



the Almond
CONFERENCE
2019

**Why Does My Handler
Want Me to Participate in
the California Almond
Sustainability Program?**

 **california
almonds**[®]
Almond Board of California

Session Speakers

Gabriele Ludwig, ABC

Eric Harris, SureHarvest

Ben Goudie, Blue Diamond Growers

Donny Hicks, Hughson Nut

Christine Gemperle, Almond Grower



Why Does My Handler Want Me to Participate in the California Almond Sustainability Program?

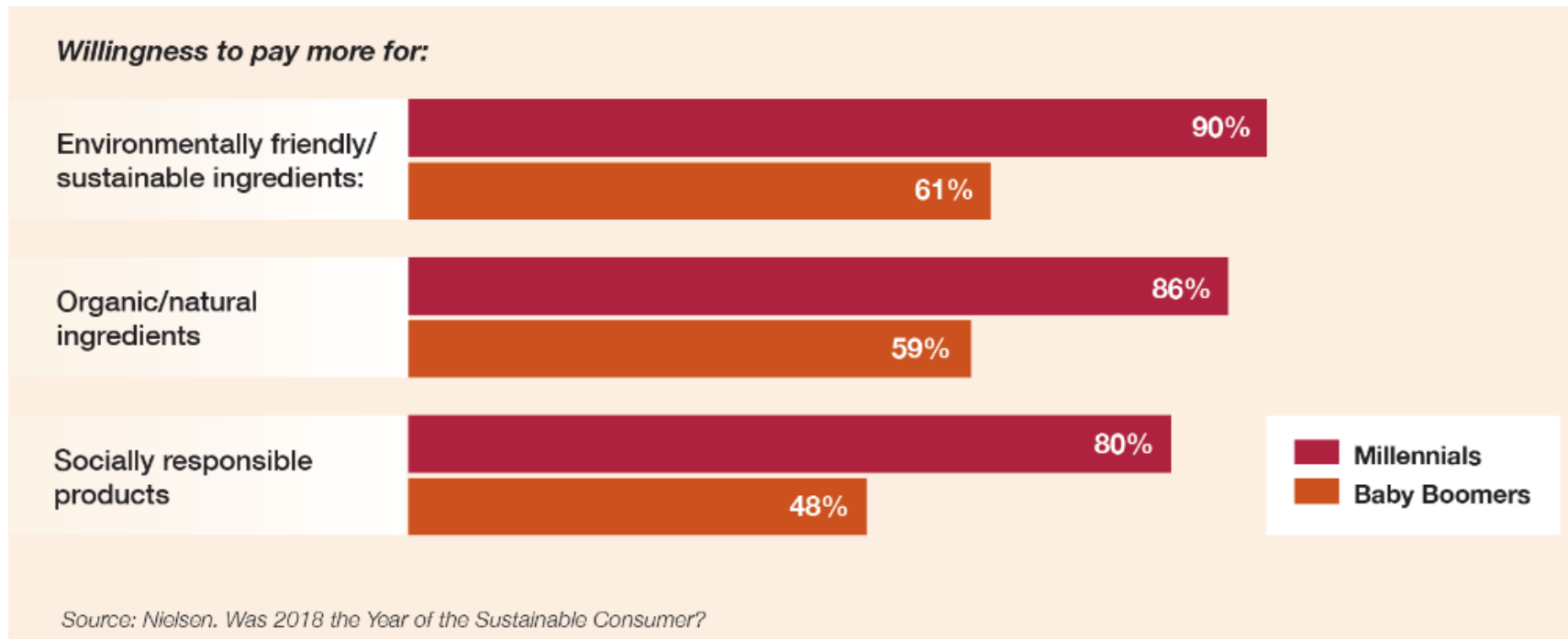
December 10, 2019

Eric Harris, PhD
Senior Director,
Science and Sustainability
SureHarvest



Sustainability Market Demand

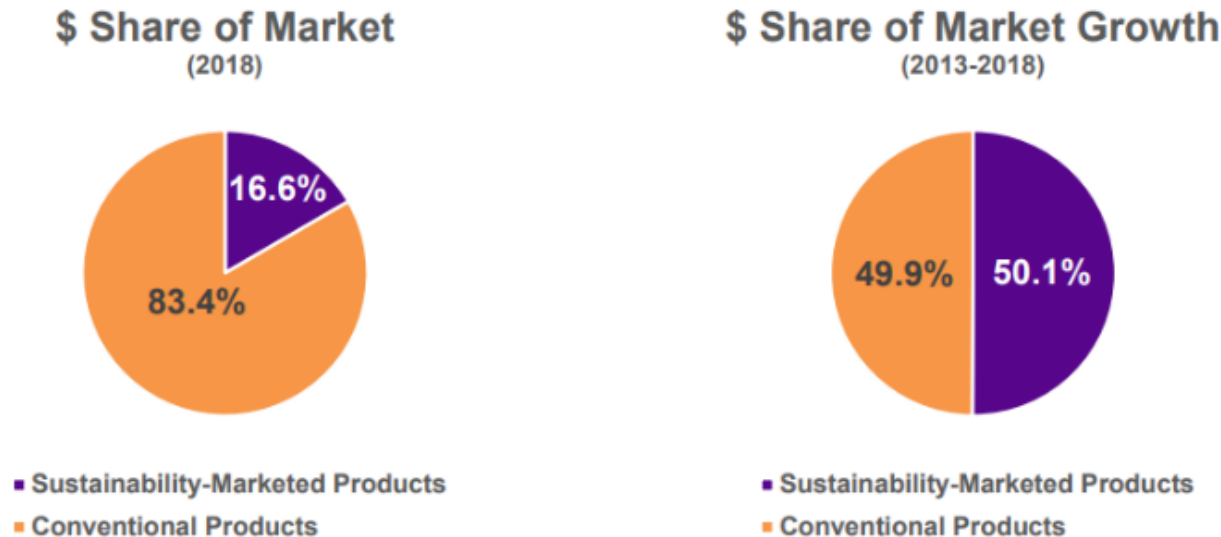
There is an increasing market demand for products defined as “sustainable”



Sustainability Market Demand

There is an increasing market demand for products defined as “sustainable” – *and consumers are buying...*

Despite the fact that Sustainability-Marketed Products are 16% of the market, they delivered more than half of the market growth.

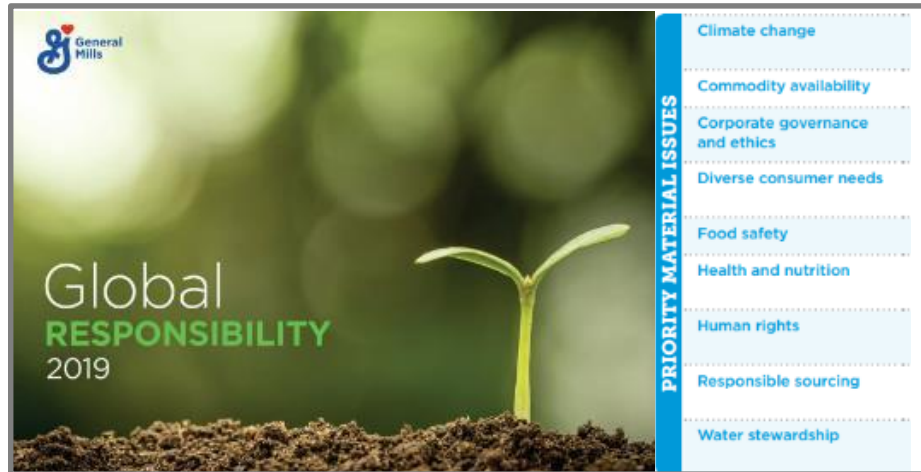


Based on 36 product categories examined

Source: NYU Stern Sustainable Share Index, March 2019.

Sustainability Market Demand

Many consumer-facing brands have sustainability programs that include sustainable sourcing as a focus.

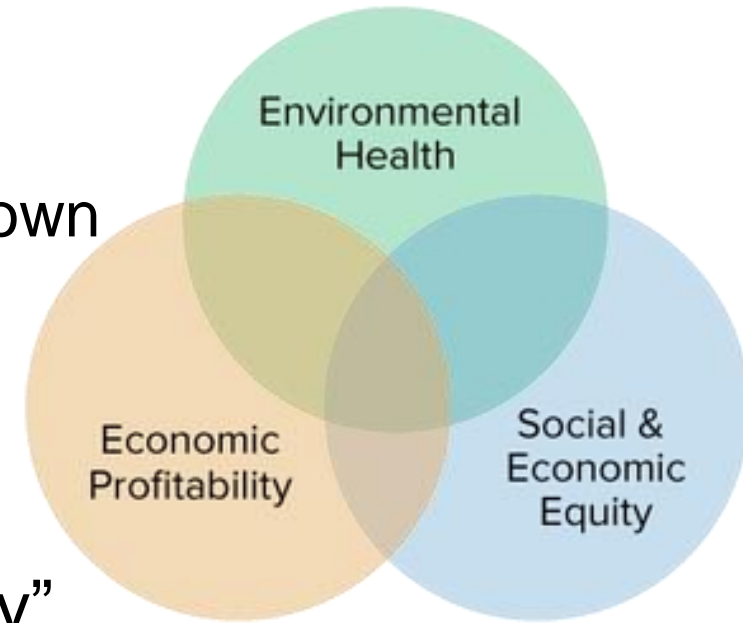


Sustainability Market Demand

The general definition of sustainability is quite broad:

EXAMPLE: “The goal of sustainable agriculture is to meet society’s food and textile needs in the present without compromising the ability of future generations to meet their own needs.”

Source: <https://asi.ucdavis.edu/programs/ucsarep/about/what-is-sustainable-agriculture>



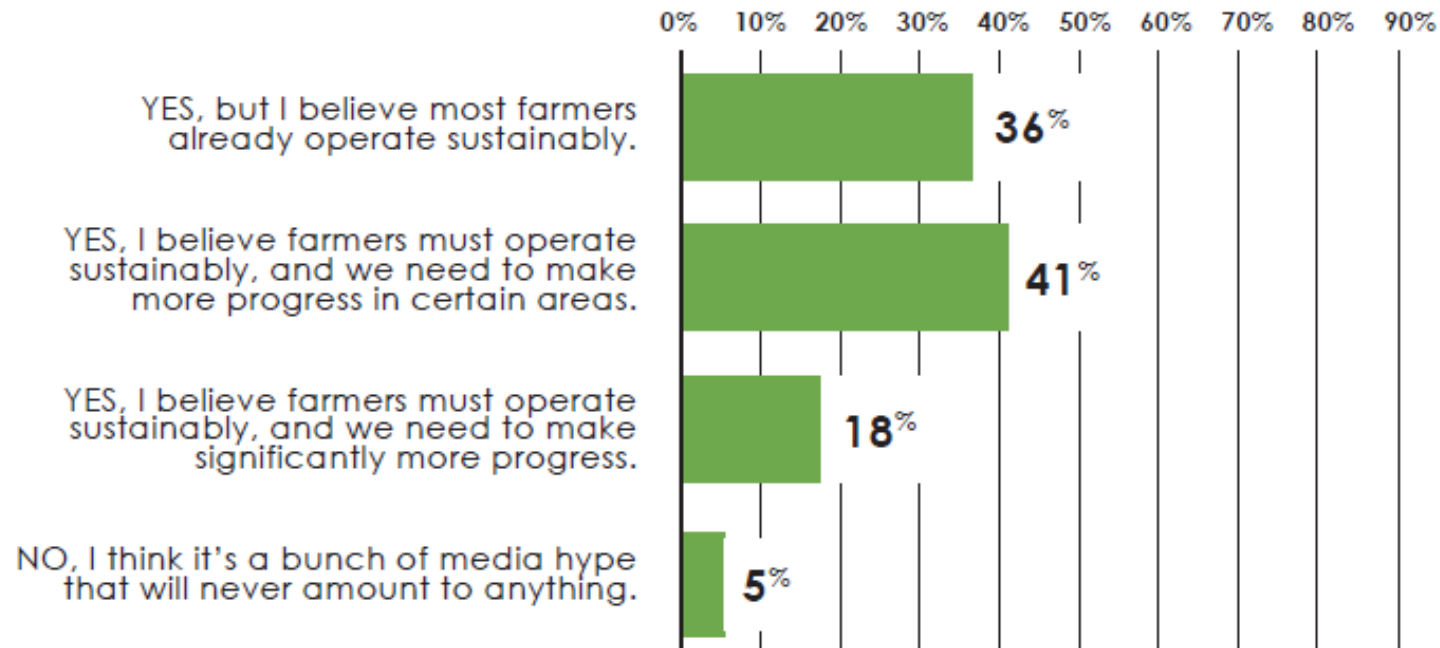
But there are many specific definitions of “sustainability”...

- *Eco-label; Organic; Carbon neutral; Locally sourced,...etc.*

Sustainability Market Demand

There is an opportunity for the supply chain - including growers - to define “sustainability” for their specific context

► Do you believe sustainable farming practices are essential to the future of agriculture?



Source: Trust in Food, Sustainability Research Report 2019

Sustainability Market Demand

There is an opportunity for the supply chain, including growers and their handlers, to define “sustainability” for the almond context

- create a two-way sustainability “dialogue” – rather than only being a one-way demand (e.g., responding only in terms of buyer-specific requests).
- allows growers to highlight the good things that are already being done, and tell their sustainability story

CASP does just that, with 10+ years of industry-representative data

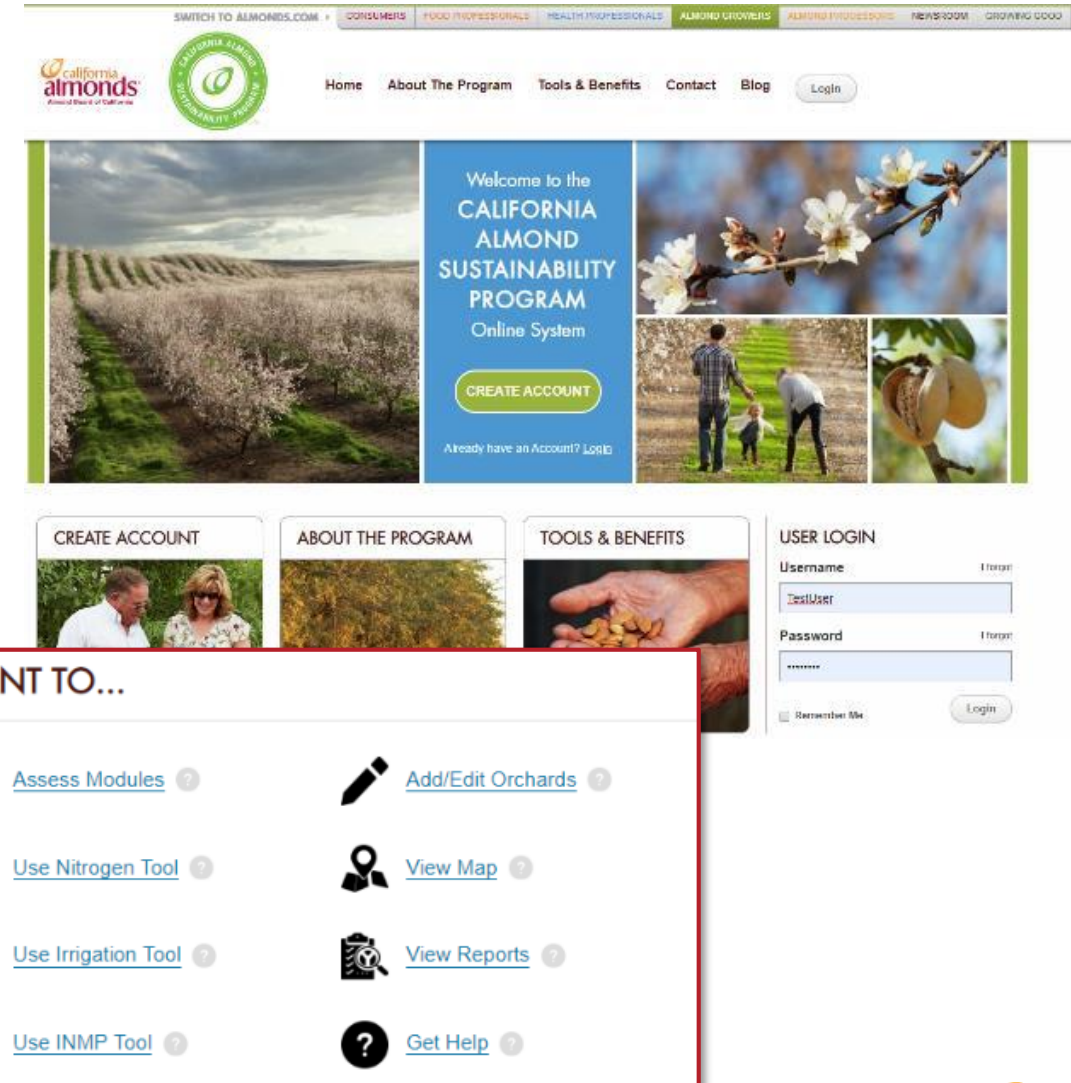
Sustainable almond farming utilizes production practices that are economically viable and are based upon scientific research, common sense and a respect for the environment, neighbors and employees.



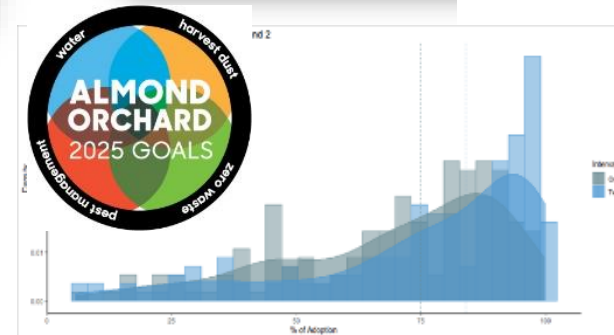
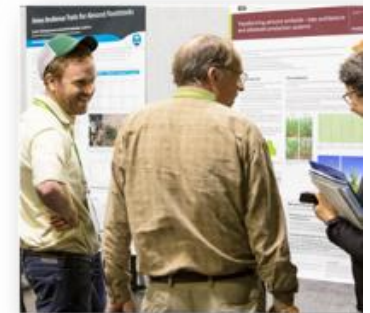
California Almond Sustainability Program (CASP)



- Established in 2009
- Assessment modules
 - Irrigation management; Nutrient management; Air quality; Energy efficiency; Ecosystem; Financial management; Pest management; Workplace and communities; Pollinators
- Tools
 - Nitrogen calculator; Irrigation scheduling; INMP reporting; Mapping



California Almond Sustainability Program (CASP)



California Almond Sustainability Program (CASP)

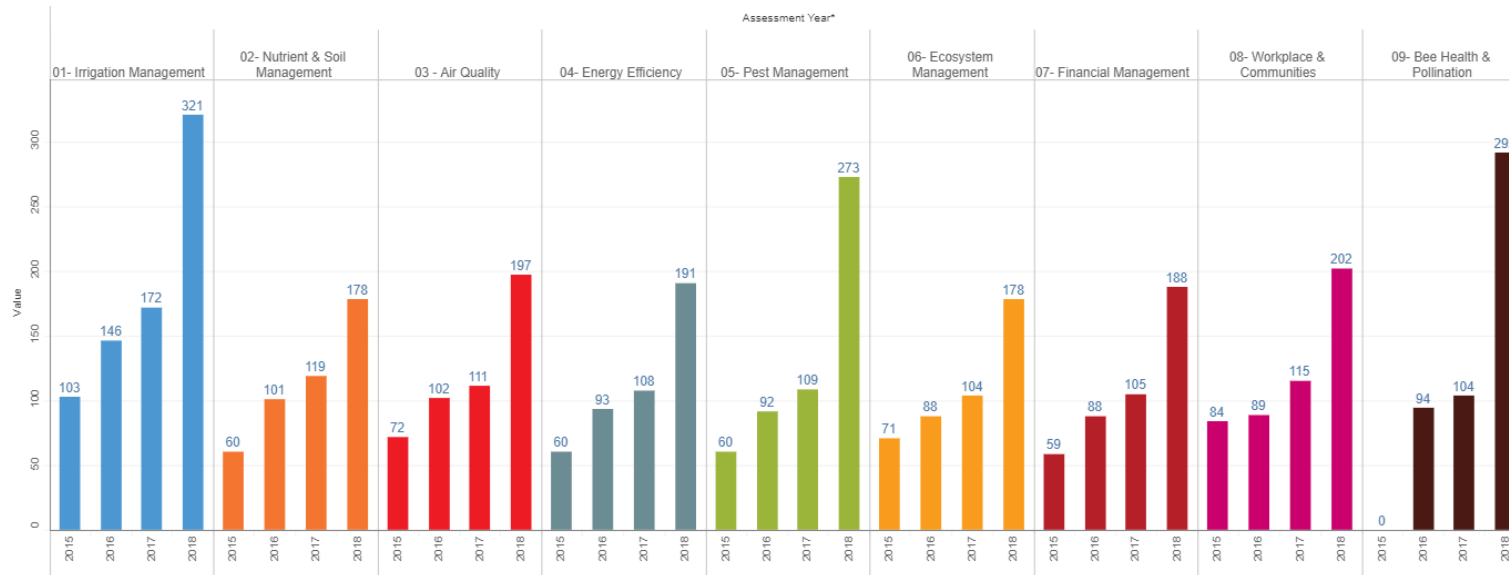


Participation is the cornerstone of CASP and provides the foundation for statistically-valid data about the industry.

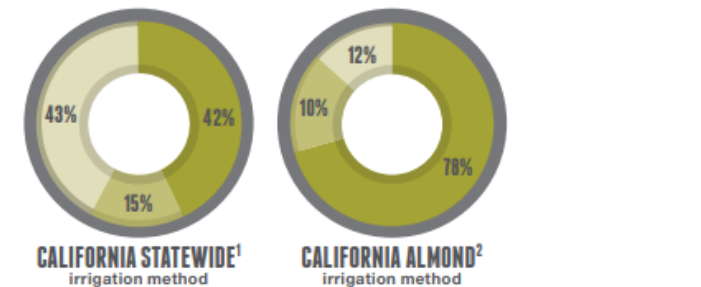
- Over 20% of California almond acreage has been assessed through the CASP program.



Total Orchard Module Responses
updated November 26, 2019

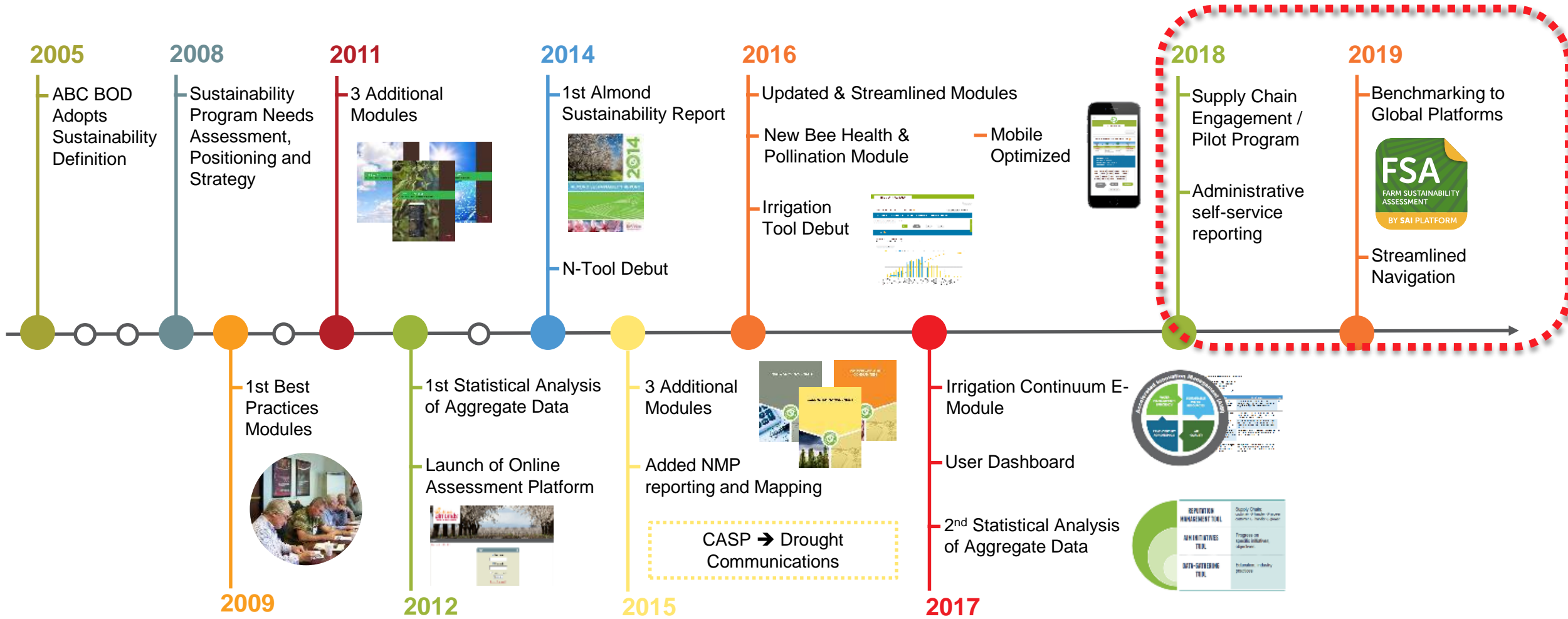


Almond farmers are
AHEAD OF THE CURVE
FOR EFFICIENT IRRIGATION ADOPTION



Source: Growing Good. Almond Sustainability 2017

CASP Timeline and Evolution

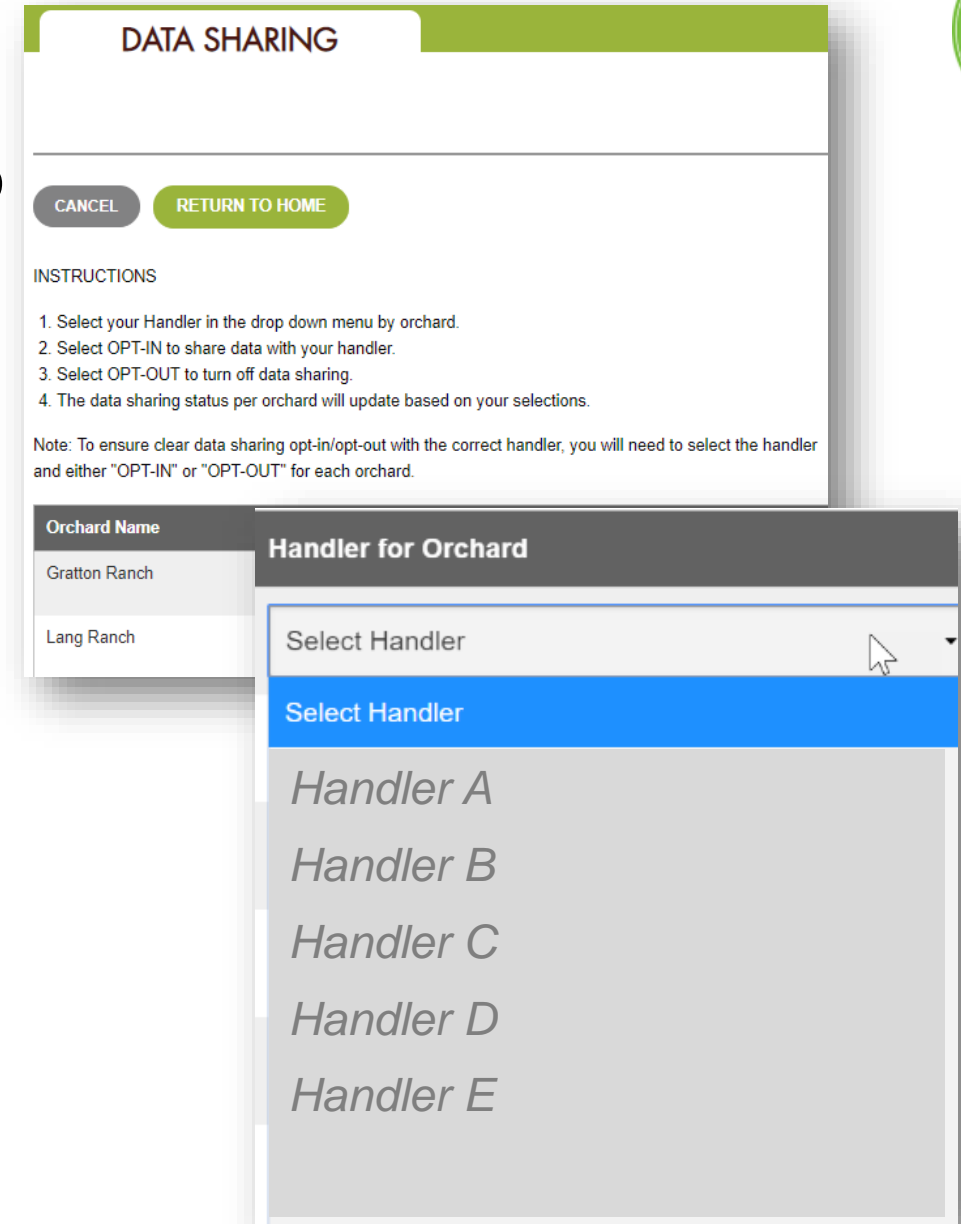


CASP Grower Education and Assessment Workshops

CASP Supply Chain Program

The supply chain program allows growers to anonymously share aggregated CASP self-assessments data with their handlers, who in turn, can share the aggregated self-assessment results with their customers.

- Data Opt-in, Sharing & Aggregation
- Software Automation, Metrics, & Reporting
- Benchmarking
 - Sustainable Ag Initiative (SAI) Platform Farm Sustainability Assessment (FSA) equivalency to CASP



The screenshot displays the 'DATA SHARING' interface. At the top, there are two buttons: 'CANCEL' and 'RETURN TO HOME'. Below these are 'INSTRUCTIONS' and a 'Note'. The main part of the interface is a table with two columns: 'Orchard Name' and 'Handler for Orchard'. The 'Orchard Name' column lists 'Gratton Ranch' and 'Lang Ranch'. The 'Handler for Orchard' column has a dropdown menu open, showing 'Select Handler' at the top, followed by 'Handler A', 'Handler B', 'Handler C', 'Handler D', and 'Handler E'.

DATA SHARING

CANCEL **RETURN TO HOME**

INSTRUCTIONS

1. Select your Handler in the drop down menu by orchard.
2. Select OPT-IN to share data with your handler.
3. Select OPT-OUT to turn off data sharing.
4. The data sharing status per orchard will update based on your selections.

Note: To ensure clear data sharing opt-in/opt-out with the correct handler, you will need to select the handler and either "OPT-IN" or "OPT-OUT" for each orchard.

Orchard Name	Handler for Orchard
Gratton Ranch	Select Handler
Lang Ranch	Select Handler

Handler A
Handler B
Handler C
Handler D
Handler E



Supply Chain Program



Benchmarking against global programs supports the role of CASP in:

- translating almond-specific sustainability to broader initiatives
- streamlining how the industry responds to multiple buyer requests



Thank you!



To get involved in CASP as a grower or handler and for more information on the supply chain – check link below &/or the “ABC Supply Chain Program” poster at conference

SustainableAlmondGrowing.org

Grower Sustainability

Ben Goudie

*Membership Development
Manager*

Blue Diamond Growers



The Great Sustainability Divide

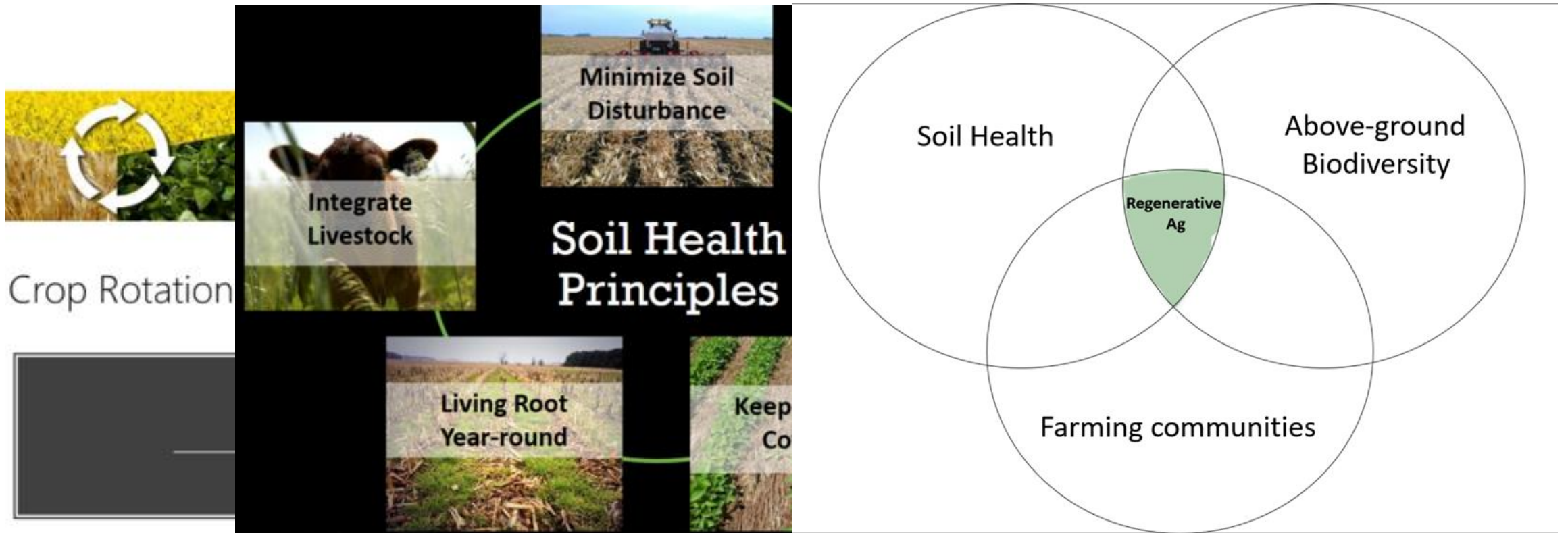
Consumers / Food Manufacturers

- ❖ Requirements for Information
- ❖ Definition of Sustainability
- ❖ Consumer Attitudes
- ❖ Risk Management
- ❖ Transparency
- ❖ Reputation

Growers

- ❖ Resources / Time
- ❖ Handler Will Manage It
- ❖ Data Privacy
- ❖ Attitudes / Viewpoints
- ❖ Compelling Motivation
- ❖ Costs

Defining Almond Sustainability

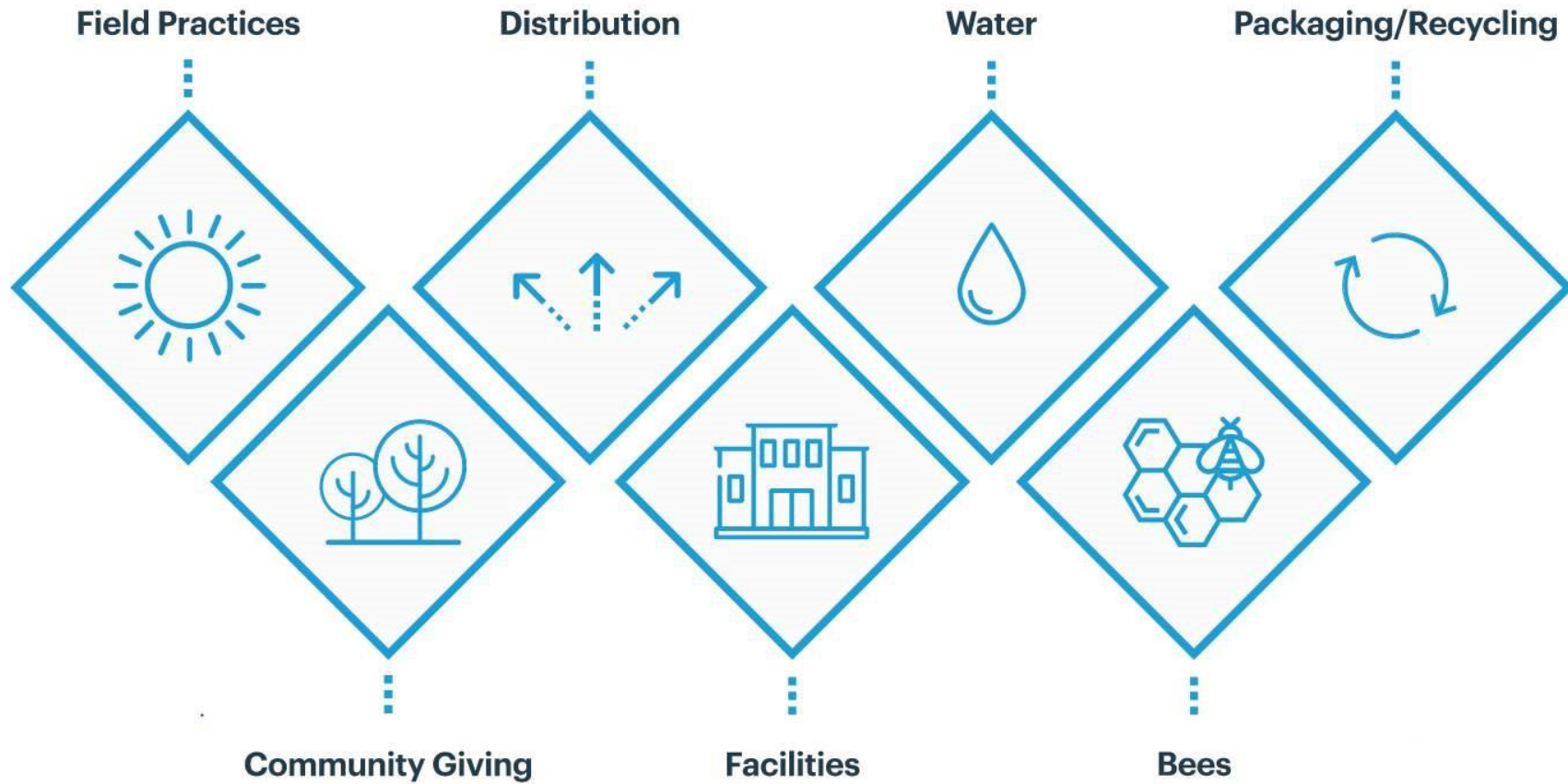


Why is Sustainability Important to Blue Diamond?

- **Blue Diamond Customers Requesting Information**
 - *Responding to requests*
 - *Each buyer has unique interests*
 - *Supporting our Sales & Marketing Teams*
 - *Domestic and International*
- **Transparency**
- **Consumer Marketing Perception**



Corporate Sustainability Categories



Key Customers Require Sustainability Information as Part of a Good Working Partnership

	Survey Required	Key Requirement	Theme
	Yes	Public Greenhouse Gas Reduction Goal	Reduce Greenhouse Gas
	No	Provide Land Stewardship Info	Regenerative Agriculture
	Yes	Biodiversity, GHG, Sustainable Practices Documentation	Full Corporate Sustainability Evaluation
	Yes	Diversity in Supply Chain	Vendor Diversity, such as Women and Veteran Owned Businesses
	No	Satisfy Industry Risk, Water, Labor	Partner with Suppliers for Projects to Use in their Consumer Marketing



Rise to the Challenge

How do we satisfy our customers' requests for information and data, while starting to drive our own narrative?

Step 1: Build the value proposition for grower sustainability involvement

Step 2: Find a way to aggregate our Member's cultural practice data

Step 3: Start to formulate our own unique grower sustainability story

Why CASP for Blue Diamond?



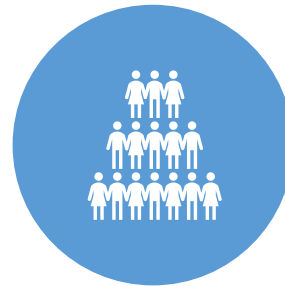
Existing platform – ready to go with new opt-in



Other platforms are much more cumbersome or expensive



A win-win not only for Blue Diamond but for the Almond Board and the industry



Support from the Almond Board



The Cooperative and Grower Value

Mission Statement

The Blue Diamond Sustainability Program enables us to create positive stories backed by credible information to communicate to customers and consumers how our almonds are produced in our fields and our facilities.

Credibility Statement

“As consumer demand for transparency grows, global food manufacturers are looking to their suppliers to establish sustainability programs. Providing this type of information and data can be a prerequisite for doing business and allows us to differentiate our company by shaping the Blue Diamond story for our consumers.”

Key ingredient customers already recognize the value in working with Blue Diamond by contracting with us for their almond requirements, and the investment Blue Diamond and its grower-owners make in developing a sustainability program will enhance our partnerships and allow for premium grower return.”

-Warren Cohen, VP Sales, Blue Diamond Growers

Sustainability Value Proposition

Supplier

Sustainability = Market Access



Global
Ingredients
Division

Consumer Brand

Strong Brand Identity





Moving Ahead With CASP

Utilize Almond Board's
CASP Tool

Primary Modules

Bee Health
Irrigation Management
Pest Management

www.sustainablealmondgrowing.org

DATA SHARING

Take A Tour

CANCEL

RETURN TO HOME

INSTRUCTIONS


1. Select your Handler in the drop down menu by orchard.
2. Select OPT-IN to share data with your handler.
3. Select OPT-OUT to turn off data sharing.
4. The data sharing status per orchard will update based on your selections.

Note: To ensure clear data sharing opt-in/opt-out with the correct handler, you will need to select the handler and either "OPT-IN" or "OPT-OUT" for each orchard.


If you don't see your Handler,
contact support at CASP@sureharvest.com
831-477-7797

Orchard Name	Handler for Orchard	Status	Action
Turlock Site	Select Handler	No Sharing	
Gratton Ranch	Select Handler	No Sharing	

Putting It
All
Together




SUSTAINABILITY



GROWER PROGRAM

DEFINING SUSTAINABILITY

Sustainability is the intersection of economic, social, and environmental elements that address meeting the needs of the present without compromising the ability of future generations to meet their own needs.



COMMUNICATING SUSTAINABILITY

We strive to create a positive Blue Diamond Grower story that highlights what practices growers are doing in the field.

WORKSHOPS

Contact your Regional Manager to learn more about the Grower Sustainability program Joint CASP & Blue Diamond workshops are planned.

Please check the schedule www.bluediamondgrowers.com

Cooperative and Grower Value

Corporate sustainability programs have been proven to drive efficiencies and profitability; address stakeholder demand for information on sustainable practices; strengthen brand loyalty; spur innovation; and reinforce employee engagement.

The Blue Diamond Sustainability Program enables us to create positive stories backed by credible information to communicate to customers and consumers how our almonds are produced in our fields and our facilities.

Sustainability = Market Access

"As consumer demand for transparency grows, global food manufacturers are looking to their suppliers to establish sustainability programs. Providing this type of information and data can be a prerequisite for doing business and allows us to differentiate our company by shaping the Blue Diamond story for our consumers."

Key ingredient customers already recognize the value in working with Blue Diamond by contracting with us for their almond requirements, and the investment Blue Diamond and its grower-owners make in developing a sustainability program will enhance our partnerships and allow for premium grower return."

-Warren Cohen, VP Sales, Blue Diamond Growers

How to Take Leadership






Key customers require sustainability information as part of a good working partnership.

The Almond Board of California's California Almond Sustainability Program (CASP) uses aggregated grower information we can share with our buyers and consumers. We are asking members to complete three modules that cover customers most frequently asked questions.

- Irrigation Management
- Pest Management
- Bee Health

Please visit CASP for more information and to register for an account. Be sure to identify as a Blue Diamond Grower. www.sustainablealmondgrowing.org

Top Customers Who Ask For Sustainability Information



CASP – Preparing For Success



CASP Pre-Work

You will need to bring some information with you when in order to adequately complete your CASP survey. This will significantly speed up your ability to answer each section.

Things to have on-hand when creating a CASP account:

- Assessed Acres
- Water coalition information (optional)
- APN Numbers (optional)
- Orchard name (consistent with other parcels)
- Annual Yield kernel lbs/acre (variety combined average)

Irrigation module

- How much water did you apply last year ([Irrigation Records](#))
If they want help creating an Irrigation schedule, they will need to know the following info
- Tree spacing
- Application rate
- Drip or micro spacing
- Age of orchard
- Rough soil type

Pollination Module

You May want to ask your PCA/CCA these questions prior to this module:

- Pesticides were not used during bloom that had label cautions "highly toxic to bees," "toxic to bees," "residual times" or "extended residual toxicity."
- During bloom, necessary fungicides (or *Bacillus thuringiensis*) were applied in the late afternoon or evening when bees and pollen were not present.
- If effective alternatives existed, broad-spectrum insecticides and acaricides, such as pyrethroids, organophosphates and carbamates, were not used because of their potential negative effects on beneficial and nontarget organisms.
- Prior to applying newly registered pesticides, impacts to bees and natural enemies were checked (using information from labels and other sources such as the UC IPM website), and the product with the fewest precautions and/or shortest residual was considered for use.

Pest Management

You May want to ask your PCA/CCA these questions prior to this module:

- Written or electronic scouting reports were kept by or provided to the farm owner or staff to inform decision making.
- Pesticide application equipment has been calibrated prior to use each year, after every equipment repair or modification, and when other circumstances requiring recalibration occur (e.g., when changes were made in operating pressure, spray pattern, fan speed, tractor type and/or tractor wheels).
- Spring spray timing was based on egg traps and degree-day calculations and/or timed to coincide with peach twig borer treatment.

Hullsplit spray timing was based on the percentage of split hulls.

- Hullsplit spray timing was based on egg traps and degree-day calculations.
- Hullsplit spray timing was based on pheromone trap catches
- What dormant spray material(s) was used last year?
 - None
 - Oil alone
 - Oil & copper
 - Oil & organophosphate
 - Oil & pyrethroid
 - Oil & insect growth regulator (IGR)
 - Other material(s)
- If effective alternatives existed, broad-spectrum insecticides and acaricides, such as pyrethroids, organophosphates and carbamates, were not used because of their potential negative effects on beneficial and nontarget organisms
- In addition to following required practices on product labels, mode-of-action group numbers for insecticides and acaricides (on labels or in UC Pest Management Guidelines) were recorded and used to guide pesticide rotation/resistance decision









Joint CASP Meetings





What Can CASP Do for Blue Diamond?

1. Helps characterize Blue Diamond information vs. overall industry
2. Gives us vital, credible data to create our own sustainability story.

Module	Submodule	Practice	Answer	Statewide	Number of responses for opted in orchards	Response rate for opted in orchards
Pest Management	GENERAL IPM AND PESTICIDE RISK MANAGEMENT - MONITORING AND STRATEGY	022. The orchard was monitored by a licensed PCA for insects, mites, diseases and pest natural enemies (i.e., beneficials) at least once every two weeks during the growing season. (Note: diseases should be monitored weekly during bloom and spring.)	Yes	 95%	97	 99%
Pest Management	GENERAL IPM AND PESTICIDE RISK MANAGEMENT - EFFICACY AND SAFETY OF CONTROL - PESTICIDE APPLICATION EQUIPMENT	029. Pesticide application equipment has been calibrated prior to use each year, after every equipment repair or modification, and when other circumstances requiring recalibration occur (e.g., when changes were made in operating pressure, spray pattern, fan speed, tractor type and/or tractor wheels).	Yes	 84%	91	 99%
Bee Health and Pollination	ALTERNATIVE FORAGE FOR POLLINATORS	46. Vegetation was maintained on or adjacent to the farm or facility that provided pollen and nectar sources for pollinator bees before and/or after almond bloom (includes nutritional ground cover).	Yes	 50%	73	 59%

Be...Do...Say...

Starting to Tell *Our* Sustainability Story



Sustainability Facts

Many Blue Diamond growers are multi-generational farmers with families that are proud of their land stewardship heritage. Our growers employ multiple best practices in their farm management plans to ensure efficient use of environmental resources.



Dedicated Member Relations Team

Growers are able to tap into deep industry knowledge through our Member Relations Team who are regarded as experts in their field, many with decades of experience. The Team provides year-round educational opportunities that leads to production of a higher quality almond in the field which promotes facility efficiencies and yields a greater grower return.

A staff of 10 Regional Managers carries the responsibility of working with the member/growers in their geographic area to provide guidance and assistance on best practices in the areas of:

- ♦ Variety selection
- ♦ Pest management
- ♦ Irrigation and fertility management
- ♦ Crop quality
- ♦ Harvest management
- ♦ Cash flow management
- ♦ Cooperative policy and business issues
- ♦ Legislative and regulatory issues

On top of working with our growers, we have focused sustainability efforts on irrigation management, pest management, and bee health. We use the California Almond Sustainability Program (CASP), led by the Almond Board of California, to collect grower-submitted production practice information and help growers find ways to improve efficiencies, with a goal to inform stakeholders on our growers' sustainability efforts.



♦ Bee Health

We've initiated a partnership with Project Apis m (PAm), an organization that supports honey bee health and conservation efforts through research and outreach. We work with PAm to educate our growers about best practices for bee health and as well as implementing specific projects including Water for Bees and Seeds for Bees to ensure bees have access to clean water and nutrition beyond the bloom lifecycle.



♦ Water

77% of California almond growers use micro-irrigation and demand-based irrigation scheduling. Over the past two decades, California growers have reduced the amount of water needed to grow a pound of almonds by 33%. Blue Diamond Regional Managers work with growers in the field to educate and assist with irrigation management practices.



♦ Pest Management

Our growers produce their crops employing Integrated Pest Management (IPM) principles that focus on the long-term health of the orchard ecosystem, allowing for effective mitigation of pest and disease problems while minimizing risks to human health and the environment.



The Challenge Remains

1. Define what almond sustainability really looks like
2. Focus on responding to sustainable supply chain requirements
3. Further develop the Blue Diamond Sustainability story
4. Elevate the relevance of CASP with major almond buyers
5. How do we engage growers to make CASP a priority?