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## Calendar

*For a listing of industry events and dates for the coming year, please visit:*

<http://www.californiaavocadogrowers.com/commission/industry-calendar>

### Avocado Branch Canker Disease Virtual Field Day

The California Avocado Commission will host a virtual field day concerning Avocado Branch Canker disease that will consist of two 45-minute presentations by Dr. Themis Michailides, University of California Kearney Agricultural Center and Dr. Liz Dann, University of Queensland, followed by a question-and-answer session. Registration required. [More information here.](#)

#### September 17

#### September 17

**Time:** 3:30 p.m. – 5:00 p.m.

**Location:** Online Webinar

### Upcoming Produce Safety Rule Online Grower Training Sessions

According to the Food Safety Modernization Act's Produce Safety Rule (PSR), at least one supervisor or responsible party from a farm must complete a Food and Drug Administration-approved food safety training session. The College of the Sequoias (COS) Training Resource Center is offering a series of online PSR training sessions to members of the specialty crop industry for a \$10 fee.

The training runs approximately seven hours and include the following sessions:

- Introduction to produce safety
- Worker health, hygiene and training
- Soil amendments
- Wildlife, domesticated animals and land use
- Agricultural water
- Postharvest handling and sanitation

- Developing a farm food safety plan

[Registration is now open](#) for the September 23 session that will take place from 8:00 a.m. – 5:00 p.m. The deadline to register is September 7. Course materials will be shipped to registrants.

All sessions will be held via Zoom. Registrants will need a webcam and a microphone in order to participate.

Additional PSR training sessions will be held as noted below. Registration for these sessions is not yet available, but interested growers can visit the [COS training page](#) for more details.

- October 8 session — deadline to register is September 21
- November 3 session — deadline to register is October 16
- December 8 session — deadline to register is November 17

## **Avocado Branch Canker Disease Virtual Field Day**

The California Avocado Commission (CAC) will host a virtual field day concerning Avocado Branch Canker disease on Thursday, September 17, at 3:30 p.m. The virtual seminar will consist of two 45-minute presentations by Dr. Themis Michailides, University of California Kearney Agricultural Center and Dr. Liz Dann, University of Queensland, followed by a question-and-answer session. [Registration for the virtual event is now open.](#)

Avocado Branch Canker is a ubiquitous disease of avocados in California caused by a group of fungi in the family Botryosphaeriaceae. These fungi, which normally are not problematic, have arisen as a major group of pathogens of many crops around the world in recent years. In California they have become major disease organisms in pistachios, almonds, and walnuts as well as avocados. Elsewhere in the world, this group of pathogens causes leaf and flower blight on avocados and are major contributors to yield loss. Why this group of pathogens has suddenly become problematic is uncertain.

Dr. Themis Michailides, Professor of Plant Pathology, is one of the world's leading experts on this group of fungi. He has been working on a CAC-funded project since October 2018 to determine exactly what pathogens cause avocado branch canker in California, the extent of their presence in California avocado groves and how they can be managed. He will present his research results to date and discuss why he believes this group of pathogens has become problematic in recent years.

Dr. Liz Dann is a Principal Research Fellow with the Queensland Alliance for Agriculture and Food Innovation at the University of Queensland, Australia. She has worked extensively on avocado diseases in Australia and has recently started studying the role of the Botryosphaeriaceae in flower blight of avocados in Australia. She will share her knowledge of these pathogens with growers and the impacts they have on avocado production in Australia.

## **Managing Heat in California Avocado Groves**

According to a [new report](#) released by the California Department of Food and Agriculture (CDFA) and the Climate Science Alliance, Southern California agricultural regions will face more climate extremes — notably higher daily maximum temperatures and more frequent and intense heat events — in the coming decades. As Dr. Ben Faber notes in a recent [blog post](#), although avocado groves have been successful in California, the trees are “poorly adapted to high temperatures and low humidity.” Therefore, avocado growers throughout the state should be aware of the impacts of heat on their trees.

Avocado trees [cool themselves](#) by moving water through the roots and out their leaves through leaf pores known as stomates. As the water evaporates from the leaves, it helps maintain leaf temperature as well as prevent the trunk and

branches from overheating. During a heat wave, an avocado tree tends to close its stomates to prevent excess water loss, which results in the leaf temperature increasing. In extreme circumstances, the [leaves and stems can overheat and literally cook](#).

California avocado varieties have different sensitivities to heat. While 'Pinkerton', 'Lamb Hass' and 'Reed' varieties are less susceptible to heat, 'Hass' and 'Fuerte' are most sensitive; and 'Sir-Prize' and 'Sharwil' tend to be somewhere in the middle.

### **Protection Measures**

The timing of heat waves in California tends to coincide with peak season — when trees are producing their summer flush. When the temperatures is 100°F or above, the trees tend to drop their fruit and flowers, thus excessive heat can impact the following year's bloom.

Well-watered trees will better tolerate the stresses imposed by a heat wave. Thus, growers should irrigate their trees in advance of a heat wave to ensure they are fully hydrated. Apply an additional 50% of the budgeted amount of water. If the heat wave lasts for several days, be certain to provide daily pulses of irrigation.

Because avocado roots grow near the surface of the soil, mulch also helps trees manage heat by keeping the soil (and roots) cool.

[Cover crops](#) also can aid in keeping groves cool. The cover crop can prevent water runoff, improve water retention in the soil, lower the air temperature in the grove and keep the soil cool. In addition, cover crops will help improve soil structure, suppress weeds, increase soil organic matter and provide a home to beneficial pollinators and insects.

### **Harvest During a Heat Wave**

Best practice is to make every attempt to wait and harvest fruit when the temperature is below 90°F. No fruit should be harvested when the temperature is above 95°F.

When fruit is harvested during warmer temperatures, place the field bins in the shade to avoid exposing the harvested fruit to sunburn. If fruit is left exposed to direct sunlight, the sunburn will only show up after it has been packed. Bins should be covered with bin covers or light-colored tarps. And bins should be sent to the packinghouse promptly to avoid decreased fruit quality caused by water loss.

### **Heat Damage**

If you see significant leaf drop in your groves due to excessive heat, the [following actions](#) are recommended:

- As soon as possible, whitewash branches exposed to the sun with special attention paid to branches on the west and south sides of the tree.
- Trees that lose a significant portion of leaves cannot efficiently move water, therefore restrict irrigation amounts to ensure you avoid creating wet, soggy conditions that can lead to root rot. It's best to irrigate less frequently and with smaller amounts of water.
- Do not prune your trees — leave hanging leaves in place to protect the tree from sunburn. Once new tree growth has occurred (in the next 3 – 6 months), pruning can take place on living wood.
- Adjust fertilization as you would with a frost-damaged tree: reducing the amount of fertilizer until the tree is re-established. If you see signs of a particular nutrient deficiency, adjust fertilization accordingly.

For more information about managing heat in avocado groves, growers can view the following articles on the California avocado growers' website:

- [Managing Avocado Heat Damage](#)
- [Reduce Heat Illness Risk for Employees](#)
- [Best Practices for California Avocado Groves Impacted by Excessive Heat](#)

## **New Report Details Possible Impact of Climate Change on Southern California Specialty Crops**

A new report released by the California Department of Food and Agriculture (CDFA) and the Climate Science Alliance examines observed and potential changes in Southern California agricultural regions and the impact these climate-based changes will have on farmers. The main conclusion of the [2020 Climate Change Impacts for Specialty Crops – Southern California Region](#) report is that Southern California farmers will need to be ready to adapt to the changing climate, and the report's large-scale findings will need to be tailored to local needs. The researchers also acknowledge that an effort must be made to connect researchers and technical-assistance specialists with farmers who are facing climate change challenges on a daily basis.

According to the report, as a whole, the Southern California region is likely to experience a climate profile with more extremes over the next several decades.

- Average temperatures are expected to increase with higher daily maximum temperatures and more frequent and intense heat events
- Wintertime, nighttime and daily minimum temperatures are expected to rise
- More extreme variability in temperatures is expected, with more frequent cold outbreaks
- Higher year-to-year variability in rainfall with more frequent and severe droughts, as well as extreme precipitation events
- Wildfire risks will heighten due to increased temperatures, dry conditions and Santa Ana winds

The predicted rise in daily and nighttime temperatures may impact California avocado agriculture in a variety of ways.

- Lower soil moisture and increased evaporation could lead to reduced water availability, increased costs of water and higher irrigation demand
- Increased salinity issues due to drought, low precipitation and limited water availability
- Decline in crop yields due to increased rate of respiration
- Increased tree water use due to Santa Ana wind events
- Sensitivity to warmer August temperatures could negatively impact avocado yield
- Potential for up to a 45% reduction in avocado yields statewide by 2060 due to warming temperatures
- Suppression of perseia mite populations due to extreme heat waves
- Reduced risk of frost damage due to warmer winter minimum temperatures
- Increased wildfire risks

- Production may shift to coastal Central California as the state warms

In particular, San Diego County could see more intense extreme-precipitation events and greater warming inland compared to the coast. Projections indicate the average hottest day per year in the county could reach 110-125°F in the desert regions and 100-111°F in the coastal areas.

The report notes a variety of climate-smart agricultural practices, including cover crops and composting/mulching. California avocado growers can read about California avocado grove-specific research and recommendations for [cover crops](#) and [mulching](#) on the California avocado growers website.

The study sought input from producers and gathered their feedback concerning the climate challenges they are currently facing and their concerns for the future. The respondents overwhelmingly noted they were “seeing and experiencing all of the listed climate change drivers, including extreme weather events and variability, drought, temperature changes, precipitation variability, and wildfire.” They also identified the extreme Santa Ana wind events as a factor in their production. They noted the variability of the weather made it more difficult to plan, that water availability was a major concern, that their efforts to adopt efficient technologies was undermined by flooding or early frosts, and that weeds seemed to be adapting quickly to the changing climate and were becoming more difficult to manage.

The report does an effective job of collecting input from growers and sharing anecdotal evidence that may be of great interest to California avocado growers. This portion of the report has individual sections concerning growers’ experiences with:

- Weather variability
- Drought
- Precipitation and water resources
- Temperature
- Wildfire

The report also contains a comprehensive list of challenges faced by producers concerning funding and resources, economic viability, and climate data and planning.

According to the report, producers are “already pursuing innovative and creative solutions to deal with extreme weather and address the long-term impacts of a changing climate.” The latter half of the report focuses on proposed solutions and supports, producers’ climate-smart actions and strategies, research needs, and recommendations concerning what new resources would be most beneficial to growers.

## **Two New Chain Partners Leverage the Value of Fresh California Avocados on the Menu**

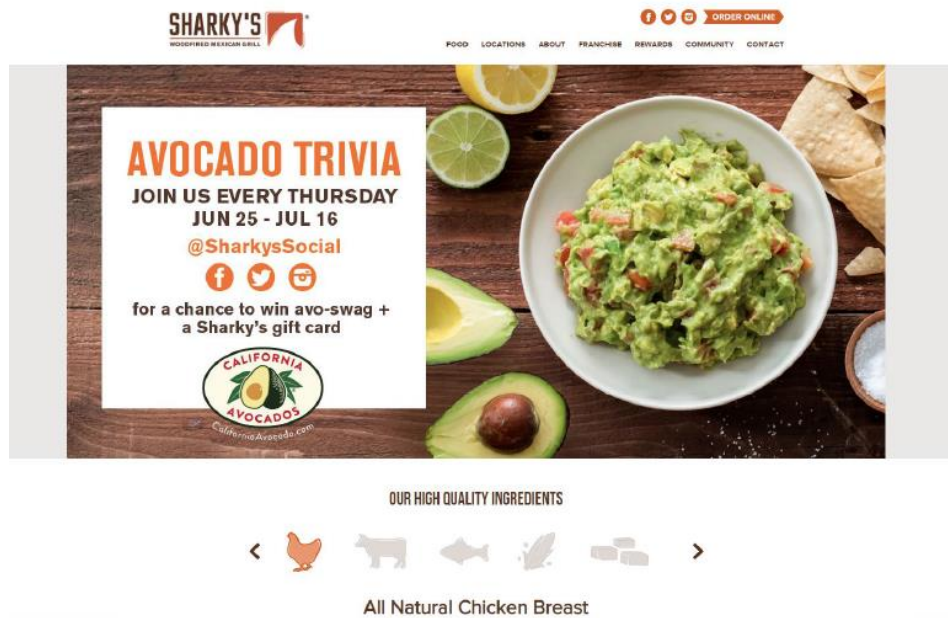
Partnering with restaurant chains during peak California avocado season provides more exposure for and engagement around the fruit courtesy of the chains’ unique California avocado menu items and promotions. These menu items drive sales, build brand awareness and inspire diners to prepare similar California avocado meals at home.

This season, the California Avocado Commission partnered with multiple new chains; this article highlights two of them — Sharky’s Woodfired Mexican Grill and Erik’s DeliCafe. Based in Westlake Village, CA, Sharky’s touted its fresh-made guacamole using California avocados in their 26 units located across California and Nevada. For four consecutive weeks, the chain piqued their loyal guests’ interest with fun facts about the fruit on California Avocado Trivia Thursdays. Sharky’s also provided their social media influencers with gift bags filled with a Sharky’s gift card and California avocado

merchandise. The influencers thanked the chain for its largesse and shared their love for the California avocado menu items and themed gift bags on their own social media channels. The Sharky's promotions ran from May 13 – July 16.

Based in San Jose, CA, Erik's DeliCafe showcased seven California avocado-themed menu items at their 27 units throughout northern California. The chain's website menu ordering page featured the California Avocados brand logo next to each of the seven menu items. Social media posts featuring the menu items were paired with a "California-grown Avocado" message. In addition, the chain proudly shared its partnership with the California Avocado Commission on the Sourcing section of its website, touting its use of the locally grown fruit.

By adding new chain partners, the Commission will continue to encourage the use of California avocados with promotional support themed around each chain's unique personality and build interest in the brand for years to come.



*Sharky's website announcing Avocado Trivia on Thursdays.*

## California Market Trends

To view all market trend graphs, including "Weekly Volume Summary," "Weekly Avocado Prices" and "U.S. Avocado Supply," please visit: <http://www.californiaavocadogrowers.com/industry/market-statistics>.

### California Avocado Society Weekly Newslne\* Avocado Prices – August 26, 2020

	Conventional #1	Organic #1
California Hass	(Field Price Per Lb)	(Field Price Per Lb)
#32's	\$1.12 - \$1.30	\$1.42 - \$1.58
36's	\$1.12 - \$1.30	\$1.42 - \$1.58
40's	\$1.00 - \$1.24	\$1.38 - \$1.58
48's	\$1.00 - \$1.24	\$1.90 - \$2.10
60's	\$0.96 - \$1.08	\$1.68 - \$1.74
70's	\$0.62 - \$0.75	\$1.20 - \$1.38
84's	\$0.46 - \$0.56	\$0.52 - \$0.68

\*To subscribe to the Weekly Newslne, please contact the California Avocado Society at (949) 940-8869 or [www.CaliforniaAvocadoSociety.org](http://www.CaliforniaAvocadoSociety.org).

## California Avocado Commission Weekly Volume Summary (Pounds)

	Week Ending 8/30/2020	Season-to-Date (since 11/01/2019)	2020 Year to Date
Hass	7,991,109	320,212,009	320,185,767
Lamb	761,907	9,421,822	9,421,822
Other (Greens)	3,937	1,623,267	1,428,117
<b>California Total</b>	<b>8,756,953</b>	<b>331,257,098</b>	<b>331,035,706</b>
Florida	1,529,605	27,304,798	19,807,040
Chile	0	2,525,666	445,506
Mexico	34,642,710	1,796,487,214	1,386,002,380
Peru	5,594,111	172,874,359	172,874,359
Other (Imports)	570,000	41,110,000	32,670,000
<b>Import Total</b>	<b>40,806,821</b>	<b>2,012,997,239</b>	<b>1,591,992,245</b>
<b>USA Total</b>	<b>51,093,379</b>	<b>2,371,559,135</b>	<b>1,942,834,991</b>

Sources:

California = CAC (AMRIC)

Florida = Florida Avocado Admin Committee

Chile = Comité de Paltas, Chile

Mexico = APEAM

Peru = ProHass

Other Imports = USDA AMS website

### Crop Statistics

Below are the weekly harvest projections and actuals through week ending 8/30/2020, where year-to-date harvest volumes have hit 336 million pounds, approximately 2.5 million pounds less than projected. While harvest volumes have dipped below projections the past few weeks, with only 37 million pounds to go to hit the 373-million-pound mark, it is looking good that the industry will meet the mid-season estimate. As seen in the table below, California avocado harvest is expected to continue through September and into October. If the remaining projections hold true, California will provide at least one million pounds per week of premium product to California avocado fans for a total of 39 weeks this year!

**2020 California Crop Weekly Harvest Projection  
Weekly Crop Movement vs. Distribution Projections  
All Varieties**

Week Ending (CAC Week)	4-Year Historical Forecast	AMRIC Handler Forecast	Industry Adjusted		
	2020 Crop Estimate	July 2020 Update	AMRIC Harvest	AMRIC Shipments	Crop Size Indicator
<b>1st QTR SubTotal</b>	<b>46,970,300</b>	<b>62,797,900</b>	<b>62,632,891</b>	<b>52,385,402</b>	
<b>2nd QTR SubTotal</b>	<b>208,904,900</b>	<b>180,168,200</b>	<b>183,472,758</b>	<b>181,250,607</b>	
Jul 5 - (36)	17,578,200	14,163,600	12,177,567	11,574,500	374,673,325
Jul 12 - (37)	16,410,700	13,601,000	11,798,416	13,322,977	372,105,745
Jul 19 - (38)	15,887,500	10,485,100	10,492,982	15,018,629	372,149,541
Jul 26 - (39)	12,604,900	9,917,300	9,778,341	12,642,478	372,000,478
Aug 2 - (40)	10,048,300	9,504,100	9,606,655	9,872,224	372,159,315
Aug 9 - (41)	8,464,600	9,925,700	9,865,726	9,555,162	372,114,152
Aug 16 - (42)	7,533,300	9,558,200	8,963,219	9,861,463	371,447,339
Aug 23 - (43)	6,154,000	9,476,700	8,183,969	10,729,539	370,029,021
Aug 30 - (44)	5,176,500	8,960,900	8,756,953	9,712,553	369,882,962
Sep 6 - (45)	3,233,000	7,779,100	-	-	
Sep 13 - (46)	2,491,000	6,776,200	-	-	
Sep 20 - (47)	2,436,000	6,790,200	-	-	
Sep 27 - (48)	2,037,600	5,674,000	-	-	
Oct 4 - (49)	1,089,700	3,120,200	-	-	
Oct 11 - (50)	640,000	1,864,400	-	-	
Oct 18 - (51)	270,900	845,300	-	-	
Oct 25 - (52)	266,400	831,300	-	-	
Nov 1 - (1)	155,900	479,700	-	-	
Nov 8 - (2)	7,700	8,900	-	-	
Nov 15 - (3)	3,800	4,500	-	-	
Nov 22 - (4)	40,600	47,800	-	-	
Nov 29 - (5)	24,100	28,400	-	-	
Dec 6 - (6)	23,600	1,600	-	-	
Dec 13 - (7)	52,800	72,200	-	-	
Dec 20 - (8)	263,300	65,200	-	-	
Dec 27 - (9)	230,300	52,300	-	-	
<b>2nd Half SubTotal</b>	<b>113,124,700</b>	<b>130,033,900</b>			
<b>Season-to-Date</b>	<b>355,733,200</b>	<b>338,558,700</b>	<b>335,729,476</b>	<b>335,925,534</b>	
<b>% of Crop</b>	95%	91%	90%	90%	
<b>Crop Size</b>	<b>373,000,000</b>	<b>373,000,000</b>	<b>Left to Harvest</b>	<b>Left to Ship</b>	
<b>Crop Variance</b>	<b>(20,003,724)</b>	<b>(2,829,224)</b>	<b>37,270,524</b>	<b>37,074,466</b>	

**Weather: 30-Day Outlook For California's Coastal & Valley Areas**

(August 21 – September 15)

Summary- A ridge of high pressure is support near 130W off the N and central California coast. Main support for troughing will be returning to the central North Pacific 39-42N 158W-144W. Current sea surface temperature (SSTA) based influences maintain troughing with well developed storms and rains well to the west of California. This configuration of the longwave pattern encourages drought conditions in late fall and winter months.



After a mild period in central and N California during Sept 1-6, sustained heat will be an issue for Sep 7-13th. Hottest days are Sep 8-9th, 10-12th, and 18th, where extremely hot days of 110+ are possible in the San Joaquin-Sacramento Valleys. Very hot conditions are also indicated in San Bernardino Co and south in interior S California. Hot conditions around 90 coast to L100s in higher coastal foothills are also indicated 3-9 Sept.

Tropical cyclones are active off Baja. Sea surface temperature are warmer than normal off central and S Baja California. Tropical cyclones will tend to push temperatures to very or extremely hot levels, for 9-15 September.

Our latest CFSDailyAI system is suggesting a good shot of thunderstorms (TSTMS) through N and E Arizona again during 8-16 Sept.

Looking well ahead... both the CFSv2 and NMME models (North-American-Multi-Model-Ensemble) suggest very hot conditions in both Sept and Oct, with frequent dry downslope wind events.

According to the very latest NMME model results, Sept and Oct are excessively dry and warm. November is also warm with dry, hot upper high pressure dominant in central and S California. Only North or Northwest California have a chance for some rains per the NMME guidance.

December is not as unusually warm as the preceding three months of Sep, Oct and Nov. There is a chance for some rains in SOCAL during Dec, with possibly a cutoff low delivering some locally heavy rains to Santa Barbara and Ventura Counties, and L.A. County. Despite the December rains in SOCAL, NORCAL (Bay Area and north) remains drier than normal in December per CFSv2.

The most severe issue appears to be the persistent lack of rain during the winter rainy months of Dec, Jan, and Feb. We note that the extremely dry conditions throughout California that develop in late Dec or New Years continue through all of Jan and Feb. The NMME model suggests that February is extremely dry through all of California.

These extremely dry conditions are consistent with the trend we are already seeing in the SSTA pattern that has been shown by the IVTinit maps. With support for cyclogenesis remaining far to the west of California this late summer and fall, the stage is set for an extremely dry winter rainy season. Warm temperatures in Oct, Nov, and Dec often associate with gusty dry Santa Ana winds. This year, with such a hot summer, there is risk that the usual fire season may not end with rains in Nov, but continue on through Feb and into Mar 2021.

#### **Potential Dates of Precipitation (from Fox Weather's CFSDailyAI system):**

The listing of dates for warm and cool spells, and for precipitation are based on our CFSDailyAI system, which presents basic trends in precipitation and temperature to 4km. Our system gives some consideration of terrain and coastal influence. We consider the CFSv2 as one of the better ways to represent basic weather down in the sub-monthly time scale beyond the 15 day GFS.

#### **Salinas Valley-San Luis Obispo Co:**

Salinas Valley - Hot spells: 9/8-13, 9/18-21.

San Luis Obispo/Edna - Hot spells: 9/8-13, 9/18-21.

#### **Southern California Citrus/Avocado Area, San Luis Obispo Co to San Diego Co:**

Santa Barbara, Ventura to San Diego Co: Hot spells: 9/8-13, 9/18-21.

Orange/San Diego Co's: Hot/spells: 9/8-13, 9/18-21. Watch for highs in the 105-110 range inland valleys, and 102-106 Escondido.

**Summary – September 1-21...** San Luis Obispo Co.... Usual pattern of marine low clouds. Rainfall: None of consequence in Sept. Hot spells: Hot spells: 9/8-13, 9/18-21.

Southern California for Sept 1-21: Santa Barbara, Ventura Co's to San Diego Co: Rain unlikely. Hot periods: 9/8-13, 9/18-21. Watch for highs in the 105-110 range inland valleys, and 102-106 Escondido and around 100 Orange Co foothills, 105-108 Chino.

**Seasonal Outlook** - The long range outlook for Oct 2020 – Feb 2021 was briefly discussed at the beginning of this report.

Alan Fox...Fox Weather, LLC

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