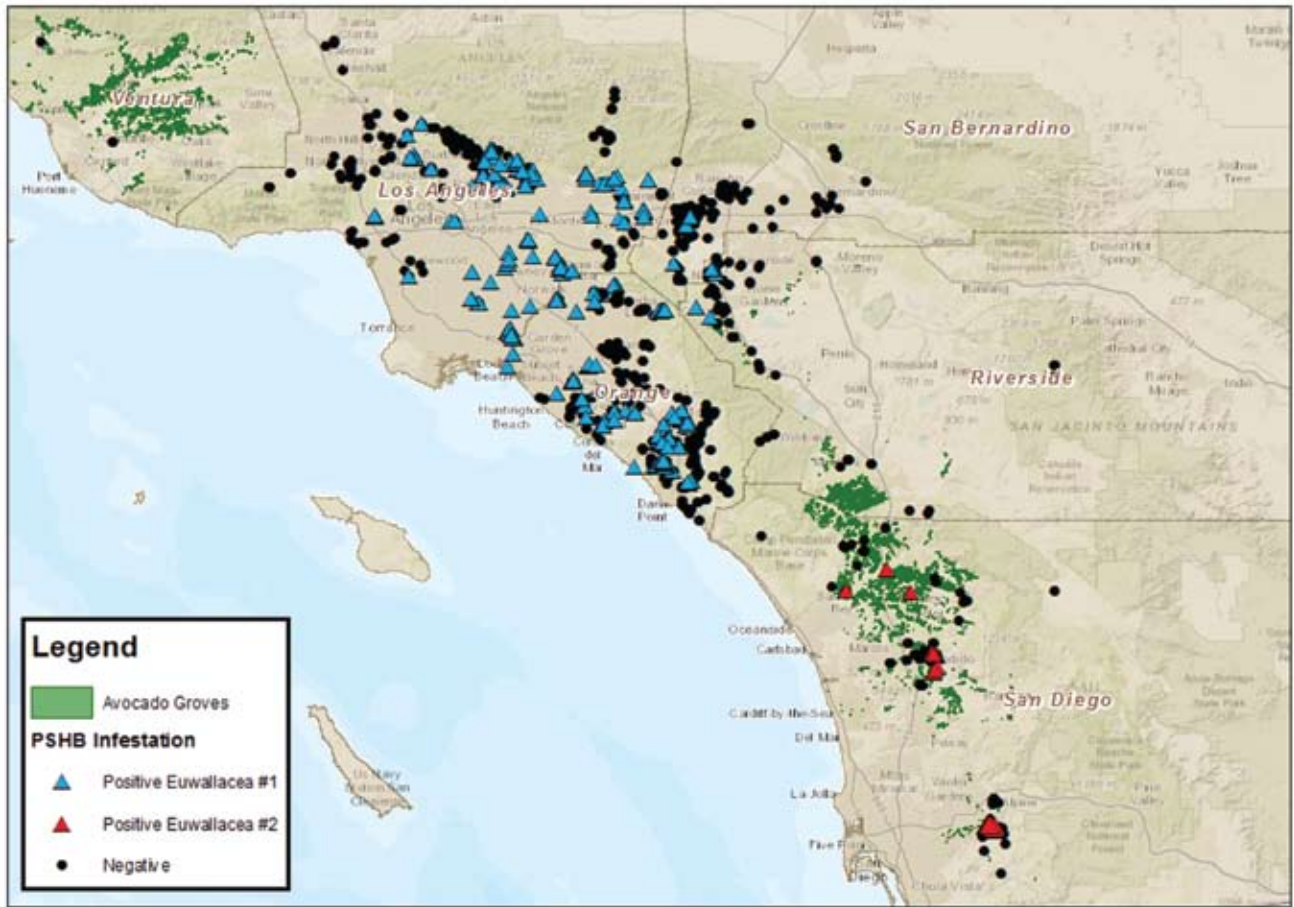
Peru, on the other hand, has

not been as successful at this, which means the majority of their fruit will come to the United States at a time when the California harvest is at its peak. Peru's total volume in 2014 was around 145 million pounds; they are predicting their total volume to increase to 1.8 billion pounds down the road. What does that mean to the U.S. market? It means unless they can access other markets across the world we could have a substantial amount of fruit to move in the coming years unless we do something.

This is where premium positioning comes in. We must continue to push the California brand in the coming years. Jan DeLyser and her marketing team have done an excellent job of selling the California brand name to retailers and consumers and we must continue to do so if we wish to stay relevant in this growing market. The frustrating part is that our funding can't compare with the amount of money these other countries have to spend on advertising. I applaud Jan and her team for maximizing the campaigns' effectiveness with the resources she has. I think we all should continue to support her efforts so we can maintain and increase our premium position in the market.

I think that is it for now. The year has just started and I am sure there will be much more to talk about in the future. The crop for next year looks similar to last year and I am hoping the prices stay strong. Lastly, I would like to thank all growers for their continued support of CAC and all of our CAC staff. I have been involved on the board for more than seven years and can tell you first hand that they are the hardest and most dedicated group of people I have ever worked with. They all truly work for all of us growers and always have our best interests in mind.

Until next time...let's all pray for rain and high prices! 🥑



0 5 10 20 30 40 Miles

Data source: Eskalen lab, Dept. of Plant Pathology and Microbiology, University of California, Riverside. www.eskalenlab.ucr.edu

Commission Intensifies Fight Against PSHB/FD

By Ken Melban
Director, Issues Management

With the troubling discovery and confirmation late last summer that the polyphagous shot hole borer (PSHB) and fusarium dieback (FD) pest complex was in commercial avocado groves, the California Avocado Commission-led efforts quickly intensified in pursuit of identifying any possible control options.

We now know there are multiple infested groves in San Diego County. The Commission is working with University of California at Riverside (UCR) researchers, University of California Cooperative Extension personnel, and industry members in developing and deploying a significant trapping grid to determine both levels of infestation and learn

more about PSHB behavior. Traps are also being deployed in Ventura County to provide early warning detection.

As reported by Commission President Bellamore in his column, since the identification of the PSHB/FD in Los Angeles in 2012, more than \$1 million in research has been funded by the Commission. With such a broad host range for PSHB/FD (over 70 known), it wasn't a matter of "if" commercial avocado groves became infested, but "when." Fortunately, based on information that we've learned from previous Commission research work – along with the continuing collaboration with researchers from Israel, Florida, and elsewhere – we are better positioned to aggressively



Researchers meet with industry members

pursue solutions.

To illustrate, in October the Commission commenced pesticide and fungicide trials utilizing infested wood from commercial avocado groves. The selection of possible materials was narrowed through lab trials that had been conducted at UCR along with field trials conducted in Israel by researchers there. The Commission has partnered with the Center for Applied Horticultural Research in Vista, and a quarantine greenhouse is in place. The quarantine greenhouse allows for the introduction of PSHB and FD onto wood that has been treated with pesticides and fungicides to determine efficacy. In addition, as temperatures have cooled, the activity of beetles has slowed, making the collection of live beetles for use in bioassays more difficult. The rearing of beetles in the quarantine greenhouse is also being considered.

Current pesticide trials include both materials that are registered on avocado in California and others that are not registered. Initial results indicate one of the non-registered materials, bifenthrin, shows some encouraging efficacy as a curative control. These results are comparable to studies in Florida specific to the red ambrosia beetle and in Israel on the PSHB. The Commission is working with the California Department of Pesticide Regulation to prepare for a Section 24(c) registration should the continuing trials show similar results. A Section 24(c) would still take a few months to secure, in part due to the public comment period, but would provide an emergency registration while the full Section 3 registration is being completed. If a material is registered, it will likely require multiple applications during the spring and summer when the beetles are more active to be most effective.

UCR researchers are also evaluating possible prophylactic pesticide and fungicide materials that would be applied



Section of infested wood

through trunk and branch injections. This work will take some time, and even if one of the materials shows promise it will likely be at least three years at the earliest before a registration could be secured.

In addition, research on the efficacy of chipping infested wood has been conducted. Two studies were conducted by UCR and results showed 99 percent of the beetles were killed when the chips were two inches or smaller. Similar results were found from a study in Florida. Given the beetles' tendency to stay in host material, chipping and composting should greatly reduce the risk of beetles from removed trees infesting new hosts.

Finally, the Commission is working with the packers and researchers to develop protocols to mitigate possible risk

of PSHB/FD spread through harvest and transportation of fruit. It is imperative, even within an infested grove, that proper equipment sanitation occurs, and during harvest all bins should be free of tree and leaf debris. A tremendous amount of resources – including the signs and symptoms of PSHB/FD, how to collect and submit a plant sample for laboratory identification, equipment sterilization methods, and other useful information – may be found here: <http://eskalenlab.ucr.edu/avocado.html>

Based on the persistence over the last few years of both PSHB in Israel and red ambrosia beetle in Florida, it is evident the threat we face in California from PSHB/FD isn't going to be easily solved. Clearly there are no simple treatment options. As the Commission continues to research a suite of possible options for control, in all likelihood there will not be one best solution for all.

While the task before us remains daunting, we are better prepared for the challenge because of the foundation that has been built over the last few years. The Commission will continue in our relentless efforts to pursue any and all possible cultural, biological, or pesticide control options to ensure this latest threat against our industry's sustainability is averted. 🥑



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SUSTAINABILITY

Board Approves Budget, Business Plan ... and Sets Assessment Rate

At its October 9, 2014, meeting, the California Avocado Commission Board of Directors took up the annual task of approving the budget, business plan and annual assessment rate for the fiscal year commencing November 1, 2014.

The approved budget of \$16.1 million is based on a crop size of 320 million pounds (all varieties) and an assessment rate of 2.30 percent. Programs outlined in the business plan reflect a robust marketing spend of \$10.7 million, 66.5 percent of the total budget, with 6.9 percent dedicated to Production Research projects and 7.8 percent going towards Industry Affairs activities.

Following are business plan highlights for the 2014-15 fiscal year:

Marketing

- Expand use of California avocado brand identification (label) on the fruit and packaging, complementing California branding in advertising and marketing materials
- Customized marketing programs for supportive, targeted retailers
- Addition of California Fresh Sandwiches usage campaign

and extension of California Fresh Snacking usage campaign

- Continue integrated advertising and marketing support promoting California avocados for American summer holidays
- Rebuild and launch CAC's website, CaliforniaAvocado.com, to keep it relevant with the technology California avocado consumers use
- Continue California avocado menu promotions with targeted foodservice accounts

Industry Affairs


- Finalize development of new web-based grove database
- Continue to work with Metropolitan Water District in developing programs that support agricultural water users
- Utilize Demonstration Grove for Field Days
- Examine foreign market development activities and review new and existing Free Trade Agreements
- Monitor and provide comments concerning second FSMA draft and FDA ruling assignment
- Review current CDFA AIP

inspection requirements in cooperation with handlers

- Explore potential of 6-BA and ProGibb
- ### Production Research
- Examine the biology and control of the PSHB pest complex and assess fungicides and biocontrol agents
 - Optimize trapping and development of an attract-and-kill strategy for shot hole borer
 - Monitor PSHB and fusarium dieback
 - Evaluate rootstocks with focus on resistance to Phytophthora and salinity
 - Develop web-based decision support tool that examines effects of climate, fertility and irrigation on production and fruit quality

Review the complete business plan and budget online at the following locations:

Business Plan: www.californiaavocadogrowers.com/commission/accountability-reports/business-plans

Budget: www.californiaavocadogrowers.com/commission/accountability-reports/finance. 

2014 CAC General Election Results

The California Department of Food and Agriculture released the results of the 2014 CAC General Election on November 10, 2014. The individuals listed below have been elected for the two-year term beginning November 1, 2014 through October 31, 2016.

District 1

Member: Jerome Stehly
Alternate: Alex Gonzalez

District 2

Member: Leo McGuire
Alternate: Cristina Leon

District 3

Member: Doug O'Hara
Alternate: Mario Martinez

District 4

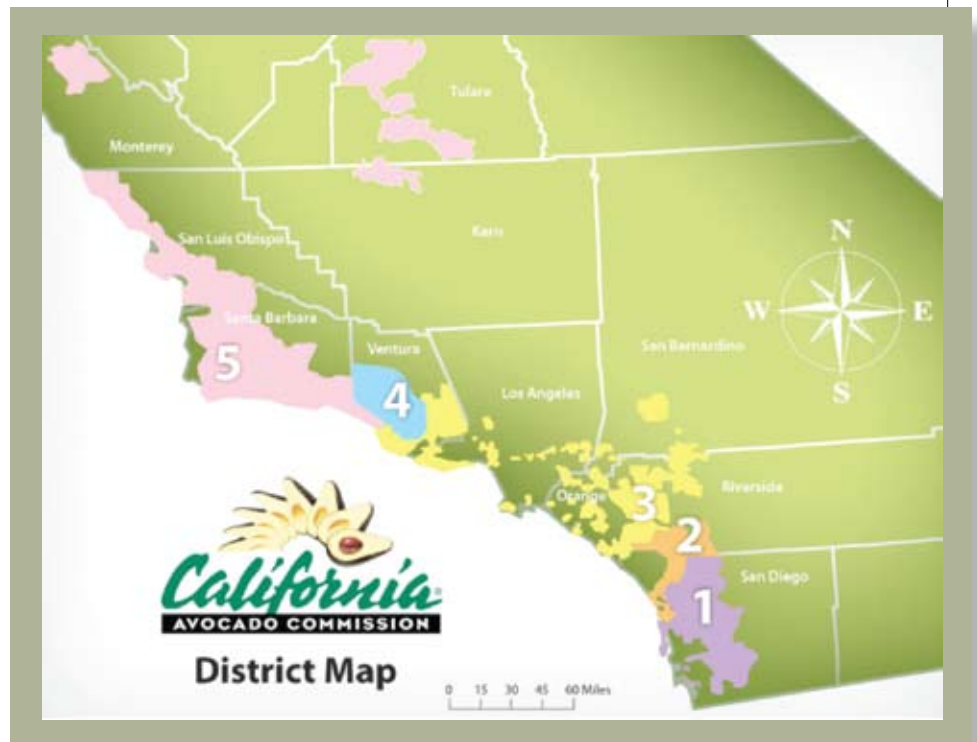
Member: Art Bliss
Alternate: Jason Cole

District 5

Member: Rick Shade
Alternate: Jim Swoboda

Handlers

Member: Reuben Hofshi,
Del Rey Avocado Co., Inc.
Alternate: Wayne Brydon,
Del Rey Avocado Co., Inc.
Member: Gene Carbone,
Calavo Growers, Inc.
Alternate: Robb Bertels,
Mission Produce, Inc.



The newly elected commissioners were seated at the regular meeting of the CAC Board on November 13, 2014 where the following individuals were then elected to serve on the Commission's Executive Committee for the term ending October 31, 2015:

Chairman: Doug O'Hara
Vice Chair: Jerome Stehly
Treasurer: Art Bliss
Secretary: Carol Steed

A complete list of CAC Commissioners and Alternates can be found on page 8 or by visiting the Your Representatives (www.californiaavocadogrowers.com/commission/your-representatives) page of the grower website. 🥑



The CAC Marketing Team from L to R: David Cruz, Angela Fraser, Jan DeLyser and Zachary Benedict, at the April 2014 Fresh Produce and Floral Council Luncheon, where details regarding the eat brighter! campaign were shared.

Commission Inspires Healthy Choices with eat brighter!TM Campaign

The California Avocado Commission recently became the first commodity board to sign up for participation in the new produce industry eat brighter! campaign. The eat brighter! campaign is a result of the Sesame Workshop-Produce Marketing Association (PMA) initiative designed to give the produce industry the tools to rise above the large budget “junk food” spend with appealing messaging and artwork to increase awareness and consumption of fresh produce.

The initiative initially began as a conversation about the irony that diet is the number one cause of mortality and obesity issues in the United States, while per capita consumption of fresh produce is low. Wouldn't it be better if young children wanted to include fresh fruits and vegetables in their diets instead of empty calories? How could the produce industry help make that happen?

As Sesame Workshop and PMA worked toward building an initiative to address these questions, the organizations joined with Partnership for a Healthier America (PHA), and in October 2013 at a White House press conference First Lady Michelle Obama announced a two-year agreement to help promote fresh fruit and vegetable consumption to children and their parents. The agreement allows PMA's

community of growers, suppliers, retailers and commodity boards to utilize the appeal of Sesame Street characters without a licensing fee.

PMA then developed a marketing toolkit with turnkey resources for the use of Sesame Street characters in media placements, in-store signage and packaging. A campaign tagline, “eat brighter!” was developed to unify the voices of all of the program participants. It is designed to draw parallels between the characters of the Sesame Street brand and fresh produce, using adjectives like “healthy,” “brilliant” and “alive.” Since the opportunity to choose naturally colorful food – to eat brighter – is only found in the produce department, the tagline is a clear call to action to consume more fruits and vegetables.

The campaign toolkit outlines seasonal promotions with turnkey programs and is customizable so that companies can maintain their brand differentiation. To date more than 50 retailers across the nation have signed up for the program, indicating that they would welcome participating eat brighter! products and signage. Some of these retailers also have signed licensing agreements indicating that they will use the signage in their stores at a higher level as well. Licensed participants include suppliers such as Bolthouse Farms, Giumarra, Naturipe Farms and Sunkist as well as commodity boards including CAC, the Mushroom Council and the Pear Bureau Northwest.



PMA President Cathy Burns, Former White House Nutrition Advisor and Chef Sam Kass, CAC Vice President of Marketing Jan DeLyser and Todd Putnam, chief marketing officer at Bolthouse Farms, at the 2014 PMA Fresh Summit.



The eat brighter! campaign offers many colorful and appealing ways to promote fresh produce utilizing recognizable characters from Sesame Street.

Sesame Street characters such as Big Bird, Elmo and Abby Cadabby are already beginning to appear on produce packaging. These characters have a strong appeal to children and — perhaps even more importantly — are trusted by moms. A Sesame Workshop survey showed that 83 percent of moms have high trust in the Sesame Street brand, and other studies have found that Sesame Street’s characters are successful at influencing children’s eating decisions.

It makes sense for California avocados to participate in the eat brighter! campaign because a cohort study conducted by the Hass Avocado Board (HAB) in 2009 showed that people consume more avocados as they age. This suggests that the earlier they become fans of California avocados the more valuable they may be to the industry over time.

CAC will take advantage of this royalty-free program by including the Sesame Street characters in online and social media communication including the website, e-mail outreach and social media. All of the activity will encourage purchases of California avocados by parents for their children — and themselves. 🥑

New Subtropical Farm Advisor Comes to Southern California

By Tim Linden

To Sonia Rios, her appointment as University of California Cooperative Extension (UCCE) Subtropical Horticulture farm advisor for Riverside and San Diego counties is a return to her roots.

Rios grew up in Wasco in the San Joaquin Valley and was heavily involved in Future Farmers of America (FFA). In high school she competed in the FFA's statewide citrus contest. "I came in second place as a junior and won for the entire state my senior year," she said.

Though that proved to be a fairly accurate predictor of her future career, it took Sonia quite a few years before she embraced plant science as her career path. She admits that the path was staring her in the face for many years before she decided to go down it.

She was born in Delano into an agricultural family. Her grandfather had been a migrant worker and her father studied agronomy in Mexico and received his master's degree in ag engineering. Throughout her childhood he worked for several different farming operations, including citrus groves in Kern County.

But even though Sonia was raised with a plant science background and used her knowledge well in the FFA competition, when she started college at Cal State University at Fresno she entered as a pre-veterinarian major. "I thought I wanted to work with animals."

Her college career did not take a linear path and she admits it took her the better part of a decade to get her bachelor's degree. From Cal State Fresno, she moved to Southern California and went to community college after taking a couple of years off. Eventually she enrolled in Cal Poly Pomona and began to study plant science and pest management. After graduating from Cal Poly, she moved back up to the San Joaquin Valley taking a position with UCCE in Tulare County as a staff research associate. It was while in Tulare that her superior at the Cooperative Extension office urged her to continue her education. She did so and in the summer of 2014 Sonia earned her master's degree in plant science with an emphasis in weed science from Cal State Fresno.

Prior to graduation, her husband transferred to the Cal Fire (California Department of Forestry and Fire Protection) office in San Bernardino, causing Sonia to begin to look



for a position in the same general vicinity. "When I saw that this position was open, it seemed that it was meant for me," she noted, as it combines her early experience in citrus with much of her undergraduate work at Cal Poly Pomona. While a student there, she worked in the tree fruit arena with both avocados and citrus, which fittingly are the two major crops that fall under her purview in Riverside and San Diego counties.

Rios knows she has big shoes to fill as it is the first time one farm advisor has worked both Riverside and San Diego counties. And she also is replacing longtime veteran farm advisor Gary Bender, who has retired. "I am on a very steep learning curve," she told *From the Grove* in early December after being on the job for only two weeks.

For the first six to eight months, Rios is doing an assessment of the needs of the growers she will be helping. "I am finding out what their needs are and what we can accomplish," she said.

It is only after that assessment is completed that her research projects will be established with the help of the other Cooperative Extension personnel, including those stationed at UC Riverside. Rios is eager to visit as many groves and farmers as she can and encourages growers in the two counties to reach out and invite her to their ranches. "I'd love that," she says. "I'm willing to travel anywhere in the two counties to meet growers."

She can be reached at the UCCE office in Moreno Valley (sirios@ucanr.edu). 🥑

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Tighter Marketing Window Expected for 2015 Season

Marketing fresh produce is a continual learning experience and this past year sellers of California avocados learned that the best market is probably in the spring and early to mid-summer.

Peruvian growers have been planting many hectares of Hass avocados over the past decade and that production is starting to materially impact the U.S. market place. Emiliano Escobedo, executive director of the Hass Avocado Board (HAB) said that while other foreign producers – most notably Mexico and Chile – do have strong domestic markets for their Hass fruit, currently there is minimal demand in Peru's local market for that variety. And Peruvian exporters have yet to fully develop other foreign markets as Chile has done over the past 20 years. Hence the Hass fruit produced in Peru ends up primarily in the United States and Europe. In 2014 that meant more than 140 million pounds were sent to the U.S. during the summer months. Early estimates indicate that 2015 will see a significant increase in shipments of Peruvian Hass to the United States, with 200 to 280 million pounds expected to arrive between May and September.

Partly for this reason, Rob Wedin, vice president of sales and marketing for Calavo Growers Inc., headquartered in Santa Paula, CA,

believes most California growers are going to harvest their avocados a bit earlier this year. "We expect more early fruit in the market," he said.

Wedin explained that in the past, growers could generally expect more money for fruit picked from the July to September time frame. That was not the case in 2014 and so he expects most growers are going to want to get their fruit off the trees as early as they can. "Of course there is a sizing component to the equation," he added.

The Calavo executive explained that while growers will want to take advantage of an earlier marketing scheme, not all trees and fruit are going to cooperate. He said the fruit on older, larger trees tends to take longer to size. It is almost always advantageous to wait until the fruit reaches its optimum size rather than picking too early, even to take advantage of a stronger market.

Echoing Wedin's comments about market timing for the 2015 California crop was Dave Fausset, retail sales manager for Mission Produce Inc., Oxnard, CA. "We are looking at a February to August window to market the California crop," he said. "There will even be some size picking in January."

Fausset told *From the Grove* in early December that the fruit was already sizing very well and "it is a bit

ahead of where it is normally at this time of year. Some guys could pick today."

On this particular day, Ventura County was getting a good drenching from Mother Nature, which Fausset called a "Godsend." He said several more storms were in the forecast for the coming weeks and he said each one will be very helpful to avocado growers.

Besides decreasing the need for costly irrigations, Wedin said there is "nothing like rain" to improve a crop. Growers use well water and reservoir water when they need to but he said rain water is just better quality and is more advantageous to the trees.

Wedin said that besides the marketing aspect of picking fruit early, it is also culturally advantageous to the following year's crop to get this year's fruit off the trees as soon as possible. The sooner a tree can start concentrating on the next year's crop, the larger and healthier that crop will be. Fausset added that the bloom for the 2016 crop will be evident in March and April of 2015, which will give the industry its first real guess at the 2016 crop.

Looking at what is on the trees at this juncture in early December, Fausset said sizing is very good and he expects to see a great deal of 48s and larger when the California fruit hits the packing sheds a couple of

months down the road.

For 2015, marketers expect a crop that will be larger than the 297 million pounds California marketed in 2014. “We think it will be about 10 percent larger,” said Wedin. “Right now we are estimating 315 million pounds.”

But Wedin added that it could be “sneaky large” and surpass that number, especially if there is a good amount of rain that helps increase the size of the fruit. Of course larger fruit results in a larger crop.

Fausset of Mission said his firm is currently estimating a crop closer to 340 million pounds, which would be almost 20 percent greater than 2014.

The official 2015 estimate for CAC is 327 million pounds. Both CAC and HAB are using 320 million pounds for budget purposes.

Each of the avocado industry veterans expressed faith in the orderly marketing of that crop at fairly good returns to growers. Wedin said U.S. demand for avocados outstripped supply last year as the market price increased at a greater percentage clip than volume by a significant amount. He said the United States is ready to consume 40 million pounds per week on an average basis as it did so for many weeks throughout the year in 2014. A 40 million pound per week average is needed to reach the two billion pounds expected to be consumed in 2015.

During the fourth quarter of 2014, which typically is the weakest quarter for avocado sales, Wedin said the United States absorbed about 33 million pounds of fruit per week.

Fausset said the Thanksgiving/Christmas period is typically a bit weak as there are many other fresh produce items that have a greater traditional tie to holiday dining. Nonetheless, he said the market remained fairly strong and movement was good. He was looking forward to a particularly strong January bolstered

by the run-up to the Big Game, which will be held on Sunday, February 1. There will also be many other football-themed parties that will take place in January for both college and NFL playoff games.

New this year will be a Big Game ad featuring avocados. Though it is sponsored by Avocados from Mexico and notes that point of ori-

gin, there is also great anticipation that it will boost the entire category. “Avocados have become a mainstream item,” Fausset said. “A lot of people are going to see that ad. It will be very interesting to see what kind of impact it has.”

And if it does have an impact it could create a great start to the California marketing season. 🥑



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Grower Profile



Making a Small Grove Work

(Editor's Note: This is a first person account of how one avocado grower in Santa Barbara County makes a small grove work.)

By Don Thompson

Our family moved to Carpinteria in the mid 1950s. Dad was a civil engineer in charge of building the Rincon oil island offshore of La Conchita, CA. Our parents purchased contiguous parcels of land that became Stanley Park Ranch. We began farming by hand, clearing the hill sides of chaparral with machetes, axes, and an ancient McCulloch chain saw. When I finished high school, I decided I had had enough of the farming life and was off to college, military, and a flying career.

In the late 1990s my parents left my wife, Judy, and me the legacy of a beautiful small parcel in the Rincon Valley. The land was partially planted with older Mexican root stock Hass. In 1998, with an eye toward my mandated retirement from airline flying in 2002, we returned to Carpinteria from the Northwest to plan and build our retirement home and restart the farming life. The following four years were busy but manageable thanks to all the help and advice from my late brother Chuck, who had served as a district five commissioner, his wife Connie, and my nephew Charlie, who operates Stanley Park Ranch and several other groves.

After our retirement, Judy and I became more and more involved in our La Casita Ranch. In time we were ready to take over all the farming operations. Judy handles all the accounting, paper work, and IT (information technology), and is part of all major decisions. From the beginning, we could see that it is almost imperative that the owner of a small farm (less than 4-5 acres) accomplish most of the daily work requirements unassisted. I enjoy doing my daily morning block micro sprinkler check. It gives me the best opportunity to evaluate each tree's condition and produc-



New picking head

tion, and to adjust when necessary for its optimum yield. It appears to be true that "the best fertilizer for the farm is the owner's boots."

Part time, experienced and knowledgeable help is also essential. Our good friend Victor Albarran, who has worked with our family for more than 35 years, is the third member of our team.

In the last 20 years so much new information has become available to avocado farmers to help increase their production. The California Avocado Commission, our packer Index Fresh, the California Avocado Society, our nutrient and pesticide provider AGRX, among others have been inval-



Judy Thompson, Victor Albarran, Don Thompson

able sources of knowledge for us. Learning about and using new pruning concepts, mulching, in block dissimilar tree maturity and size watering strategies, efficient use of fertigation and water treatment, and pursuing more efficient practices has been our goal.

Over the last two years in pursuit of greater efficiency, we have developed a new picking pole head to replace the 70 year old rope and clipper picking pole head. Our improvements on the Michoacan-style pulling-the-pole, stem-slicing head has shown us at least a 25 percent improvement in picking efficiency with greater safety, ease of operation, and less harvesting defects. These savings can mean higher picker's income, and lower picking cost to the farmer.

In the summer of 2011 first edition of *From the Grove* in the article "Maximizing Grower Returns", Ken Melban wrote of the challenge of maintaining a "critical mass" of California avocado production to maintain our then 10-year average of 40 percent of the U.S. market. Recent estimates of the current California-grown share of the U.S. market is closer to 15-20 percent. The U.S. consumption of avocados is due to top two billion pounds in 2015. The influx of imported fruit has helped ensure a year round availability of avocados to U.S. consumers but the "window" for maximum returns to California avocado farmers appears to be

shrinking.

Roughly 50 percent of all CAC member parcels of land in California are less than five acres. Of course the vast majority of production comes from larger farms, but the opportunity is there for small farms to significantly improve their production. Our farm currently has a little more than 500 trees and just under four acres of plantable land. Over the last three years we have averaged slightly more than 12,000 pounds per acre with approximately 70 percent tree maturity. The first five years of our production averaged well under 5,000 pounds per acre. The most recent information available from CAC is for the five-year period from 2005 to 2009 and shows small farm production averaged approximately 4,000 pounds per acre. Our present drought, water shortage, and many other concerns add to our challenge. If we, the small scale farmers, could increase production by 50-100 percent over time it would greatly help sustain the California avocado farmer's market share.

Perhaps the best part of all in returning to work a small farm is the experience of living in a rural, natural environment. The personal relationship with living and growing things brings us a daily satisfaction and contentment. For me, life's circle is complete: the very life I eagerly left as a young man is where I have always belonged. 🥑

By Ben Faber
Ph.D, University of California
Cooperative Extension Farm Advisor

Avocados in a Drought

As of December 10, we have had two good rains in Southern California and more is projected soon and in the future. The art and science of weather prediction can be quite unpredictable, as the rain year of 2013/14 was foreseen as a wet one, but it never happened. In any case, if this does turn out to be an adequate rain year, water prices are not going to go down. It's going to take several wet years to refill our reservoirs.

are not able to exploit large volumes of soil and therefore are not capable of fully using stored rainfall. On the other hand, the avocado is highly dependent on rainfall for leaching accumulated salts resulting from irrigation water. In years with low rainfall, even well irrigated orchards will show salt damage. During flowering there can be extensive leaf drop due to the competition between flowers and leaves when there is salt/drought stress. In order to reduce leaf damage and retain leaves, an excess amount of water is required to leach salts out of the root zone. The more salts in the water and the less rainfall, the greater leaching fraction.

Drought stress often leads to diseases, such as black streak, bacterial canker, and blight (stem, leaf, and fruit). Leaf blight (Figure 1) is often confused with salt or tip burn, but is actually a fungal disease that forms an irregular dead pattern on leaves and leads to defoliation. Defoliation leads to sunburned trees and fruit which can be severe economic losses. Leaf blight often shows up after Santa Ana conditions, when growers get behind on their irrigations and the root zone dries out suddenly. There has been a high incidence of this disease the last two years. The only way to prevent it is to keep up with your irrigation schedule.

ago and old age can lead to problems, such as clogging, broken emitters, mixed emitters that put out different amounts and leaks. With poor DU, some trees get too much water and others do not get enough. Even fairly new irrigation systems can have poor DU, especially after a harvest. Poor water pressure on our steep slopes is probably our main problem. A DU of 80 percent means 10 percent of the emitters are putting out more than the average and 10 percent are putting out less. To compensate for the under irrigated 10 percent, the irrigator will run the system 10 percent longer to make sure the under irrigated trees get enough, which ends up over irrigating 10 percent of the trees with 20 percent more water than they need. A call to the local Resource Conservation District office can get a free DU evaluation and recommendations that are usually pretty reasonable to follow.

Aside from improving DU, it is important to know when and how much water to apply. When to apply can be evaluated by the hand or feel method (<https://nutrientmanagement.tamu.edu/content/tools/estimatingsoilmoisture.pdf>) which is fast and cheap. Or it can be done by tensiometer, Watermark or some of the more expensive electronic sensors. But these tools only tell you when to irrigate, not how much. This can be done by turning the system on (once you have made sure you have a good DU) and over the period of the irrigation insert a piece of rebar into the soil to determine the depth of infiltration. The rod will go down as far as the soil is moist and stop when it hits



Figure 1. The uneven die-back along the leaf margins and not just the tips of leaf blight.

Avocados and Water

Avocados are the most salt and drought sensitive of our fruit tree crops. They are shallow rooted and

Irrigation Management

To get your water to go further, it is important that the system is tuned in order to get the best distribution uniformity (DU). Many of our systems were installed 40 years

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dry dirt. When you have about two feet of infiltration you will know how long to run the system to get an appropriate amount of water. A typical loam usually takes about 150 gallons per tree to two feet. Another way to get an approximation of the amount to apply is to use the Irrigation Calculator at www.avocadosource.com/tools/IrrigationCalculator.asp.

Managing the Tree Canopy

Significantly pruning trees can reduce the amount of water transpired by the tree. Trees that are about 15 feet in height can be pruned by half and they will use half the water. Massive 30 foot trees would need to have a major pruning to significantly reduce water use. In extreme drought conditions and for the long term welfare of the grove, large trees should be stumped (Figure 2) or scaffolded (Figure 3) and painted white to prevent sunburn. Scaffolding usually produces fruit much sooner than stumping, because retaining a significant part of the trunk and branches of the tree does not exert as much energy to regrow and retains buds that have been under apical dominance for less time. When new shoots appear they should be headed back to force lateral branches which is where the flowers will form.

All the prunings should be chipped and left in the field. This will help conserve water and help control *Phytophthora* root rot. Root rot or crown rot trees should not be pruned until they have been brought to health with one of the phosphorous acid formulations. They all are effective. Pruning a sick tree redirects the tree's energy to fighting off the disease when it starts pushing new growth and then does not have the energy to fight off the disease. Or if you do have areas that are diseased (sunblotch, root rot, crown rot, etc.), windblown, in shallow soils or areas of recurrent frost, you might just remove the trees completely to save



Figure 2. Stumped avocados for lack of water.



Figure 3. Scaffolded avocado that should produce fruit sooner than a stumped avocado.

water.

White kaolin (Surround) applied to leaves has been shown to reduce leaf temperatures and water loss. This can be used, but under the direction of the packing house, since if it is applied to fruit it is very dif-

ficult to remove.

These are some steps that a grower can take to improve water management and create a more efficient use of water to help survive this period of uncertainty. 🥑



California Avocado-Mango Stuffed Chicken

Foodservice Restaurant Chain Promotions

Making sure Applebee's, Denny's, California Pizza Kitchen and other top restaurant chains feature fresh California avocados in season is the number one priority for the California Avocado Commission's foodservice team because promotion-committed chains guarantee steady purchases — both in the west and across the nation — throughout the California season.

To ensure a strong menu promotion season for California avocados, the CAC team begins preparations well before the season starts. First, the team reviews their list of chain targets to assess each chain's culinary capabilities (kitchen setup, ingredients in house, etc.), price point and menu direction. Next, the team and their culinary consultant consider likely menu extensions (creating avocado items

2014 SUCCESSES

In 2013, custom presentations resulted in 20+ successful promotions in 2014, among them:

Denny's (1,571 locations)
Avocado Bacon Omelette

Subway (Southern California, 1,550 locations)
Add California avocado to any sandwich

El Pollo Loco (415 locations)
Avocado Salad promotion

Which Wich (303 locations)
Add California avocado to any sandwich

Fuzzy's Taco Shops (100 locations)
BLT&A Taco

Habit Burger (90 locations)
Santa Barbara Char Burger with California Avocado

extrapolated from current menu staples) and a selection of menu innovations that fit the chain's culinary and customer style. The team then meets with the chain's research and development chefs at their culinary center to present 10-12 new menu concepts for review and tasting. Once the promotion plans are in place, CAC's team connects with the handler to confirm availability of fruit and timing.

2015 PREVIEW

In 2014, the CAC foodservice team made customized menu concept presentations to the leading chains listed below. Look for menu items featuring fresh California avocados on their menus in 2015:

Applebee's (2,000 locations)
Denny's (1, 571 locations)
Buffalo Wild Wings (840 locations)
Culver's (500+ locations)
Noodles & Co. (327 locations)
California Pizza Kitchen (197 locations)
Souplantation (128 locations)
Marie Callender's (75 locations)
Maggiano's (50 locations)



Applebee's Culinary Team samples Pork Belly Taquitos with Fresh California Avocado which was created and prepared by Chef Dave Woolley (far left).

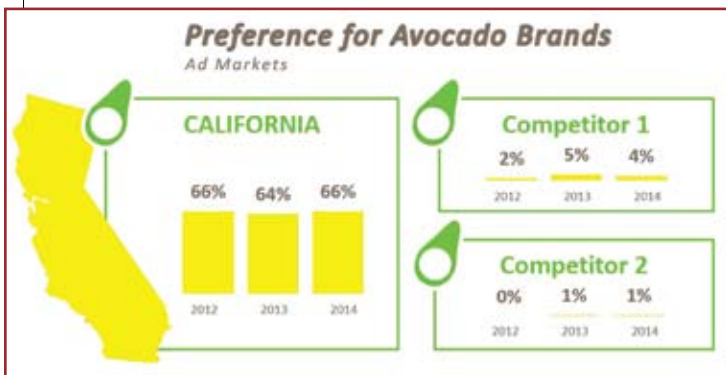
The optimal scenario is immediate acceptance and adoption of the proposed fresh avocado menu items. However, the more likely outcome is a negotiated compromise between chain corporate chefs and the CAC marketing team. The final dish showcased on the chain's menu as a limited time offer (LTO) is supported with regional or national print, direct mail, online and/or TV-radio advertising and promotion. The best-case scenario is to have successful LTOs repeated annually or permanently added to the menu. 🥑



California Avocado Hummus

Tracking Study Reveals Consumer Attitudes

The California Avocado Consumer Tracking Study has been conducted since 1994. The study is fielded in the early fall to coincide with the end of the California avocado growing season by the independent research firm, Bovitz, Inc. It is conducted nationally with more than 1,500 respondents and measures consumer attitudes about competitors, awareness and preference for avocados and tracks how well key California avocado differentiators are resonating with audiences.

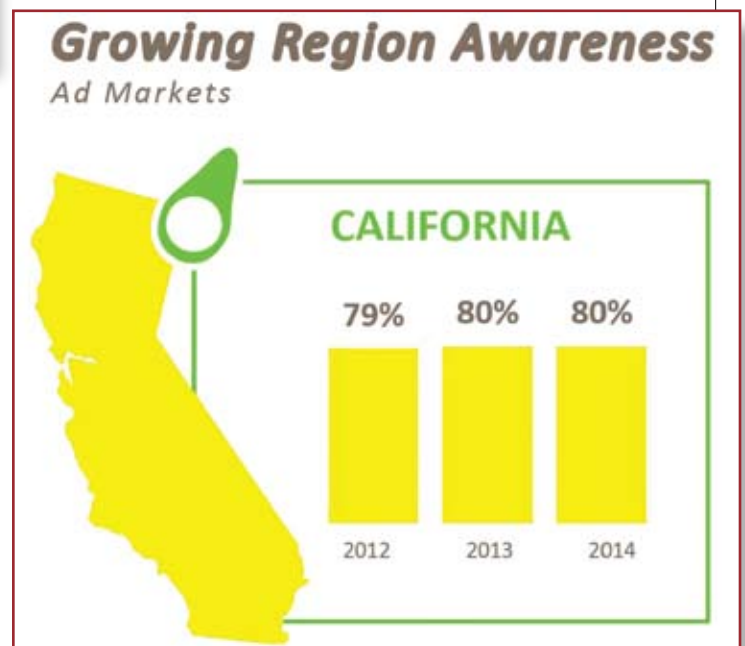


Preference

CAC's marketing objectives going into the 2014 season were to increase demand and value for California avocados in target markets in season and to establish a California avocado brand identification from grove to point-of-purchase, with the ultimate goal of maximizing grower returns. Brand demand is most closely tied to preference. The tracking study showed some great news: California remains the most preferred growing region for consumers in CAC ad markets (California, the Pacific Northwest, Phoenix, Denver and Salt Lake City). Sixty-six percent of these consumers prefer California avocados while preference for the next highest competitor is less than 5 percent.

Growing Region Awareness

California avocados maintained an all-time high growing region awareness rating of 80 percent this year, a 19 percent advantage over the biggest competitor. Advertising awareness is also another area where the Commission shined — with 42 percent recall of California avocados' advertising, a remarkable feat given the fact that CAC is outspent by as much as a margin of 5 to 1.





Labeling

While 72 percent of consumers in ad markets indicate it's important their avocados are grown in the United States, only 43 percent actually check for country of origin. More than a third of the consumers who don't check say it's because of poor labeling. Thus the Commission's labeling initiative, which links CAC's marketing activities to California avocados at point of purchase, is critical to bridging the gap between what consumers say they want and what they actually do at retail.

The 2014 tracking study marks the first year that the Commission has tracked the efforts of the labeling initiative – with positive results. Forty-two percent of respondents in ad markets claimed to have seen the California label on the avocado in the store. Of those that say they normally check for country of origin, the recall was 67 percent. The highest recall was among those who had seen California avocados advertising, at 83 percent. Mega users (those who buy 210+ avocados per year) were also more likely to recall seeing the label.

RECALL CALIFORNIA LABEL(S) ON AVOCADO IN STORE

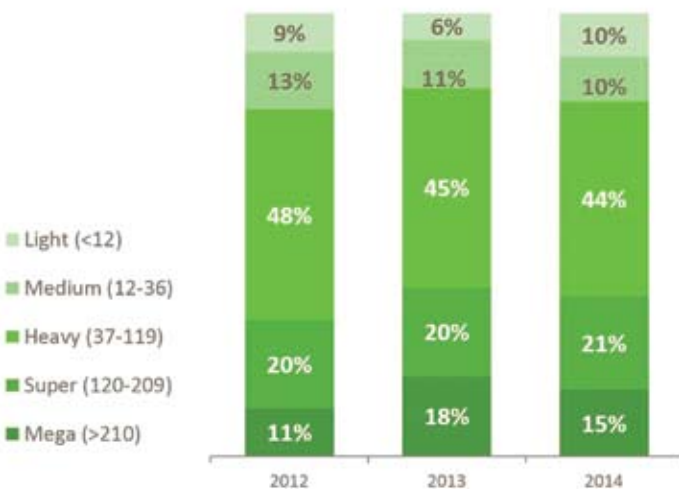


Consumption







The Commission has tracked avocado consumption since 1994, and in recent years has seen avocado usage shift from predominately light and medium users to much heavier usage. When the study was started, usage was classified into three categories — light (less than 12 avocados per year), medium (12 to 36 per year) and heavy (37 or more) — and the percent of users was almost evenly split between the three groups. Avocado usage and consumption has grown by such large margins that in 2007 the heavy group had to be split into two sub groups — heavy (37-119 per year) and super users (120 or more). By 2013, consumption had grown by a fourfold increase from 28 percent to 83 percent of heavy or super user respondents and because of this consumption categories were reexamined yet again. In late 2013, a fifth, mega user group was added (210 per year or more). Fifteen percent of users now fall into the mega user group, with 80 percent of users now identified as heavy, super or mega users.

Avocado Consumption

of avocados purchased in a year



Avocado User Profile

	Light Users (A)	Medium Users (B)	Heavy Users (C)	Super Users (D)	Mega Users (E)
# of Avocados Consumed Yearly	(<12)	(12-36)	(37-119)	(120-209)	(>210)
 Female	58%	73% ^A	67% ^a	68% ^a	69% ^A
 Average age (in years)	54 ^{BCDE}	49 ^E	51 ^{DE}	48 ^E	44
 Hispanic origin	6%	12% ^a	13% ^A	20% ^{ABC}	23% ^{ABC}
 Employed	56%	59%	56%	62%	72% ^{ABCD}
 In a relationship	49%	65% ^A	67% ^A	71% ^A	77% ^{ABC}
 Average Income	\$61K	\$70K ^a	\$75K ^A	\$79K ^{Ab}	\$88K ^{ABCd}

The majority of mega users are female and affluent, are largely employed or retired, and a high percentage of them are in a relationship. The majority (55 percent) of mega users closely align with California avocados' primary target audience, which CAC has defined as "The Sophisticated Naturalist." For this group, consuming and preparing food is part of their lifestyle. They think cooking is fun, which likely spurs them to use avocados in new and different ways. This eco-friendly group focuses on natural, organic and local foods. They're also willing to pay more for high quality products, which is a nice fit with California avocados' premium positioning.

The results of the 2014 California Avocado Consumer Tracking Study continue to validate the effectiveness of the Commission's marketing efforts. The study demonstrates the impact marketing efforts have had in bolstering California avocados in the minds and hearts of the avocado consumer in targeted markets. In September, upon the completion of the 2015 season, the next installment of this valuable tracking study research will begin in order to evaluate California avocado branding and marketing efforts, as well as to stay in tune with consumer attitudes and behaviors. 



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CAC Nutrition Communications

Informing consumers about the nutritional benefits of California avocados and the premium quality of this nutrient-dense fruit encourages consumers to purchase California avocados. During the 2013-2014 program year, the California Avocado Commission led impactful nutrition-focused efforts including activities with registered dietitians (RDs) as well as sponsorship of key food and nutrition events.

CAC's RD Ambassador Network leverages the expertise of five registered dietitians to deliver the avocado nutrition story and develop new, rich content for CAC's website and "The Scoop" blog. These efforts contributed to more than 30,000 unique blog page views. CAC utilized these RD ambassadors as spokespeople at key events and worked with them to communicate the California avocado nutrition messages across their social and media networks, which resulted in more than 2.8 million consumer media impressions. Individual RD ambassadors also developed recipes for specific marketing initiatives, including four 100-calorie or less snacking recipes developed by Katie Ferraro (MPH, RD, CDE) and two breakfast recipes created by Bonnie Taub-Dix (MA, RD, CDN).

CAC continued to serve as a source of nutrition and recipe information for media and identified opportunities to showcase California avocado branding and nutrition messaging. For example, CAC delivered a personalized California avocado package to "TODAY Show" nationally-acclaimed nutrition contributor Joy Bauer (MS, RD), which generated more than 250,000 media impressions on Joy's Twitter and Instagram feeds.

CAC also cultivated relationships with supermarket registered dietitians (SRDs) who have an important impact on retailer business. Three SRDs from national retailers attended the California avocado season opener grove tour resulting in an article on Harmons' blog titled, "Sour Cream or Avocado?" and a segment on Colorado's Best (KWGN-TV) called, "Add Fruit to Your Grilling Menu" with an audience of 15,400.



Janice Newell Bissex, MS, RD and Liz Weiss, MS, RD, known as the Meal Makeover Moms.

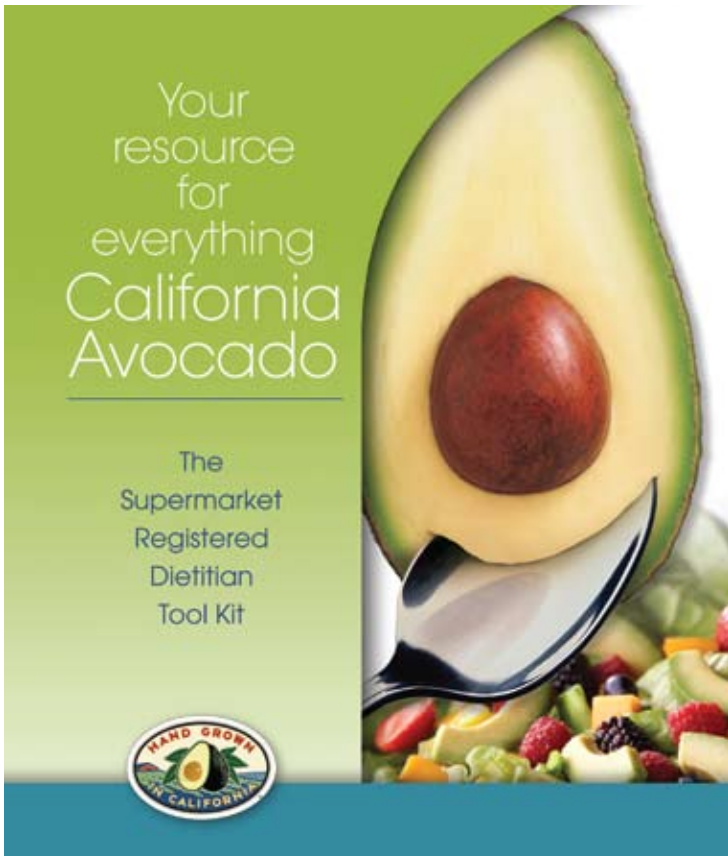
CAC also developed four seasonal supplements to augment the SRD Tool Kit that was sent to more than 200 SRDs representing 46 retail chains. Inserts included: Cooking for Two (or One), California Fresh Snacking, California Fresh Summer and California Fresh Breakfast.



Bonnie Taub-Dix, MA, RD, CDN



Michelle Dudash, RD promoting California avocados at Fresh Summit.



Seasonal Supplements included two recipes with photos, turn-key social media posts for SRD use and suggestions for store intercom announcements.

To enhance CAC's role as a trusted source of avocado nutrition and recipe information, CAC sponsored four key conferences attended by influential food and nutrition experts, wellness bloggers, SRDs and other industry influencers.

In March, the Produce for Better Health Foundation (PBH) invited SRDs from across the country to the 2014 Annual Conference in Scottsdale, AZ. This event provided



Katie Ferraro, MPH, RD, CDE with Jan DeLyser at the Media Grove Tour



Angela Fraser demonstrates the nick and peel method while highlighting that the greatest concentration of carotenoids is found in the dark green fruit closest to the skin.

an efficient and productive platform to meet, network and brainstorm ideas with SRDs to promote California avocados through their connections with consumers.

CAC helped sponsor the California Dietetic Association's (CDA) Annual Conference & Exhibition from April 3-5 in Pomona, and connected with local RDs to discuss the nutritional benefits and versatility of California avocados as part of healthful snacks and balanced breakfast recipes. CAC's presence at CDA resulted in more than 88,000 Twitter media impressions.

In June, CAC sponsored the fifth annual nutrition and wellness blogger conference, FitBloggin' 14, held in Savannah, Georgia. CAC sponsored a standing-room only nutrition and culinary presentation led by RD Ambassador Michelle Dudash, hosted a recipe contest and oversaw booth activities, all of which resulted in more than 450,000 media impressions on Facebook, Twitter, Pinterest and Instagram.

To cap off the season, CAC's sponsorship of the PBH SRD at Fresh Summit in Anaheim included in-person meetings with 24 SRDs from major retailers across the country. During the conference, CAC presented the California avocado label and highlights from the Avocado Tracking Study; provided in-booth recipe demonstrations with RD Ambassadors Katie Ferraro and Michelle Dudash; hosted an exclusive off-site grove tour and avocado-centric dinner; and hosted a "Tweet to Win" social media contest.

CAC's 2013 – 2014 nutrition-focused activities with the media and retail-focused RDs, as well as sponsorship at key food and nutrition conferences, reinforced CAC's position as the resource for California avocado nutrition and recipe information. In addition, CAC's relationships with well-known, third-party RDs helped communicate the versatility and nutrition profile of California avocados to millions of American consumers. 🥑

CAC Grower Website Improved

By April Aymami
Industry Affairs Manager

In the past, websites were little more than digital brochures filled with perennial content that was rarely updated. Today, websites are interactive portals that share up-to-the-minute relevant and important content with their audiences. To keep those audiences engaged, content is shared in a variety of formats — blog posts, news feeds, videos, photos and integrated social media posts — and is updated frequently.

Since the launch of the redesigned California Avocado Commission grower website in June 2013, the Commission has utilized Google Analytics to monitor use of the website and determine not only which information growers are most interested in, but to improve the overall user experience when interacting with its rich and deep content base.

Based on knowledge gained from the website's analytics, a series of website upgrades were developed during the summer and made "live" on the grower website October 22, 2014.

Following is a summary of the most recent updates.

Streamlining the Home Page

The "real estate" on the homepage is very valuable — analytics reveal the majority of site visitors begin their visit here. In order to make the most of this space, visual elements at the top of the page were reduced or eliminated and a "feature box" was added. The content of the feature box will be changed as often as needed in order to highlight issues of the greatest importance to growers. Currently, the feature box provides a direct link to the most recent PSHB updates.

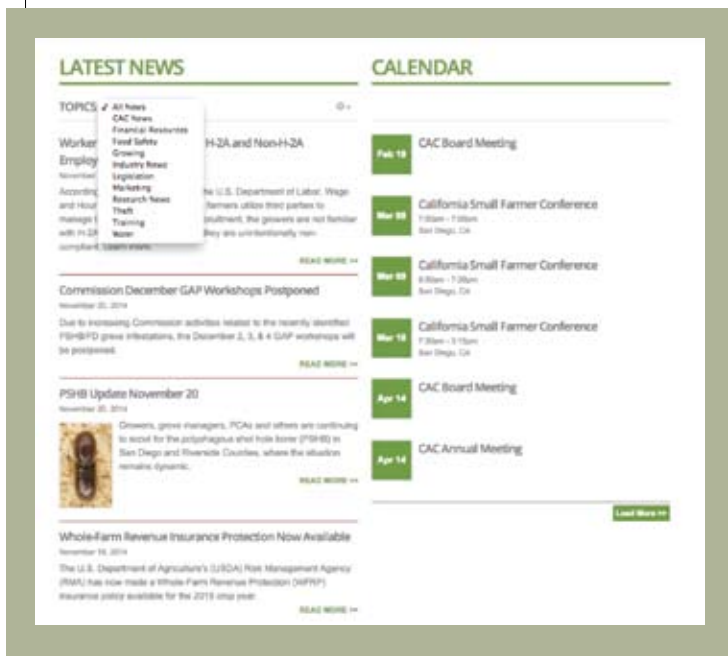
Because the Commission posts articles to the grower



website on a near-daily basis, an article's lifespan on the homepage news feed became too short — newer articles would quickly replace day-old articles. In order to increase the lifespan of the news and streamline access to the wide range of articles being published, the homepage news feed

now features a default “All News” feed and a pull-down menu that allows visitors to select a specific news feed based on their interests. This allows viewers to see the top articles in 11 categories, significantly increasing a site visitor’s access to the news. Visitors can easily load more articles in a category by simply clicking on the “Load More” button at the bottom of the news feed.

Seminars, training sessions and other industry events are critical to growers and generate a large amount of traffic to the Calendar portion of the website (according to analytic data the Calendar page is the most popular subpage listed under the Commission page). To make the calendar more accessible, a calendar dashboard was added to the homepage, providing instant access to events and allowing users to click on specific event calendars of the most interest to them.



Finally, to improve the flow of traffic from the homepage to the Commission page and Publications page, the Commission contact information was moved to the top of the homepage and both “Commission” and “Publications” were added to the main navigational menu. Visual callouts for *From the Grove* and the *GreenSheet* also were added.

GreenSheet

Analytics revealed that individual GreenSheet articles are the second most popular starting-point for site visitors. However, upon completing a GreenSheet article readers would visit the homepage, go back to a category landing page or simply leave the website — indicative of a navigational road block. In order to ensure readers could easily navigate from one GreenSheet article to another, a GreenSheet table-of-contents sidebar now appears for every GreenSheet article.

Improved Accessibility to News and Resources

While industry news is important to growers, individuals have specific preferences concerning when and how they receive the news. To accommodate these preferences, the Commission allows growers to determine when they receive the news. They can visit the grower website where new content is posted on a near-daily basis, or they can opt to receive news every two weeks in the consolidated GreenSheet.

In an effort to improve accessibility to the news articles beyond the homepage, specific newsfeeds have been placed on category landing pages. On the Growing Avocados landing page two newsfeeds now exist. The “Growing News” features timely growing news, such as PSHB updates, the availability of new resources or weather advisory articles. The “Cultural Management” feed consists of longer-term cultural management articles, such as irrigation best practices or preparing groves for the winter.

Analytics indicated that specific web pages were popular with growers — those who read about growing avocados are interested in the weather, learning opportunities and GAP certification. For that reason, the right-hand sidebar of the Growing Avocados page now provides instant accessibility to the weather outlook, GAP materials and a list of upcoming seminars.

Other landing page improvements are as follows.

- The latest industry news is now featured on the Industry landing page (formerly the “Selling” page), with a sidebar link to the most recent market statistics.
- A CAC news feed is now the centerpiece of the Commission landing page. Upcoming CAC meetings and the President’s Message are easily accessible in the right-hand navigation.
- The Seminars landing page has been simplified, listing only upcoming seminars and related industry events (such as the World Avocado Congress). Separate pages have been created to house seminar archives and video seminars.

Finally, the Commission launched a You-Might-Also-Like feature. Each time a site visitor scrolls to the end of a news article, a suggestion box appears recommending other articles that may be of interest to the reader.

The Commission recognizes that the avocado industry is continuously evolving, thus it is critical growers are easily able to stay abreast of the latest news and cultural management issues. CaliforniaAvocadoGrowers.com is an invaluable tool for the real-time distribution of that knowledge to our growers. As such, the Commission will continuously monitor its usage to ensure the site and its content help growers improve productivity and profitability. 🥑

By Ken Melban
Director, Issues Management

Ag Water Team Meets with MWD

Over the last few months the Commission has successfully formed a coalition of agricultural organizations, named the SoCal Ag Water Team (SCAWT), which includes Western Growers Association (WGA), California Cut Flower Commission (CCFC), California Citrus Mutual (CCM), and others. The purpose of the SCAWT is to advocate before the Metropolitan Water District on the benefits of agricultural water users with a goal of developing programs that could support agricultural water customers.

In November, the Commission arranged a meeting with Metropolitan's Chairman Randy Record, General Manager Jeff Kightlinger, and senior Metropolitan staff. The SCAWT participants included representatives from WGA and CCFC, along with Commission Water Committee Chairman Charley Wolk, President Tom Bellamore, and me.

As the record setting drought in California continues, the timing could not be worse to negotiate an agricultural water rate. At this time Metropolitan is preparing for mandatory 10 percent cutbacks for all users in 2015. Those anticipated levels of cuts are primarily dependent upon State Water Project allocations.

The difficulty of convincing Metropolitan to consider the value agriculture provides as a stable, reliable customer – come rain or shine, shortage or surplus – has become all the more challenging. Some reports indicate that nearly 80 percent of California's water goes to agriculture. A 2011 report from The Center for Irri-



gation Technology at California State University, Fresno, concluded, “If the basis for the discussion is water consumptively used by only agricultural and M&I (municipal and industrial) users, then agriculture’s share would be estimated in the range of 80 percent of the total (24.66 MAF / (24.66 MAF + 6.51 MAF)). However, if the percentage is based on dedicated water, which includes environmental uses, then agriculture’s share is more in the range of 40 percent (24.66 MAF / 61.24 MAF).” Even at 40 percent agriculture still uses a significant amount.

Granted, California grows vast amounts of food and fiber that supply the world. But, unfortunately, in California’s current terrible drought conditions, solely because of the volume of water agriculture uses, it also places a bull’s eye directly on us.

As the SCAWT made its presentation to Metropolitan’s leadership, our immediate goal was to find a ray of hope, or maybe better said, a chink in the armor! We believe that occurred when Metropolitan agreed to invite us to participate in upcoming discussions on their previous replenishment program.

The current one-size-fits-all rate structure within Metropolitan is a paradigm that will have to be overcome if we are to be successful. The fact that Metropolitan has indicated to us their willingness to meet on the replenishment discussion and include the SCAWT in that meeting is a positive first step and provides some hope. The Commission will continue to lead the effort through the SCAWT, and keep you apprised as new developments occur. 🥑

CAC GAP Program Revised

New Manual Now Available



As reported in the *From The Grove* Fall 2014 issue, in August, 2014 the California Avocado Commission's Board approved a revised Good Agricultural Practices (GAP) manual that supports a grower becoming certified under the Primus Ranch audit. Since August of 2011, when the Commission launched the CAC-GAP program, the majority of audits were conducted under the United States Department of Agriculture's GAP audit. In just over three years great progress has been made with nearly 40 percent of Cali-

fornia's avocado acres now voluntarily certified. But many of the major buyers consider the USDA GAP audit "entry level" and it is not widely accepted. After numerous meetings with buyers, the Commission's GAP Committee recommended revising the manual in a handful of areas to support a grower audit under the Primus Ranch audit. This audit is broadly accepted by buyers. Key areas revised included water quality testing levels and record keeping for fertilizer and pesticide applications.

For the fourth year since the

start of the CAC-GAP program, the Commission is continuing to offer a grower rebate of up to \$300 for actual audit costs. To see the new CAC-GAP manual online or learn more about the CAC-GAP rebate go to: www.californiaavocadogrowers.com/growing/gap, or if you'd like a manual mailed, please contact the Commission office. In addition, many handlers have field representatives who can assist growers interested in becoming GAP certified. 🥑

Two Billion Pounds Forecast for 2015

If the predictions are accurate, U.S. consumers could purchase more than two billion pounds of avocados in 2015 with Mexico leading the way with a market share approaching 70 percent.

California is expected to chime in with about 320 million pounds followed by lesser volumes from Peru and Chile. Emiliano Escobedo, executive director of the Hass Avocado Board (HAB), believes that unprecedented volume of fruit will be absorbed by the marketplace in a very orderly fashion. “I was around in late 2005 when we were forecasting that in 2006 the United States would first reach one billion pounds,” he said. “There was a lot of discussion and even panic about how we were going to coordinate our efforts to be able to handle that volume. Today no one is panicking.”

Escobedo said the U.S. and international avocado industry deserve great credit for launching the Hass Avocado Board more than a decade ago and creating the funding mechanism that has allowed the industry to enjoy phenomenal growth. Doubling consumption in the United States in the last eight years is truly amazing.

While the two billion pound threshold could be daunting, the HAB executive said it will be accompanied



by a \$50 million industry-wide promotion budget. That level of promotion will be immediately evident early in the year as Avocados from Mexico will be airing an avocado commercial during the Big Game telecast. It is a tremendous opportunity but also a tremendous responsibility, said Escobedo. He added that the cost is very high and the folks in charge of producing that commercial have got to get it right. While the commercial will undoubtedly focus on avocados south of the border, Escobedo said it can be a great boost for the entire

industry. And this year, California is expected to be marketing some avocados prior to Big Game with the volume increasing shortly thereafter.

For HAB budgeting purposes, the board has estimated 1.95 billion pounds for this year, but the estimate for that purpose is always on the conservative side. Escobedo said that number predicts 1.34 billion pounds from Mexico, 320 million pounds from California, 230 million from Peru and only about 70 million pounds from Chile. Some are estimating California's crop as high as 340 million

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pounds and Escobedo said Peru could be anywhere from 200 million to 280 million, which, in either extreme, is significantly greater than the 141 million pounds that came into the States from that South American country in 2014. Chile is also an unknown factor. Escobedo said Chile has a good crop this year but it has a very strong domestic market as well as solid marketing opportunities in Europe. He said Chilean avocado exporters are going to be opportunistic marketers when it comes to the United States. If it's a good market, they will ship their fruit here; otherwise it will go elsewhere.

Despite the huge volume increase in exports to the United States over the past decade, Escobedo remains very optimistic about the future. He said avocado consumption throughout the world is on an upward trajectory and the marketing of the fruit is a global phenomenon. Chile consumes about 15 pounds per capita while Mexico has been as high as 20 pounds per person before higher retail prices caused that number to fall a bit. He said at even two billion pounds of consumption in 2015, the per capita number in the United States is only at six pounds per person. Looking forward it is not a stretch to believe U.S. consumption can rise to 10 pounds per person, and both Asia and Europe are also seeing significant increases.

Escobedo believes global demand will keep up with increasing supply. He notes that Jalisco and other Mexican states are looking for access to the U.S. market, but he said the amount of new avocados from Michoacán that have gained certification granting U.S. access in the last two years is more than what Jalisco can provide. So he does not believe there should be fear of increased volume because the global market continues to absorb it.

That theory was seconded by Rob Wedin, vice president of sales



and marketing for Calavo Growers Inc., Santa Paula, CA, who said that while total volume consumed in the United States increased 5 percent from 2013 to 2014, the market price increased 13 percent. Using simple economic calculations with those two numbers reveals that demand is outstripping supply.

The sky might not be the limit but factoring in a continued increase in U.S. consumption at the same level as the last several years, demand for three billion pounds of avocados is not that far off. As amazing as the last eight years have been, it certainly won't take another eight years to get to that level. 🥑



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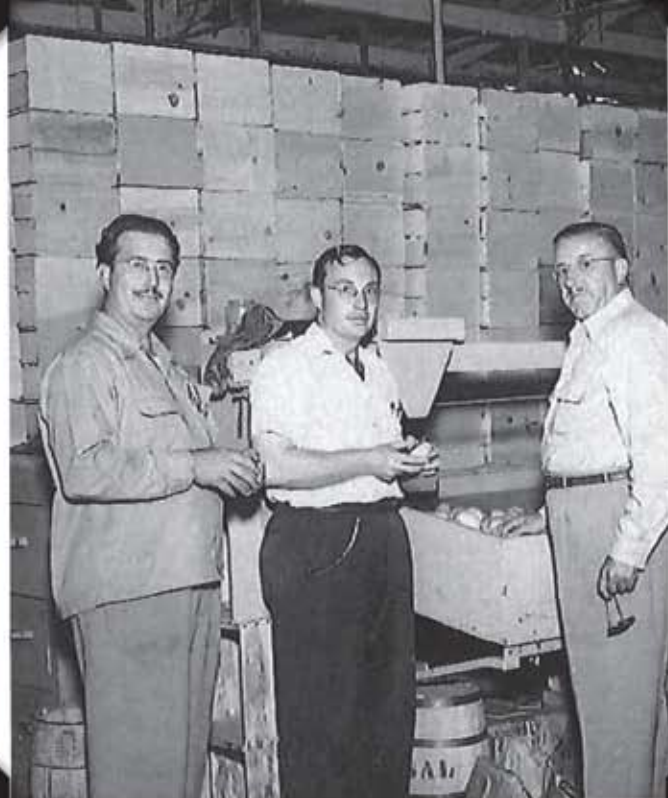
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