

Growing the Pear Sustainability Story: *Program Implementation*

2013 Sacramento River District Pear Research Meeting
Walnut Grove
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Presentation Outline

- Brief History of Pear Sustainability Program
- Review of Grower Survey work
- Grower Survey Next Steps
- Historical Review of Research Program using Sustainability 'Lens'
- Future of Pear Sustainability Program





Western
**FARM
PRESS**
TIMELY RELIABLE INFORMATION
FOR WESTERN AGRICULTURE

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Cotton's sustainability story hits the road

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Primary: Mark

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Ronald McC

Joe Pezzini, C

Tim York, Mar

US: California Citrus Mutual charges industry sustainability message

Sustainability is the focus of a new communications outreach program by California Citrus Mutual (CCM) to raise awareness about the citrus industry's commitment to implementing efficient, environmentally responsible growing practices for a sustainable future.

"The citrus industry contributes significantly to the diversity and economic strength of the California agriculture industry. We create jobs and generate economic activity, and most importantly we supply a reliable, safe and healthy product to a growing world population. We're proud of what we do and how we do it," stated CCM President Joel Nelsen.



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The Roadmap to Today

Phase I: Needs Assessment and Strategic Planning



Phase II: Program Design & Content Development



Phase III: Implementation



SOIL MANAGEMENT - TI

CRITERIA

4-8 Organic Matter

(Skip if organic matter is sufficient for your soil type)

Organic matter increases the

B	Irrigation
B.i.	For my technology
1	I irrigate
2	I irrigate
3	I irrigate
4	I irrigate least water and soil.
5	I decide
6	I decide
6.a.	

2010 California Pear Sustainability Self-Assessment

4. Pest Management: Dormant/delayed-dormant season activities

The Pest Management section is based primarily on the UC Year-round IPM Program for Pears and thus is arranged by season.

1. During dormant season, beating tray samples were taken for pear psylla adults (the recommended rate is 100 samples per 20-acre block).

- ☐ Yes
 ☐ No
 ☐ Not applicable (please explain briefly)

2. During the dormant season, the following activities were performed:

- ☐ Dormant spurs were examined for European red mite eggs
☐ Dormant spurs were examined for pear rust mite and pearleaf blister mite
☐ If sampling in February, dormant spurs were examined for Pear psylla eggs
☐ Presence/absence of predatory mites was recorded
☐ Shoots were examined for San Jose scale and pear scab lesions
☐ Scouting included looking under bark for mealybugs
☐ None of the above

Comment:

3. In areas where frost and russetting are likely, weeds and ground cover were eliminated before bloom. In areas where frost and russetting are less likely, resident vegetation or cover crop was mowed before bloom.

- ☐ Yes
 ☐ No
 ☐ Not applicable (please explain briefly)

4. If the orchard is in the Central Valley, did you monitor hours during the dormant season for chilling requirement?

- ☐ Yes
 ☐ No
 ☐ Orchard is not in the Central Valley

CATEGORY 1

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Sustainable Pear Survey Process 2009:

- Created On-Line Survey to make participation easier
- Provided paper copies of survey if on-line participation was not possible
- Survey respondents represented 74% of acreage in State



Sustainable Pear Grower Survey 2009:

1. General
2. Pest Management – Basically follows UC State IPM Year Round Pest Mgt for Pears
3. Soil & Nutrient Management
4. Water Management
5. Ecosystem Management
6. Employer Practices
7. Employee Practices & Safety



2009 Sustainable Pear Survey Outcomes:

- Each participant was provided with individual grower report
- Report was drafted on the 'state' of the industry for sustainable practices
 - Key findings
 - Areas for improvement identified
 - Observed that other than for minor improvements, minority of growers provided



Sustainable Pear Grower Survey 2011:

1. General
2. Pest Management – Basically follows UC State IPM Year Round Pest Mgt for Pears
3. Soil & Nutrient Management
4. Water Management
5. Ecosystem Management
6. Employer Practices
7. Employee Practices & Safety
8. Air Quality
9. Energy Efficiency



Added in 2011



Sustainable Pear Grower Survey 2011:

- Metrics added to 2011 survey due to anticipated regulations for water quality and Greenhouse Gas Production issues
 - Nutrients – lbs of N, P, K applied per acre & tracking nutrient applications
 - Water – water volume applied per acre & tracking of irrigation applications
 - Energy – electricity used per acre & track fuel used per ton of fruit produced

Metrics = Measure to Manage



2011 Sustainable Pear Survey Outcomes:

- Each participant was provided with individual grower report
- Report was drafted on the 'state' of the industry for sustainable practices
 - Reaffirmed 2009 practices benchmarks
 - Areas for improvement identified
 - Observed that other than for nutrient applications, minority of growers provided data for metrics



Parallel Self-assessment Project:

- | Organization | Representative |
|---|----------------------------------|
| Almond Board of California | Gabriele Ludwig*, Robert Curtis* |
| Bolthouse Farms | Troy Elliott*, Justin Groves* |
| California Dried Plum Board | Gary Obenauf |
| California Grape & Tree Fruit League | Chris Valadez*, Barry Bedwell |
| California Specialty Crop Council | Lori Berger* |
| California Garlic & Onion Research Advisory Board | Robert Ehn |
| California Olive Council | Patty Darragh |
| California Pear Advisory Board | Bob McClain |
| California Pepper Commission | Glen Fischer* |
| California Pistachio Board | Robert Klein* |
| California Raisin Marketing Board | Gary Schultz |
| California Tomato Farmers | Ed Beckman* |
| California Tree Fruit Agreement | Gary VanSickle*, Lauren Friedman |
| California Walnut Board | David Ramos |
| DelMonte Foods | Pat McCaa |
| SunMaid Growers | Rick Stark* |



Sustainable Pear Program 2013:

- CPAB applied for a CDFA Specialty Crop Block grant for 2012 to 2014 – not funded
- CPAB asked SureHarvest to submit a proposal to continue Pear Assessment program in 2013



Sustainable Pear Survey Future:

- Submitted proposal to CPAB to carry out survey in 2013
- In cooperation with Pear Sustainability Committee:
 - Add new content based on work from the Multi-Commodity Project
 - Carry out survey
 - Create individual grower reports
 - Draft summary report for Pear Industry



Sustainable Pear Survey Suggest New Content:

- Financial Management
- Food Safety
- Neighbors & Community
- Waste Management

Historical Analysis of PPMRF's Research Projects Using Sustainability Lens:

Why do it?

- PPMRF has spent large \$\$ on research
- CPAB has invested time and \$\$ into developing Sustainable Pear Program
- Is there a way to link the two?
- Challenge for PPMRF – Are we getting our \$\$ worth from the research projects
- Provide a vehicle for Researchers to demonstrate to PPMRF they are getting their \$\$ worth



One Approach to Analysis:

- Apply 'sustainability thinking' to PPMRF research program.
- Analyze PPMRF research projects according to sustainability principles (3 E's)
- Analyze PPMRF research projects according to the resources affected by research project



Resource Areas:

1. Water – quality of ground and surface water; quantity of water
2. Air – PM2.5, PM10, VOC's
3. Soil – quality improves for improved plant health
4. Wildlife – Biodiversity is enhanced, improved habitat, etc.
5. Energy – reduced or optimized energy use
6. Worker – health & safety
7. Consumer – fruit quality and safety



Sustainability Principles (3 E's):

1. **Economic** – reduced inputs, input optimization, improved pest management efficacy, higher yields, reduced pest damage, resistance management, improved fruit quality, improved financial
2. **Environmental** – maintain or enhance quality of water, soil, wildlife communities; maintain or enhance quantity of water, healthy soil, wildlife
3. **Social Equity** – improved worker safety and wellness, worker satisfaction and skill sets, improved relationships with neighbors and surrounding community, improved food safety and quality



Example Scoring:

Project Name	Area	Year	\$ Amount	Water	Air	Wildlife	Soil	Worker	Consumer	Energy
Optimizing Puffers for Control of Codling Moth in Pears: Reducing Program Costs without Loss of Efficacy - Steve Welter, UC Berkeley	CDPR Grant Ento	2001	10,000	5	1	1	1	5	5	1

Scoring done by
Bob McClain

Economic	Environmental	Social
10	5	10



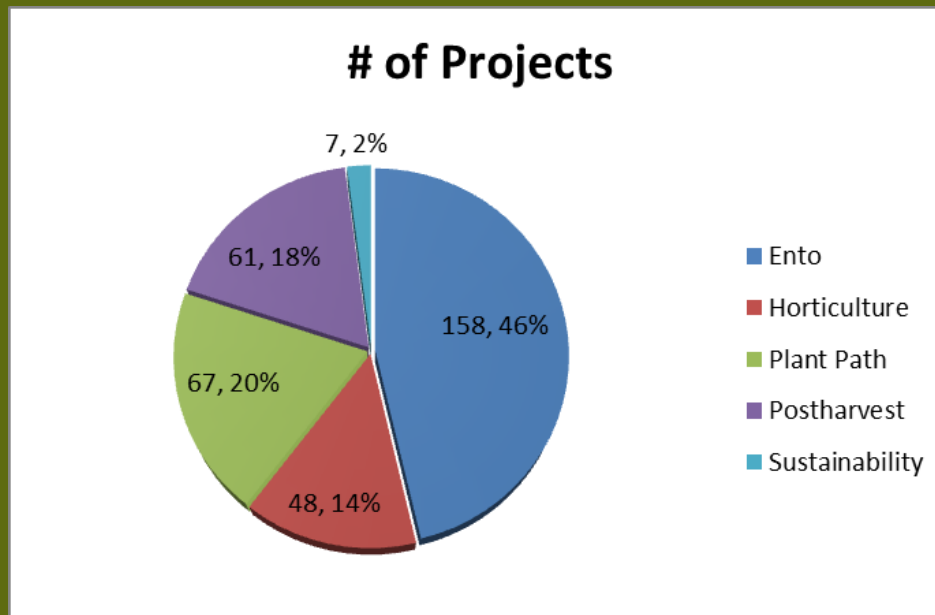
Results – Total Expenditures on Research Projects since 1984:

- Entomology - \$2.5 million
- Horticulture - \$676,000
- Plant Pathology - \$801,000
- Postharvest - \$857,000
- Sustainability - \$168,000
- **Total projects funded \$5.2 million**



Take Home Messages from Analyses:

- Pretty well balanced level of funding for the important topic areas – Entomology being the largest and invested primarily in Codling moth research



Take Home Messages:

- Rating system needs to be refined to better gauge level of investment in resource areas and sustainability principles besides Economics
- Research projects should be rated at the end of the project on submission of the final report



Questions for PPMRF/CPAB:

- Is this approach of interest and value to CPAB?
- Incorporate it in the Call for Research Proposals process?
 - Used in ranking proposals?
 - Used in measuring success of research program?
- Incorporate into analyses of research project outcomes?



Pear Sustainability Program Benefits:

For Growers:

- Assess sustainability of operations
- Benchmark and comparison to peers
- Continuous improvement for farm operations

For Processors and Packer/Shippers:

- Collaboration with growers
- Internal and external program visibility

For Industry:

- “Ahead of the curve” innovation
- Benchmarking and PR for California pear industry
- Focus on solutions to sustainability gaps



Pear Sustainability Program Future:

- Continue to evolve the assessment survey
- Work with UC and other potential partners (e.g., PG&E) to develop education/outreach components
- Industry public relations around research history through a sustainability lens
- Develop future industry benchmark reports

CFO's More Involved

Sustainability performance management:

How CFOs can unlock value



How sustainability has expanded the role of the CFO

A conversation with Marco Marrone,
Chief Financial Officer and Executive
Vice President of Finance, Canadian Tire Corp.¹



Sustainability: CFOs are coming to the table

Deloitte.

Thank You



Questions?