

A TRUSTED RESOURCE

ABC is a trusted resource for data and industry expertise, providing stakeholders with valuable information on matters impacting the entire California almond industry.

As a Federal Marketing Order, ABC is precluded from any lobbying or advocacy activities meant to influence legislation or specific policies. However, USDA/AMS does not restrict ABC's ability to pursue many opportunities to share its expertise and fact-based information with government and other stakeholders.

In other words, ABC can educate but not advocate.

To further engage on legislation or policy-related matters, ABC staff provide consulting expertise to the Almond Alliance of California, supplying valuable input in support of the Alliance's efforts to ensure the California almond industry has "a seat at the table" with legislators and policy-makers.

TRADE AND TARIFFS

- Almost 70% of California almonds are exported to 100 countries, so unimpeded market access is critical.
- Almonds are the No. 2 ag export to the EU (\$1.8 billion) and the No. 1 ag export to India (\$732 million), accounting for 40% of all U.S. ag exports to India.
- ABC is closely following trade negotiations with the UK and EU related to tariffs and sanitary/phytosanitary requirements.
- Recent global trade tensions have resulted in higher tariffs in key export markets, particularly in China where the tariff increased from 10% in 2018 to 55% in 2020.
- Efforts continue to encourage Chinese importers to pursue a "tariff exclusion," which allows them to import almonds at 25% vs 55%.
- Conclusion of the U.S. - Japan Phase One Agreement resulted in tariffs on almonds being eliminated.
- Almonds were included in USDA's Market Facilitation Program in 2018 and 2019, enabling eligible growers to receive payments to address trade damage resulting from ongoing retaliatory tariffs in export markets.
- More than \$5 million in market promotion funding was awarded to almonds through the Ag Trade Promotion program to help build demand and offset export losses due to retaliatory tariffs.
- ABC provides fact-based data to U.S. and foreign authorities, addressing almond production practices, trade impacts, technical issues and potential benefits associated with proposed trade agreements.

EXPORTS AND INCREASING TECHNICAL ISSUES

- ABC maintains technical expert advisors in key markets to stay abreast of tariff or technical issues impacting almonds.
- California almonds are the only U.S. commodity recognized under the EU's Pre-Export Certification (PEC) regulation, which specifies < 1% inspection on import.
- ABC continues to work with USDA Foreign Agricultural Service to address Japan's 100% import control of almonds.
- Efforts are underway with USDA and FDA to recognize USDA-approved labs for aflatoxin inspection to streamline import/reconditioning procedures for returning consignments.
- Use of pesticides is under increased scrutiny in international markets. Research is being conducted to support science-based standards and Maximum Residue Limits at a global level.
- Technical Barriers to Trade are becoming more common, ranging from labeling to certification requirements, which impact almond shipments.
- ABC helped shippers to Algeria ensure consignments were admitted after the government's sudden decision to ban imports.
- ABC initiated engagement with authorities in India to address recently notified almond grade standards, bulk labeling and revised certificate of origin policies.
- Over the last two years, ABC has provided more than 25 comments to EU, U.S. and global authorities that demonstrate the almond industry's responsible use of chemical tools.

SUSTAINABILITY AND THE SUPPLY CHAIN

- ABC's California Almond Sustainability Program (CASP) launched in 2009 and consists of nine modules that help growers assess and continuously improve their practices.
- Participation among almond growers has grown; about 27% of almond orchard acreage has been assessed.¹
- A nitrogen budgeting tool available via CASP calculates nitrogen budgets based on orchard needs and provides reports that help growers meet Irrigated Lands Regulatory Program requirements.
- A supply chain program launched in 2019 allows growers to share aggregated data with their handlers. Handlers can use this information to build confidence and trust with customers and consumers.
- CASP is benchmarked with the Sustainable Ag Initiative's (SAI) Farm Sustainability Assessment 2.1 (FSA) international sustainability program, allowing almond-relevant practices, along with federal and state regulations, to be equated with relevant global sustainability standards.
- Of those orchards with sufficiently completed CASP self-assessments, 59% were equivalent to a "Silver" or higher performance level as benchmarked to the SAI-FSA 2.1 program.²

Some of California's Greenhouse Gas funds are used in the Healthy Soils Program to incentivize practices in almonds, such as cover crops and pollinator hedgerows.

1. CASP, Oct. 2020.
2. CASP, Oct. 2020.

POLLINATOR HEALTH

- Almond pollination utilizes more than two-thirds of U.S. honey bee hives; pollination services provided about 50% of beekeeper income.¹
- Beehives brought in to pollinate almonds consistently leave almond orchards stronger than when they arrived. Almond pollen is nutritious for bees and is their first natural food source of the year.²
- ABC's Honey Bee Best Management Practices, developed with key stakeholders, identify ways to protect both honey bee and native pollinator health during almond bloom and throughout the year.³
- Pollinator Partnership's 2020 Bee Friendly Farming program for almonds improves habitat for all pollinators, using CASP to identify growers who meet the criteria.
- ABC's five-point Pollinator Protection Plan is a collection of initiatives aimed at protecting bees during almond bloom and year-round.
- The number of U.S. honey bee hives has been relatively stable over the last 20 years, largely because of increased efforts by beekeepers to overcome significant overwintering and in-season losses.⁴
- Research and outreach are ongoing to improve habitat for all pollinators via cover crops, hedgerows, and other methods.

1. USDA-ERS. Land Use, Land Cover and Pollinator Health: A Review and Trend UC-Davis: 2019. https://aic.ucdavis.edu/wp-content/uploads/2019/02/HONEY-COMLETE-DRAFT_FEBRUARY-11-2019.pdf.
2. Ramesh Sagili. Department of Horticulture. Oregon State University.
3. CA Department of Pesticide Regulation.
4. USDA-NASS. Honey Production Report. 1996-2020.

KEY ISSUES & FAST FACTS 2021

ALMONDS play a significant role in the overall health and well-being of our communities, consumers, the environment and our economy. With more than 1 million bearing acres statewide, the California almond industry recognizes its role as a leader in California agriculture and global almond production, aiming to make life better by what we grow and how we grow.

California almonds are ...

- No. 1 U.S. specialty crop export
- California's No. 1 ag export with a value of over \$4.5 billion in 2018
- California's second-largest commodity with a 2019 farmgate value of \$6.1 billion
- More than 80% of global production
- Shipped to more than 100 countries
- Creating more than 104,000 California jobs
- 91% family farms
- The No. 1 nut in global new product introductions since 2007

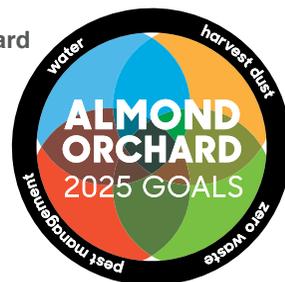
For additional information on key issues impacting the California almond industry, please contact regulatoryissues@almondboard.com

ALMOND ORCHARD 2025 GOALS

Almond growers have been on a journey of continuous improvement for many years by funding research that seeks ways to responsibly grow more almonds to meet global demand. In 2019, the Almond Board of California's Board of Directors prioritized industry resources in four key areas that will ensure almonds remain an economically, environmentally and socially responsible crop for California. The Almond Orchard 2025 Goals serve as a guidepost for the industry, strategically focusing research, education and outreach initiatives to enable the almond industry to meet the challenges facing agriculture.

The Almond Orchard 2025 Goals focus on the following commitments:

- Reduce the amount of water used to grow a pound of almonds by 20%.
- Reduce dust during almond harvest by 50%.
- Increase adoption of environmentally friendly pest management tools by 25%.
- Achieve zero waste in our orchards by putting everything we grow to optimal use.



WATER USE

- 79% of almond orchards use efficient micro-irrigation,¹ far above the 42% average for California agriculture.²
- Water-saving technologies and increased yields have helped growers reduce the amount of water it takes to grow a pound of almonds by 33% between 1994 and 2014.³
- 87% of almond growers schedule irrigation based on tree and soil need, and/or weather conditions, instead of a predetermined schedule.⁴
- ABC has funded 210 water research projects since 1982.
- ABC partners with researchers, growers and NGOs to demonstrate how groundwater recharge can be a policy priority to help sustainably manage California's vital water resources.
- University of California research determined nitrogen use efficiency (NUE) for almonds is 70-85%, one of the most efficient crops.⁵ Typical NUE in other crops is 50% or less.
- The Almond Irrigation Improvement Continuum, launched in 2017 and based on ABC research and expert advice, is a mechanism for growers to improve water use efficiency.

Grower adoption of irrigation best practices is supported by California and federal incentive programs.

1. CASP. Aug. 2019.
2. California DWR. California Water Plan Update 2013: Volume 3, Chapter 2.
3. University of California. UC Drought Management. Feb. 2010. UN FAO. FAO Irrigation and Drainage Paper 66 – Crop yield in response to water. 2012. ABC Almond Almanac 1990-94, 2000-14.
4. CASP. Aug. 2019.
5. Muhammad, et. al. Seasonal changes in nutrient content and concentrations in a mature deciduous tree species: Studies in almond. European Journal of Agronomy. 2015.

DUST/AIR QUALITY

- ABC's Managing Dust at Harvest toolkit provides growers with tips and techniques to reduce dust, such as setting sweeper heads correctly, reducing the number of sweeper passes, etc. The practices are based on ABC-funded research that addresses air quality and dust reduction.
- Research shows that new harvesting equipment and technologies may further reduce PM2.5 and PM10 dust emissions by more than 50%.
- Growers and almond industry members are exploring new off-ground harvest techniques that involve catching nuts before they reach the ground, further reducing dust at harvest.
- ABC-funded research is focused on potential economic and environmental benefits of off-ground harvesting as well as addressing hurdles to adoption, including orchard configuration, drying processes, technology and equipment changes.

ABC has assisted in securing incentive funds through the Natural Resources Conservation Service and local air districts to assist almond growers in transitioning to low-dust harvester equipment.¹

1. William B. Faulkner (2013) Harvesting equipment to reduce particulate matter omissions from almond harvest, Journal of the Air & Waste Management Assn.

PEST MANAGEMENT

- Successful pest management contributes to wholesome nuts as well as ensuring that water and other inputs are efficiently used.
- ABC has funded pest management research since 1973, providing almond growers with science-based, Integrated Pest Management (IPM) solutions for many pest problems.
- Most almond growers utilize IPM in their orchards. IPM emphasizes the balanced use of nonchemical and chemical tactics to manage pests effectively and safely.¹
- Recent IPM solutions developed with the support of ABC funding include pheromone-based mating disruption for key insect pests, assessing the value of cover crops for weed management and soil health.
- The California almond industry has been recognized for its success in adopting IPM strategies and for reducing unnecessary uses of pesticides.
- ABC is engaging with registrants, industry and government authorities to encourage a risk-based, harmonized approach to setting and evaluating pesticide Maximum Residue Limits (MRLs). Strict MRLs in export markets can result in trade disruption.
- Growers report a more than 58% increase in the use of recommended pest management practices.²

NRCS offers cost-share grants for certain IPM practices, including mating disruption and orchard sanitation for Navel Orangeworm management.

1. CASP. Aug. 2019.
2. CASP. Aug. 2019.

ZERO WASTE

- Almonds grow in a shell, protected by a hull, on a tree. Research is identifying value-added benefits for this natural biomass – shells, hulls, tree – produced in addition to the nut itself.
- Whole Orchard Recycling involves grinding up orchards at the end of their productive lives and incorporating the woody biomass into the soil. ABC-funded research indicates that over time this practice may increase yields, return nutrients to the soil, increase water infiltration and storage,¹ and store carbon in the soil, slowing greenhouse gas emissions.²
- Biosolarization (incorporating hulls and shells into the soil and saturating tarp-covered soil with water) creates soil conditions such as lack of oxygen and natural organic acids that are inhospitable to key soil pests.
- Research is exploring extracting sugars from almond hulls to serve as fuel or a food ingredient. The sugar content in almond hulls is comparable to sugar beets.
- A process called torrefaction transforms almond shells into a charcoal-like product ideal for strengthening recycled plastics such as tires, flowerpots, garbage cans and more.
- ABC is working with USDA on China market access for pelletized almond hulls. Other global markets are also being explored.

In the San Joaquin Valley, a pilot program is incentivizing adoption of Whole Orchard Recycling. CDFA and NRCS also have incentives for this practice.

1. 16-PREC3-Holtz. Almond Orchard Recycling.
2. Alissa Kendall, et al. Lifecycle-based Assessment of Energy Use and Greenhouse Gas Emissions in Almond Production, Part 1: Analytical Framework and Baseline Results. Journal of Industrial Ecology. 2015.