THE CALIFORNIA ALMOND SUSTAINABILITY PROGRAM (CASP) AND IRRIGATION IMPROVEMENT CONTINUUM – WHY IT’S RELEVANT TO YOU!

Room 308-309 | December 6 2017
CEUs – New Process

Certified Crop Advisor (CCA)
• Sign in and out of each session you attend.
• Pickup verification sheet at conclusion of each session.
• Repeat this process for each session, and each day you wish to receive credits

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.
AGENDA

• Gabriele Ludwig, Almond Board of California, moderator
• Spencer Cooper, Almond Board of California
• Mel Machado, Blue Diamond Growers
• Julie Adams, Almond Board of California
HOW CASP CAN HELP YOU TELL YOUR STORY!

Spencer Cooper, Almond Board of California
“Sustainable almond farming utilizes production practices that are economically viable and are based upon scientific research, common sense and a respect for the environment, neighbors and employees.”
ABC BOD Adopts Definition of Sustainability

2005

1st Two Best Practices Assessment Modules

Launch of Online CASP Assessment Platform

1st Almond Sustainability Report

Launch of Online N Budget & Regulatory Reporting Tools

Launch of Online Irrigation Calculator

New Bee Health & Pollination Module

CASP Grower Education and Assessment Workshops

2008

1st Statistical Analysis of Aggregate Data

2011

3 Additional Modules

1st Statistical Analysis of Aggregate Data

2013

3 Additional Modules

2015

Updated & Streamlined Modules

2016

Mobile Optimized Online Experience

2017

2nd Statistical Analysis of Aggregate Data

Supply Chain Engagement Strategy

Software Use and Reporting Enhancements

CASP EVOLUTION TIMELINE: 2005-2017 YTD

Software Use and Reporting Enhancements

CASP Grower Education and Assessment Workshops
CASP IMPLEMENTATION APPROACH FOR CONTINUOUS IMPROVEMENT

Cycle of Continuous Improvement
Data Gathering: Streamlining, New Module, & e-Modules

- **Module Streamlining**
  - Original Eight: Irrigation, Nutrient and Soil, Energy, Air, Pest, Ecosystems, Financial, Workplace and Community (complete)

- **e-Module Software Functionality Released**
  - First e-Module Implemented: Irrigation Continuum & Reporting
  - Second e-Module Coming Soon: Water Quality
TOOL TO ASSIST IN MEETING REGULATORY REQUIREMENTS FOR GROWERS

- Almond N-budgeting tool simplifies ILRP compliance and optimizes N use

![NITROGEN MANAGEMENT PLAN WORKSHEET](image)
e-Module view can be toggled between comprehensive displays of questions or subsets of questions per topic area

Answers are auto-populated for duplicated questions across modules

Report highlights proficiencies within the Continuum categories
TOOLS TO SUPPORT AIM INITIATIVES

• Irrigation calculator and revised irrigation module in support of Irrigation Improvement Continuum
CASP STRATEGIC INDUSTRY POSITIONING

Industry Association

SAI-FSA Meta-Standard

Brand Sourcing Programs
HOW CASP CAN HELP YOU TELL YOUR STORY!

Mel Machado, Blue Diamond Growers
WHY IS IT RELEVANT TO THE GROWER?

Simply stated…. Customers & Consumers Want It!!!

• Consumer Detachment from Food Production
  - Lack of Knowledge Regarding Production Practices
  - Bad Press on Crop Protection Materials, Water, Labor, Bees…
  - Science is “Bad”
  - Belief that “Non-Conventional is Better”

• Consumer Attraction to their Food
  - Values and Expectations
  - Simple Ingredients/Clean Labels
  - Lifestyle
  - Health
  - Authenticity
  - Trust

• “There’s Always a Better Way…”
WHY IS IT RELEVANT TO THE GROWER?

Growers Already Have Most of the Data

- Field, Fertilizer, Irrigation, Pest Management Records Exist
- Much of the information is “Second Nature”
  - Some is “Second Thought”
WHY IS IT RELEVANT TO THE GROWER?

Profitability and the “Right to Farm”

- Re-build Credibility
  - An Inconvenient Truth...
    - People Love Farmers… But They Don’t Like Agriculture
- Build & Strengthen Markets
  - No Cost to Participate
  - Potential Large Cost in an Information Vacuum
- Personal Development
  - Make You a Better Grower
    - Learnings from the Community of Almond Growers
    - Free Resources
    - Regulatory Relief… Nitrogen Budget
HOW CASP CAN HELP YOU TELL YOUR STORY!

Julie Adams,
Vice President, Global Technical & Regulatory Affairs
THINK ABOUT THE HISTORY-MAKING CONVERSATIONS THAT FEATURED ALMONDS....

Sustainable production

$11 Billion to CA Budget

Pesticide residues

“Colony Collapse”

Bee BMPs

2 billion pounds

Aflatoxin rejections

Right to Farm

#1 snack nut

#1 ag crop in California

Healthiest nut

Monoculture

Gallon per kernel

Dust

1 BILLION pounds

Groundwater over-pumping

Recharge

We cannot expect those not involved in almonds to understand our challenges ....
MAINTAINING REPUTATION IN A CHALLENGING FUTURE

• Anticipated production increase by 2020
• Challenges for agricultural resources never higher

But, if we……

• Don’t speak the same language as our customers
• Don’t have the same priorities
• Focus on differences rather than where we are the same…
ABC BOD Adopts
Definition of Sustainability

2005

2008

2009

2011

2012

2013

2014

2015

2016

2017

Software Use and Reporting Enhancements

1st Two Best Practices Assessment Modules
Launch of Online CASP Assessment Platform
1st Almond Sustainability Report
Launch of Online N Budget & Regulatory Reporting Tools
Launch of Online Irrigation Calculator
New Bee Health & Pollination Module
AIM Irrigation Continuum E-Module & Report

Sustainability Program Needs Assessment, Positioning and Strategy
3 Additional Modules
1st Statistical Analysis of Aggregate Data
3 Additional Modules
Updated & Streamlined Modules
Mobile Optimized Online Experience
2nd Statistical Analysis of Aggregate Data

Supply Chain Engagement Strategy

CASP Grower Education and Assessment Workshops
MAKING *OUR STORY* THE REAL BENCHMARK FOR CALIFORNIA ALMONDS

- Media *will* keep almonds high profile
- CASP documents *almond grower* continuous improvement – you are *already doing* what the supply chain wants!
- Global sustainability programs are *generic*; they don’t reflect individual commodities or origins
- Building on *what we already do* avoids creating more work for growers and handlers
- Benchmarking CASP, and the regulatory environment, *is* the common language
Industry Associations

Brand Sourcing Programs

3rd Party Certification Standards
CASP is strategically positioned between Industry Association, Brand Sourcing Programs, SAI/FSA Meta-Standard, and 3rd Party Certification Standards.
WHY BENCHMARK TO THE SUSTAINABLE AG INITIATIVE?

- Mars, Mondelez, M&S, PepsiCo – support improving ag supply chain data with SAI/FSA
- Aligning questionnaires minimizes redundancy, duplication

<table>
<thead>
<tr>
<th>Performance Levels</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronze</td>
<td>Compliance to 100% ‘Essential’ questions and a minimum of 75% ‘Basic’ questions.</td>
</tr>
<tr>
<td>Silver</td>
<td>Compliance to 100% ‘Essential’ questions, 80% ‘Basic’ questions and more than 50% ‘Advanced’ questions.</td>
</tr>
<tr>
<td>Gold</td>
<td>Compliance to 100% ‘Essential’ questions, 100% ‘Basic’ questions and a minimum of 75% ‘Advanced’ questions.</td>
</tr>
<tr>
<td>Not yet Bronze</td>
<td>Indicates that the level of performance does not meet the bronze threshold yet.</td>
</tr>
</tbody>
</table>
**FSA BENCHMARK OF CASP TO GOLD PERFORMANCE LEVEL**

### RESULTS: CASP with California & Federal Legislation

**Based on the MINIMUM Score**

<table>
<thead>
<tr>
<th>Performance level</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Essential</td>
</tr>
<tr>
<td><strong>Scores</strong></td>
<td>100%</td>
</tr>
<tr>
<td>Legal Compliance</td>
<td>No Essential</td>
</tr>
<tr>
<td>Farm Management</td>
<td>No Essential</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td>100%</td>
</tr>
<tr>
<td>Local Community</td>
<td>100%</td>
</tr>
<tr>
<td>Planting</td>
<td>No Essential</td>
</tr>
<tr>
<td>Soil Management</td>
<td>No Essential</td>
</tr>
<tr>
<td>Nutrient Management</td>
<td>No Essential</td>
</tr>
<tr>
<td>Crop Protection</td>
<td>100%</td>
</tr>
<tr>
<td>Agro-chemicals</td>
<td>100%</td>
</tr>
<tr>
<td>Waste Management</td>
<td>No Essential</td>
</tr>
<tr>
<td>Water Management</td>
<td>100%</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>100%</td>
</tr>
<tr>
<td>Greenhouse Gas Emissions</td>
<td>No Essential</td>
</tr>
<tr>
<td>Air</td>
<td>No Essential</td>
</tr>
<tr>
<td>Financial Stability</td>
<td>No Essential</td>
</tr>
<tr>
<td>Market Access</td>
<td>100%</td>
</tr>
<tr>
<td>Labor Conditions</td>
<td>100%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

*Existing almond practices under CASP address most areas identified by SAI/FSA*

*Only 2 programs in the U.S. benchmark GOLD!*
STAYING IN THE LEAD IS THE REAL STORY OF CALIFORNIA ALMONDS

• Sustainability and reputation start in the orchard

• CASP helps growers first, to assess practices and address regulatory requirements

• Benchmarking against generic platforms
  – translates current documented practices into a common language
  – Shows supply chain that our priorities are already aligned

• Customers and consumers can trust our values, and have confidence that almonds are the right Crop for California!

“History will be kind to me for I intend to write it.”
— Winston S. Churchill
What’s Next

Wednesday, December 6 at 11:10 a.m.

- Tools for Better Irrigation – Room 308-309
- Research Update: Growing and Harvesting – Room 312-313
- Sensory and Analytical: Where Science Meets Art – Room 314
- Going Nuts for Beauty: From California to China – Room 306-307
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.