



2017

THE ALMOND CONFERENCE

STATE OF THE INDUSTRY

Hall C | December 5 2017



AGENDA

- **Richard Waycott**, President and CEO, Almond Board of California
- **Mike Mason** Chairman, ABC Board of Directors



Metal Sponsors



The image shows a wide view of an orchard with trees in full bloom, their branches covered in light pink or white blossoms. In the foreground, a row of white plastic crates sits on a dirt path. The background features rolling hills under a clear, light blue sky. A large, semi-transparent orange rectangular box is centered over the image, containing the text 'UNLEASHING ORCHARD POTENTIAL' in white, bold, sans-serif capital letters. The text is framed by a thin white border.

UNLEASHING ORCHARD POTENTIAL

1st YEAR OF THE ASSESSMENT INCREASE

On April 12, 2016 the ABC Board of Directors passed the following motion:

MOTION: Based on recommendations from the Board's Strategic Retreat, ABC Committees and Board Taskforces, the Proposed FY 2016/17 expenses are approved, funded by an assessment of \$0.04 effective August 1, 2016 until July 31, 2019 after which the assessment will return to \$0.03.

GUIDING PRINCIPLES

1. **Creating demand ahead of increased supply**
2. **Accelerated Ag Innovation**
3. **Transforming consumer landscape**





vs.

sears®



vs.



MOTOROLA

NETFLIX

vs.



vs.



LEADING INTO CHANGE



**YEAR 1
ACCOMPLISHMENTS**

CROP OF CHOICE

1. Launched the **ABC Water Management Efficiency program**
2. Expanded **ground water recharge** research
3. Expanded **salinity tolerance** research
4. Supported **dust emission** studies
5. Initiated joint studies with the Australian almond industry for the “orchard of the future”
6. New **precision irrigation management** approaches
7. Plots documenting the **value variable rate irrigation zones**
8. Investigating **soil quality** when including orchard recycling and cover crops
9. Enhancements to **CASP modules** and new pollinator module.

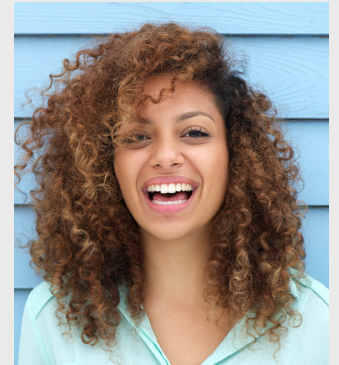


NUT OF CHOICE:

DRIVING EXPANSION INTO NEW MARKETS AND OPPORTUNITIES

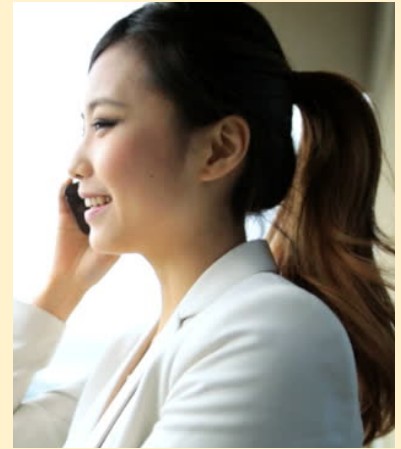


**South
America**

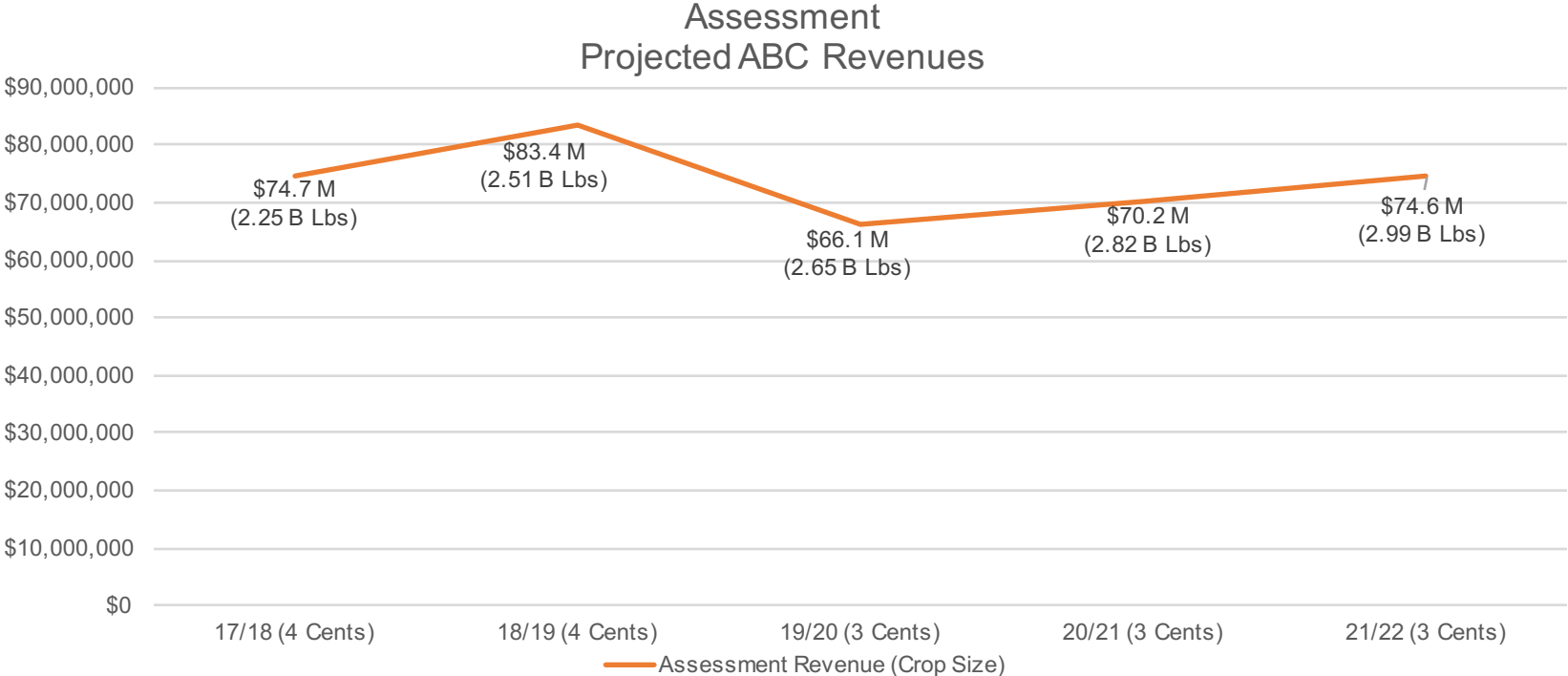


NUT OF CHOICE:

INCREASING INVESTMENT IN CURRENT MARKETS

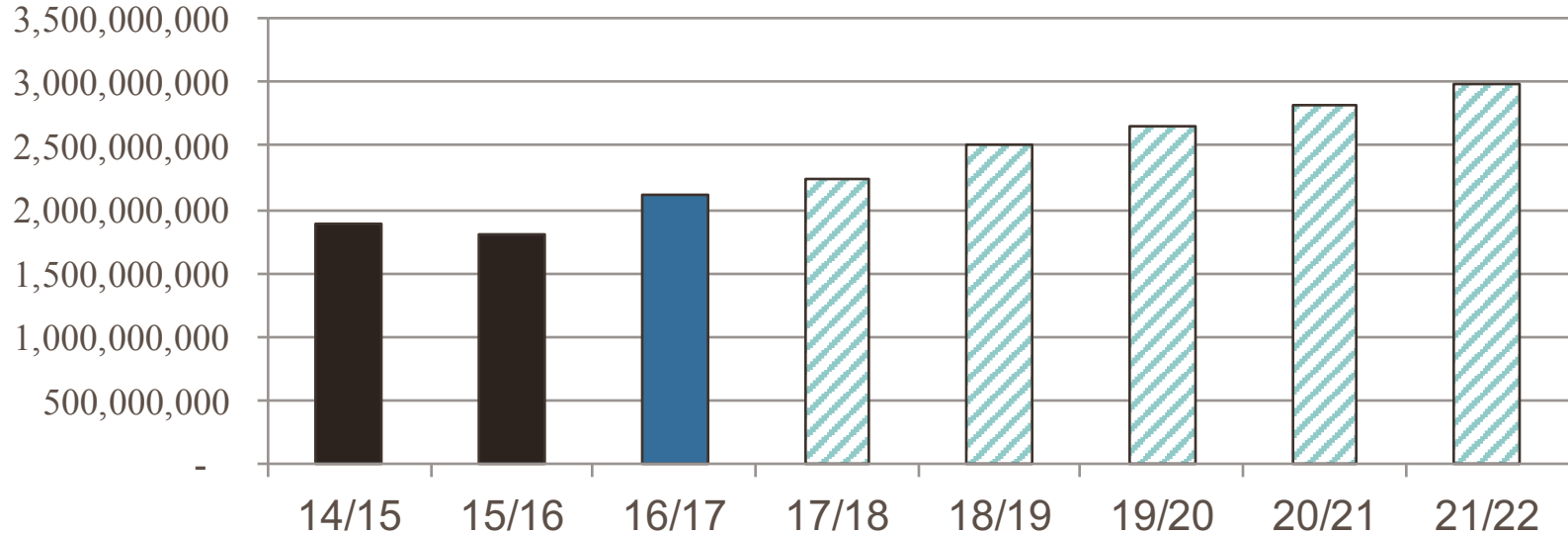


ASSESSMENT INCREASE SUNSET



PRODUCTION OUTLOOK

California Almond Production
FY2014/2015 – FY2021/2022 Actual/Projections (Pounds)



30% increase over five years



**OUR ORCHARDS
PRODUCE 4 PRODUCTS**

PRIMARILY SINGULAR MARKETS FOR CO-PRODUCTS

HULLS



SHELLS



WOOD





**Co-product pricing
driven by supply, not demand**

CO-PRODUCT RESEARCH SMALL PERCENTAGE OF TOTAL

- Minimal co-product utilization research - countered by increasing production costs and the advent of Sustainable Groundwater Management Act (SGMA)
- Need to create more value in co-product utilization to help offset increasing production costs and SGMA





ORCHARD PROFITABILITY



SGM Sustainable Groundwater Management

CO-PRODUCT VALUES

HULLS

\$65/ton
to
\$300/ton



\$500 Million gain

SHELLS

\$5/ton
to
\$50/ton



\$35 Million gain

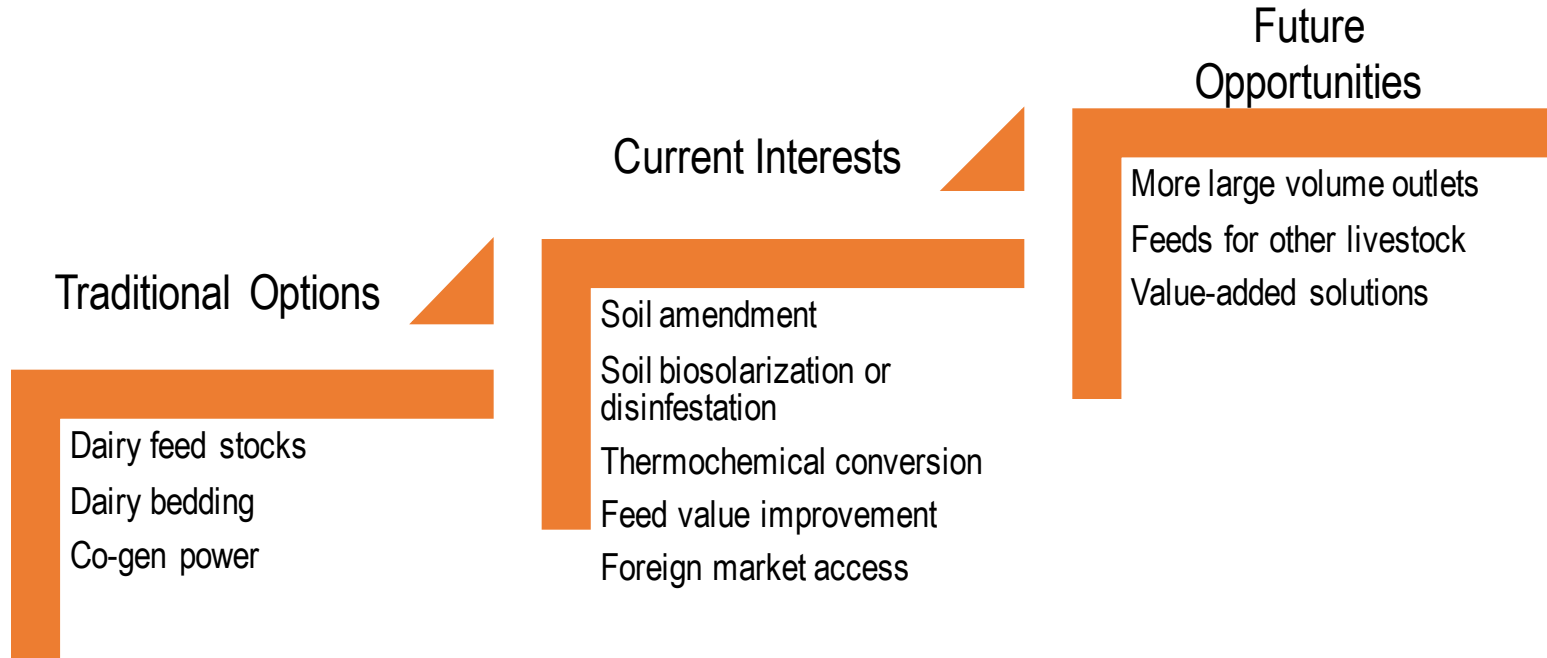
WOOD

Disposal \$35/ton
to
Revenue \$50/ton



\$65 Million gain

Realization of Almond Co-product Full Values





Almond Hulls Are Good for More Than Just Animals

What Are in Hulls:

- More than 60% water extractives of bone dry mass
- More than 30% extractable sugars
- More than 20% fibers
- Rich in phytochemicals
- High in minerals

Ongoing Research

- Fly feeding to convert sugars into high protein feed
- Soil biosolarization for disinfestation and amendment

Future Strategy

- Feed value improvement and formulations for other livestock
- Extracted sugars for sweeteners, fermentation, beverages, bioenergy, etc.; spent hulls for bioenergy, growing media, etc.
- Biochemicals, bioplastics, pharmaceuticals, additives, etc.
- Food grade ingredients



Almond Shells Can Add Value Too!

What Are in Shells:

- More than 10% water extractives of bone dry mass
- More than 60% fibers
- Similar heat value as other woody materials
- High in minerals

Ongoing Research

- Torrefied shells to strengthen recycled plastics
- Hydrochar of shells

Future Strategy

- Torrefied shells for plastics, tires, irrigation dripping tubes, etc.
- Cellulosic nanofibers and cellulosic nanocrystals
- Bioenergy, biochar, and biopesticides from thermochemical conversion
- Biochemicals, absorbents, soil amendments, etc.



Almond Tree Woods Don't Need to be Burned!

What is in Tree Wood Chips:

- Similar composition to other wood materials in volatile matter, fixed carbon, and heat value levels
- Low in bark percentage
- Proved value in soil amendment

Ongoing Research

- Whole orchard wood recycling

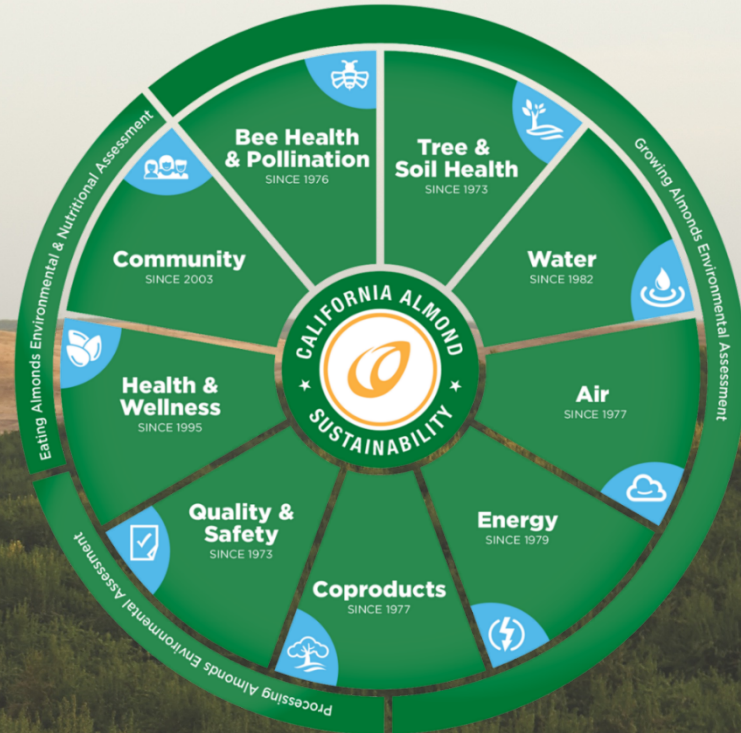
Future Strategy

- Orchard recycling for soil amendment
- Torrefied tree wood chips
- Bioenergy, biochar, and biopesticides from thermochemical conversion
- Cellulosic nanofibers and cellulosic nanocrystals
- Paper pulping application
- Particle boards, briquette, etc.

Unleashing Growing Potential

It's not just co-products...

Unleashing orchard potential is systemic; water, bees and pollination, pesticides, harvesting – increased industry focus and goal setting



A hand holding a glowing lightbulb against a sunset background. The lightbulb is the central focus, with its filament visible. The background is a soft gradient of orange and red, suggesting a sunset or sunrise. The hand is positioned at the bottom, holding the base of the bulb. The entire scene is framed by a white border.

WE WILL USE
UNIQUE ALLIANCES



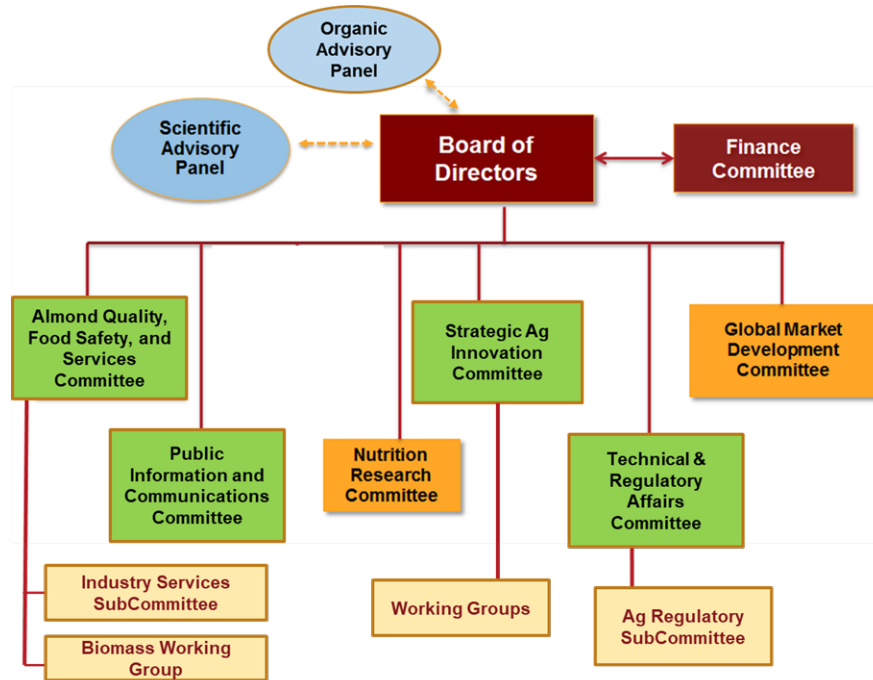
GLOBAL MARKET DEVELOPMENT OPPORTUNITY

Good for YOU + Good for THE PLANET



VISION, FUNDING AND RESOURCES

ADAPTING ABC STRUCTURE FOR SUCCESS



Working Groups consist of:

- Sustainability/CASP Working Group
- Pest Management Working Group
- Orchard, Tree, Rootstock Working Group
- Irrigation & Nutrients, Soil Health Working Group
- Harvesting Working Group
- Pollination & Bee Health Working Group
- Biomass Working Group

State of Industry VIDEO

A landscape photograph featuring rolling hills under a hazy sky. In the foreground, a dirt road curves through a field of dense green bushes. The hills in the background are covered in dry, golden-brown grass. The word "QUESTIONS?" is overlaid in large, white, sans-serif capital letters across the center of the image.

QUESTIONS?

**Reserve your seats for
lunches and Gala upstairs
if you pre-purchased meal
tickets.**



CEUs – New Process

Certified Crop Advisor (CCA)

- Sign in and out of each session you attend.
- Pickup verification sheet at conclusion of each session.
- *Sign in sheets are located at the back of each session room.*

Pest Control Advisor (PCA), Qualified Applicator (QA), Private Applicator (PA)

- Pickup scantron at the start of the day at first session you attend; complete form.
- Sign in and out of each session you attend.
- Pickup verification sheet at conclusion of each session.
- Turn in your scantron at the end of the day at the last session you attend.

Sign in sheets and verification sheets are located at the back of each session room.

100 GOLDEN TICKETS WILL BE SOLD

★ ★ **GOLD TICKET** ★ ★

Throughout the conference 100 golden tickets will be sold. One lucky person will win and get their choice of one item from the live auction.

MUST BE PRESENT AT THE GALA DINNER TO WIN.

Visit the FFA silent auction booth to purchase a golden ticket and learn more!

The golden ticket winner will be drawn prior to the live auction.





General Session

Wednesday at 8:00 a.m.

Hall C



Sonny Perdue, USDA



Purdue Almond Video

Opening Reception Sponsor

