Agrifood Sustainability Programs: Where are we and Where are we heading?

Andrew Arnold, SureHarvest

AAEA & REESSA Joint Conference
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May 1, 2015

ALBERTA Agricultural Economics ASSOCIATION

UNIVERSITY OF ALBERTA
DEPARTMENT OF RESOURCE ECONOMICS AND ENVIRONMENTAL SOCIOLOGY

REESSA
Resource Economics and Environmental Sociology Graduate Students' Association

Agenda

- SureHarvest background
- The “S” word
- What is driving need for sustainability programs?
- Examples of sustainable farming programs
- Trends and final thoughts

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Who is SureHarvest?

- Provides sustainability solutions to growers, trade associations, and agrifood companies
- Offers professional services and software tools for farm and sustainability programs

Clients

Growers Wineries Packer/Shippers Food Processors

Distributors Retailers Trade Associations Certifiers

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The “S” Word

- Sustainability definition can get in the way of the overall objective – “What do you mean?! We are sustainable!”
- Sustainability can be conflated with organic, local, family farm, non-GMO, etc.
- Many view it as extra work without short-term payback
- BASF ag input group chooses to talk about “eco-efficiency” instead
- So can we find common ground?

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Defining Sustainable Agriculture – What Is it?

Leaving the farm in as good or better shape for the next generation than when one started farming it.

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Defining Sustainable Agriculture – What Is It?

A sustainable agriculture is one that, over the long term, enhances environmental quality and the resource base on which agriculture depends; provides for basic human food and fiber needs; is economically viable; and enhances the quality of life for farmers and society as a whole.

American Agronomy Society

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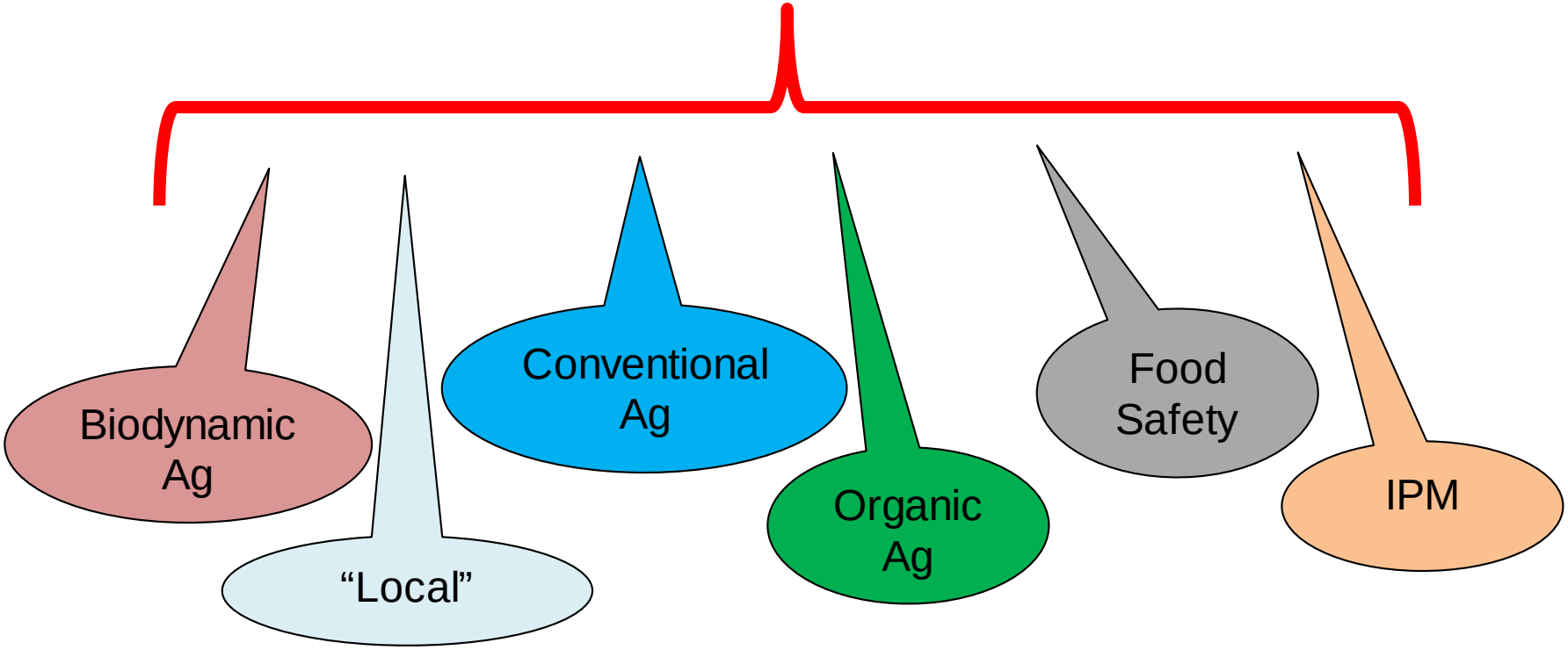
Sustainable Agriculture is the Umbrella!



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Environmentally Sound Planet

Economically Viable Profit

Socially Equitable People

The three "E's" of Sustainability

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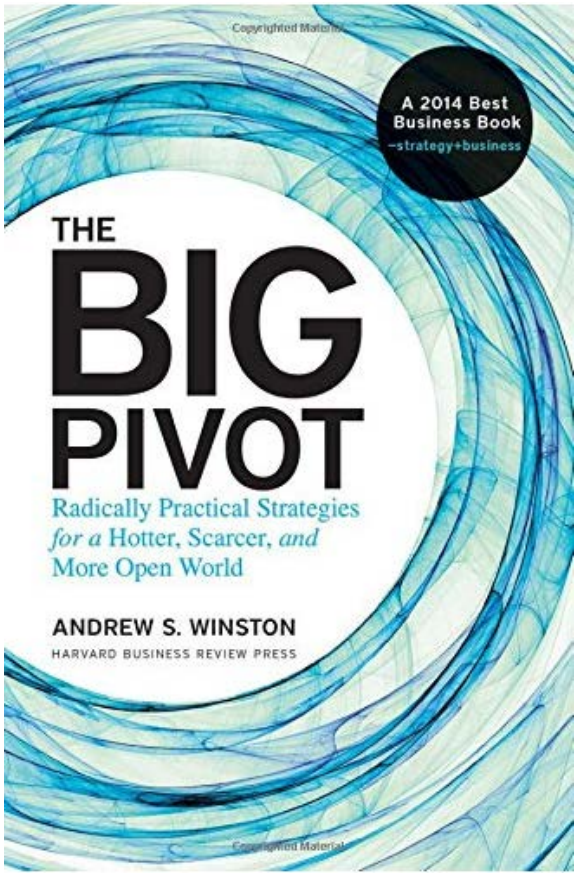
A Changing World…More With Less



Impact on the agrifood, fiber and fuel industries?

Fish vs. Farms
Urban vs. Rural
Fuel vs. Food

Integrating Sustainability & Business

- Many CFOs are finding that sustainability efforts also benefit the bottom line
- Strong leadership is critical to making it part of the DNA of a business
- Look for low hanging fruit to get all parts of the business engaged in the sustainability journey – it is a team effort
- The economic leg of sustainability is a critical "selling point" to farmers

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Sustainable Farming – What's in it for Me? Sustainability and Value Creation

Greater Emphasis on Value Creation:
Addressing - What's in it for me?

Best Practices

Create and Sustain Value

- Reduce Costs
- Grow Sales
- Manage Risks
- Business Resiliency
- Enhance Brand

Businesses Addressing Sustainability

Walmart
Save money. Live better.

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- Hunger & Nutrition
- Women's Economic Empowerment
- Diversity & Inclusion
- Ethical Sourcing
- Veterans & Military Families

Global Responsibility

Walmart's "Live Better" initiatives are making a difference

Related Links

Global Responsibility Reports ▸

Save money. Live better. These are the words we live by at Walmart. Our "Every Day Low Cost" strategy helps people save money, stretch their paychecks, and provide a better life for their families. But the work we do to help people **live better** goes far beyond our store walls. It extends into our communities and around the world and affects the lives of people we will never meet.

We believe we have an opportunity and a responsibility to make a difference on the big issues that matter to us all. Issues like preserving the environment, fighting hunger, empowering women and providing access to healthy, affordable food. Walmart is driving meaningful change in a way that no other company can. And we're committed to using our size and scale to help the world live better.

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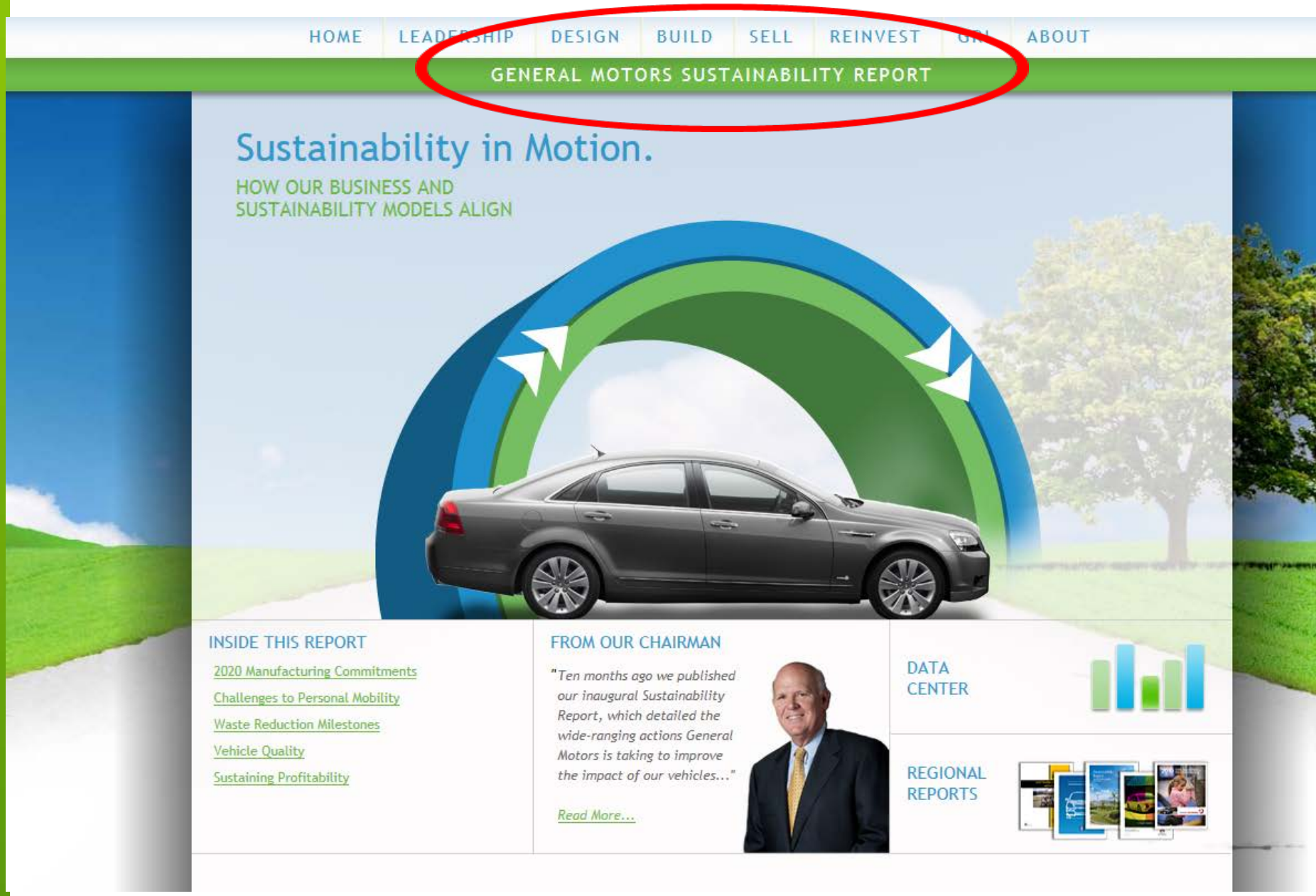

url is http://gmsustainability.com

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SEARCH | INVESTORS | THE COCA-COLA COMPANY

Coca-Cola Journey™

STORIES | OPINIONS | BRANDS | VIDEOS | BLOGS

HOME PAGE > OUR COMPANY

Our Company

OVERVIEW | MISSION, VISION & VALUES | THE COCA-COLA SYSTEM | OUR WORKPLACE | HUMAN & WORKPLACE RIGHTS | LEADERSHIP

'The Father of Modern Design'

How Raymond Loewy Gave Coca-Cola a Modern Look in the 1940s

THE COCA-COLA SYSTEM

COMMUNITY REQUESTS

THE YEAR IN REVIEW

SUSTAINABILITY REPORT

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Cargill® 150 years of helping the world *thrive*

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Sustainability is the new normal

Learn more >

Cargill's CEO Dave MacLennan…

"There is no getting around it. This is tough, challenging work. It's also our new normal."

Financial Times Commodities Global Summit, April 21, 2015

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FMI™

THE VOICE OF FOOD RETAIL

Feeding Families Enriching Lives

Sustainable Sourcing for High-Impact Commodities

Published April, 2015: Developed by FMI's Sustainability Executive Committee, this resource offers top-line information and questions to consider when sourcing products that have sensitive social, environmental or economic impact.

Download the free Sustainable Sourcing report

Making the Business Case for Sustainability: A Guide for Practitioners

This tool was created by FMI's Sustainability Executive Committee to assist sustainability leaders in making the compelling business case for sustainability with senior leadership. It provides a practical approach, links to key resources and dozens of specific company examples.

Download the free business case toolkit

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THE VOICE OF FOOD RETAIL

Feeding Families Enriching Lives

Keystone Alliance for Sustainability's "Fieldprint Calculator"

The Fieldprint Calculator is an online tool giving farmers the information and feedback they need to optimize their practices, using easily obtainable data about their own unique farm and field conditions. This tool, and several accompanying reports, have been developed by the Keystone Alliance, which represents companies and support organizations from every part of the food supply chain, and beyond.

Visit Keystone Alliance for Sustainability's "Fieldprint Calculator"

Stewardship Index for Specialty Crops

STEWARDSHIP INDEX FOR SPECIALTY CROPS

The Stewardship Index is a single set of metrics that companies and their suppliers can use to talk about sustainability in terms of resources. This will create a "common language" around sustainability, enabling food retailers and their suppliers to share data, look at trends, and define their goals clearly and consistently.

Stewardship Index for Specialty Crops

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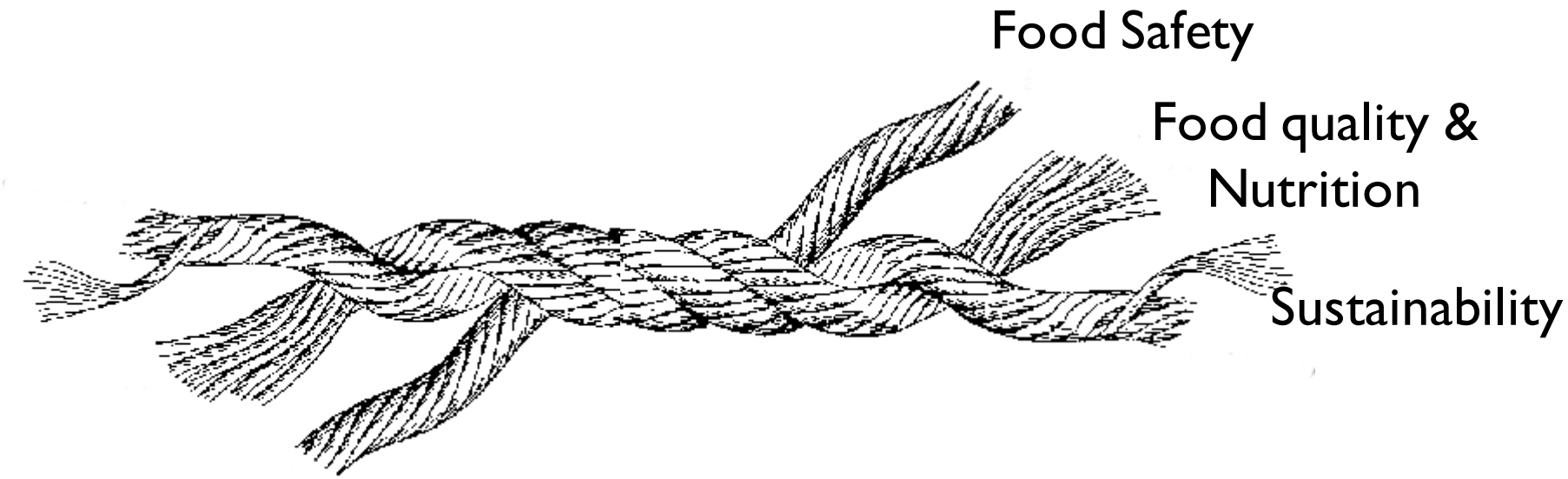
What is Driving the Need for Sustainable Agriculture: *Demand for on-farm information for the supply chain*



On-farm Information Being Asked for:

- Practices
- Performance Metrics

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Supply Chain Sustainability Initiatives

SAI PLATFORM

THE SUSTAINABILITY CONSORTIUM

Field to Market™
The Alliance for Sustainable Agriculture

CFT
COOL FARM TOOL

INNOVATION CENTER FOR U.S. DAIRY™
HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET

And others…

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Sustainability Program Involvement

How to engage farmers in applying the sustainability lens to their farming operations?

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Farmers concerns about sustainability:

- Voluntary sustainability programs will become regulatory compliance – I will create my own nightmare
- Voluntary sustainability programs will become supply chain compliance – I will create my own nightmare
- Paperwork connected to programs is overwhelming
- Perception that I can't afford to implement many of the sustainability practices
- Buyers will not pay for the extra work/effort/practices – i.e., "show me the money"

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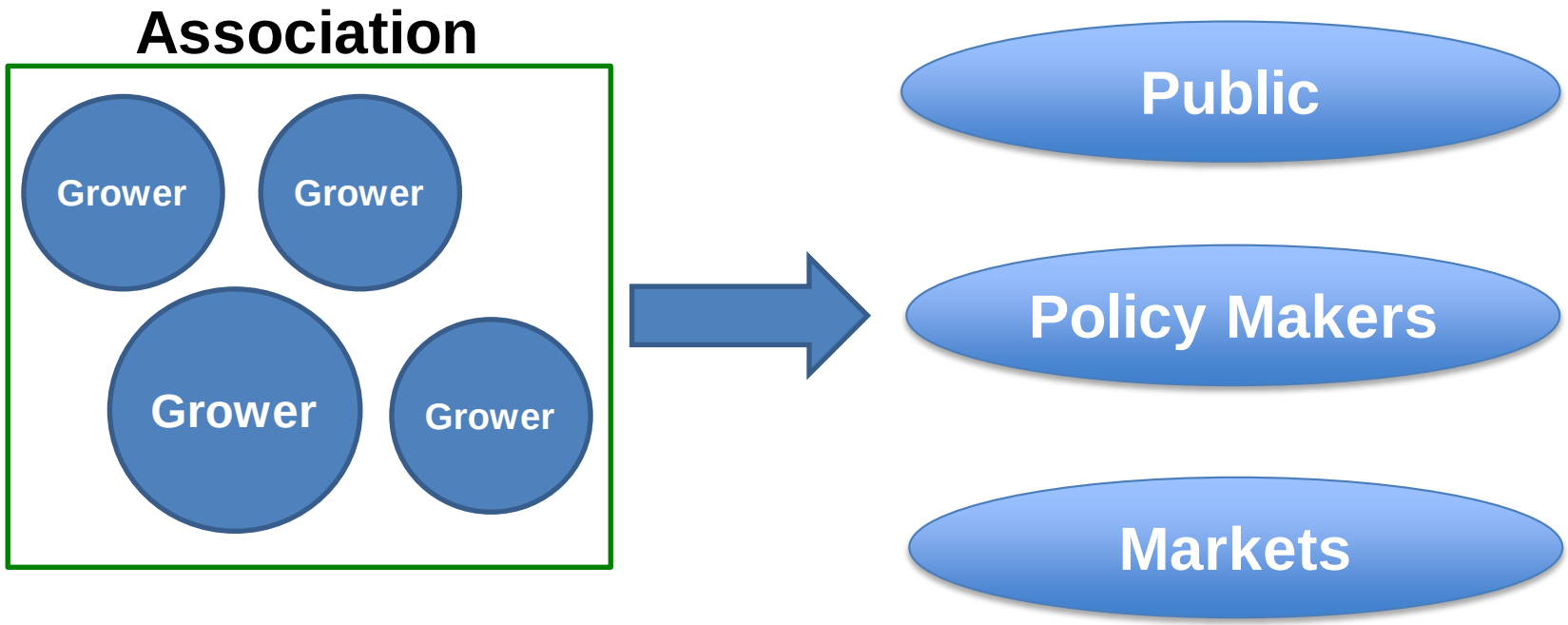
Sustainability Program Involvement



“What’s in it for me?”

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Defining and Implementing a Sustainable Agriculture Program

Strategy & Needs Assessment	Why, who, what, when, how Certification?
Design	Scope, approach, content, technology
Development	Build it
Implementation	Roll out, program management, reporting Education and outreach
Improvement	Additional process areas Program-level reporting

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Examples of Sustainable Farming Programs Based on SureHarvest's *5Ps of Sustainability* Framework

CALIFORNIA PEARS

PRO*ACT®

Lodi Winegrape Commission

CALIFORNIA SUSTAINABLE WINEGROWING ALLIANCE

GREENER FIELDS TOGETHER™

CALIFORNIA ALMOND SUSTAINABILITY PROGRAM

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California Sustainable Winegrowing Program

- Industrywide sustainability program for winegrape growers and wineries started in 2002
- Voluntary self-assessment program for practices and metrics (~60+% of CA winegrape acreage)
- Associated certification program
- Promote industry to stakeholders
- Drives continuous improvement

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California Sustainable Winegrowing Program

Criteria

9-4. Motors, Drives, & Pumps

Category 4

An energy audit focusing on motors, drives, and pumps is part of an overall energy monitoring and conservation plan

BMPs &

Calculated Metrics

Energy Intensity	Take Action
GHG Intensity	Take Action
Water Use Efficiency	Take Action

Principles → **Processes** → **Practices** → **Performance** → **Progress**

- Nutrient Mgmt
- Pest Mgmt
- Irrigation Mgmt
- Energy Mgmt
- Human Resources
- Financial Mgmt
- Neighbors/Community

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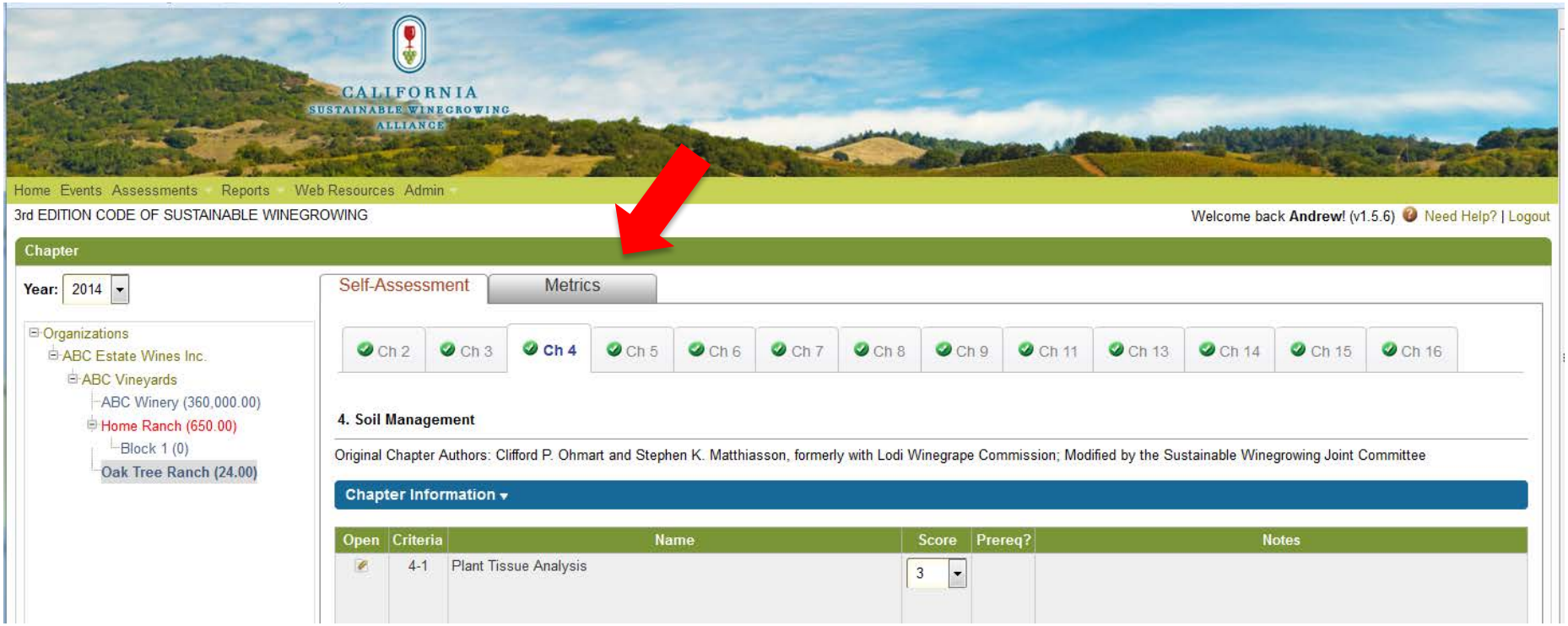
California Sustainable Winegrowing Program



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California Sustainable Winegrowing Program

Self-Assessment | Metrics

Name: Oak Tree Ranch
Enterprise: ABC Vineyards
Type: Vineyard
Year: 2014
Size: 24.00 Acres
0.00 Tons
Display in: (•) Pounds ( ) Tons

Collect Data
Required Vineyard Data
Required Winery Data

Create Yearly Profile
Create or edit a profile for your operations

Go to Metrics Center
- Enter data
- Calculate Metrics
- View Results
- Save Summary Sheet

Calculated Metrics			Totals
	Energy Intensity Take Action	0.00 kWh per acre 0.00 kWh per ton	0.00 kWh
	GHG Intensity Take Action	**Direct Emissions** 0.0 lbs $C0_2e$ per acre 0.0 lbs $C0_2e$ per ton **Embedded Emissions** 0.0 lbs $C0_2e$ per acre 0.0 lbs $C0_2e$ per ton **Total Emissions** 0.0 lbs $C0_2e$ per acre 0.0 lbs $C0_2e$ per ton	0.0 lbs $C0_2e$
	Water Use Efficiency Take Action	0.00 Acre-Inches per acre applied 0.00 Acre-Inches per ton	0.00 Acre-Inches
	Nitrogen Applied Take Action	0.00 lbs N per acre 0.00 lbs N per ton	0.00 lbs N

Instructions to add Historical Metrics Data

Example Self-Assessment: California Sustainable Almond Program

B	Irrigation Scheduling				
B.i.	For my orchard, I am using the following practices and/or technologies for determining when to irrigate:	Not Familiar With	Familiar, Not Tried	Have Tried It	Currently Use
1	I irrigate on a regular schedule/interval of my choice.				❑
2	I irrigate based on my water district's delivery schedule.	❑	❑	❑	❑
3	I irrigate following historical ET.	❑	❑	❑	❑
4	I irrigate following real time evapotranspiration (ETc) data at least weekly and calculating the water volume leaving the plant and soil.	❑	❑	❑	❑
5	I decide when to irrigate based on visual plant stress.	❑	❑	❑	❑
6	I decide when to irrigate based on measured plant stress:	❑	❑	❑	❑
6.a.	Monitoring plant water stress with other methods (remote sensing, canopy temperature, etc).	❑	❑	❑	❑

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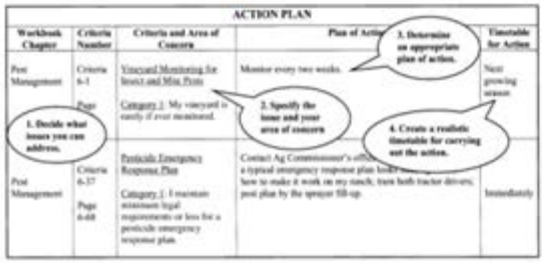
California Almond Sustainability Program

pest monitoring

custom report

action plan



targeted education

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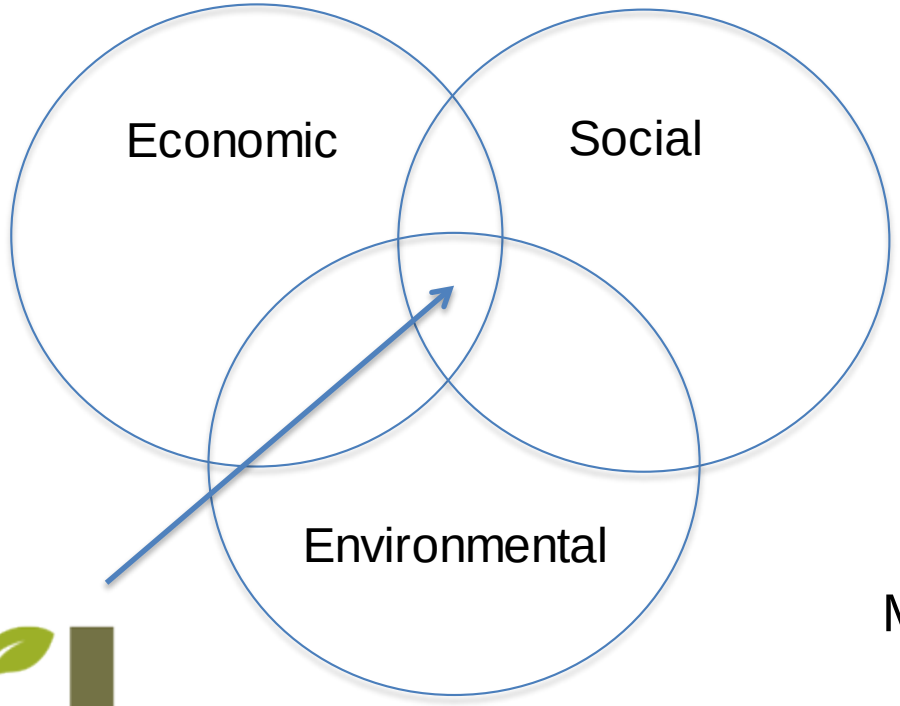
Nitrogen Management Sustainability: Practices + Performance



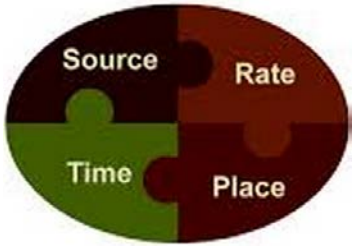
Economic = save $

Social = water & air quality (license to operate)

Environmental = water & GHGs

Metric = X kgs nitrogen per bushel

4 nutrient stewardship



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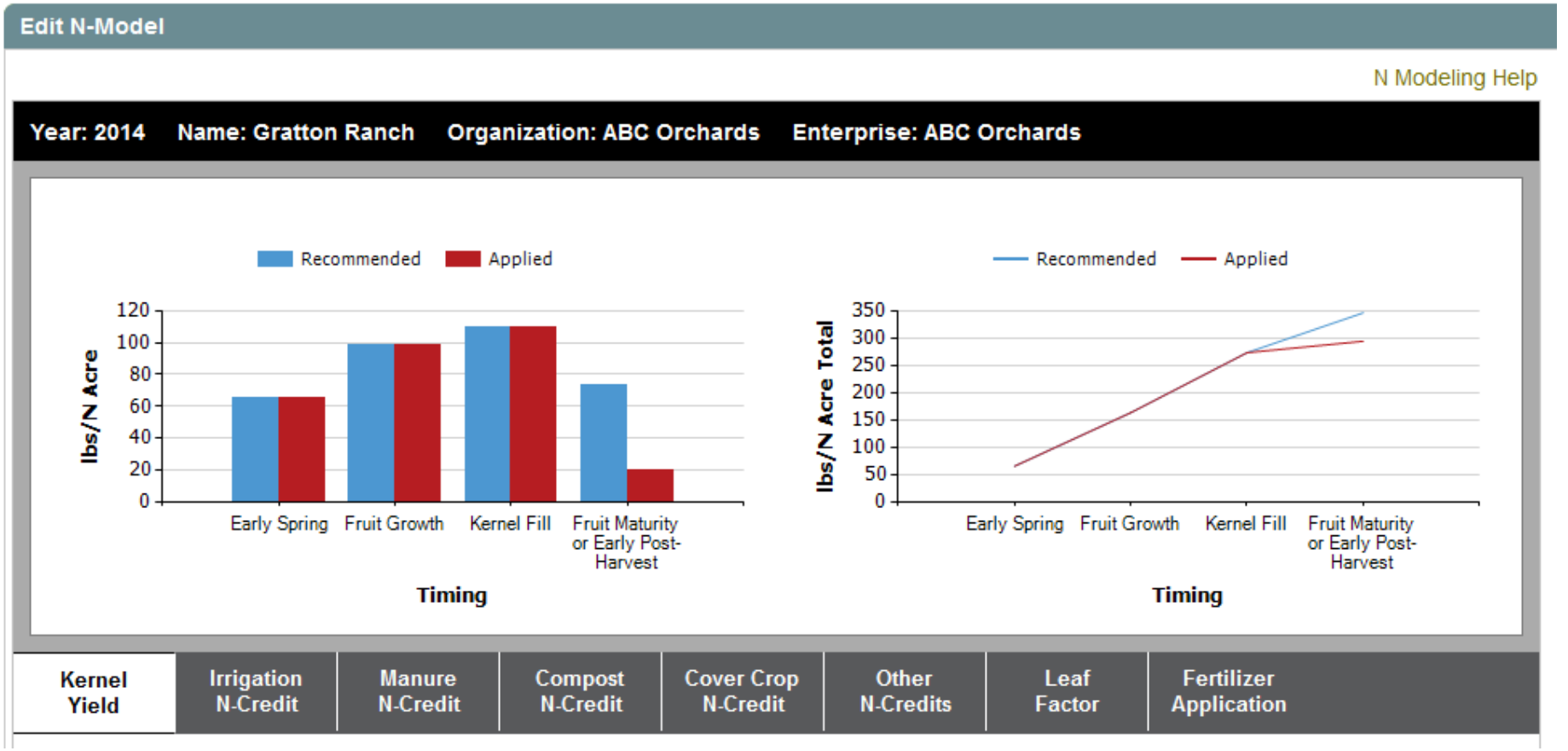
Nitrogen Management Decision Support Tool within CASP online self-assessment system



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PRO*ACT's Greener Fields Together Program: Telling the Story

Sustainability Program Trends

- Broader interest in on-farm activities in a supply chain context
- Becoming more quantitative – footprinting, metrics
- More buyer-driven sustainability surveys
- Canadian Roundtable for Sustainable Crops and the Roundtable for Sustainable Beef – build them around a program(s) to engage farmers/producers
- Farm-level offset programs and ecosystem services…future but gaining momentum

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Final Thoughts

- Integrate sustainability thinking into business strategy and management planning
- Be ready for more supply chain transparency
- Sustainability programs are good approach to get local buy-in from farmers
  - Multi-stakeholder approach is critical
  - Address the “What’s in it for me?” question up front
  - Good to see what others are doing
  - Pre-competitive is good for farmer acceptance
- There are successful programs out there to model your program after and accomplish your goals!

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Thank You!

Questions??

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