Sustainability Partnerships: Standards, Metrics & Markets

*Stewardship Index for Specialty Crops*
*Barbara Meister, SureHarvest*

USDA Agricultural Outlook Forum
February 24-25, 2011
Presentation Overview

1. About the Stewardship Index for Specialty Crops
2. Preliminary Findings from Pilot Testing Metrics
3. The Path Ahead for SISC
4. Why metrics?
5. Building Capacity for Data-driven Continuous Improvement
“My family has been farming this ground for four generations – now that’s sustainability.”

But will your grandchildren be able to do the same? The world they farm in will be very different …
• More people
• Less land
• More pressure on fewer resources
OUR TARGETS

By 2020 we will source 100% of our agricultural raw materials sustainably:

- 10% by 2010
- 30% by 2012
- 50% by 2015
- 100% by 2020
Are we talking the same language?

We need a common language for measuring sustainability.

That common language is metrics – the yardsticks that measure performance – not what you do (practices) but measuring the impact (results) of what you do.

>>>Stewardship Index for Specialty Crops
“The project will offer a suite of outcomes-based metrics to enable operators at any point along the supply chain to benchmark, compare, and communicate their own performance. The Stewardship Index will not seek to provide standards, but will instead provide a yardstick for measuring sustainable outcomes.” --SISC Introduction and FAQ, approved 12/1/2008
Why performance metrics?

1. **Respond to marketplace demand for more information**
   >>> Reduce duplicative sustainable reporting systems
   >>> Data for backing marketing claims

2. **Drive internal business management strategy**
   >>> Identify cost reduction opportunities
   >>> Drive best practices innovation
   >>> Manage risk

3. **Reduce regulatory pressure**
   >>> Solve problems proactively
Stewardship Index Coordinating Council

**Bold = Steering Committee**

**Growers**
Community Alliance with Family Farmers ● DelCabo ● Farm Fresh Direct ● Georgia Fruit and Vegetable Association ● National Potato Council ● Torrey Farms ● United Fresh Produce Association ● Washington Horticulture Association ● Western Growers

**Buyers**
California Sustainable Winegrowing Alliance ● California League of Food Processors ● Compass Group ● Del Monte ● Food Marketing Institute ● Heinz ● Markon Cooperative ● Produce Marketing Association ● Sam’s Club ● Sodexo ● SYSCO ● Unilever ● Wal-Mart ● Wegmans ●

**NGOs & Experts**
American Farmland Trust ● California Rural Legal Assistance Foundation ● Defenders of Wildlife ● Environmental Defense Fund ● NRDC ● Organic Center ● SureHarvest ● Sustainable Food Lab ● University of Arkansas ● World Wildlife Fund
## Metrics

<table>
<thead>
<tr>
<th>PEOPLE</th>
<th>PLANET</th>
<th>PROFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>Air quality</td>
<td>Green procurement</td>
</tr>
<tr>
<td>Human Resources</td>
<td>GHG emissions</td>
<td>Fair price</td>
</tr>
<tr>
<td></td>
<td>Biodiversity/Ecosystems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packaging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nutrient management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pesticides</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soils</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waste</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water use and quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## On-Farm Metrics & Data Elements

<table>
<thead>
<tr>
<th>Water Use</th>
<th>Soil &amp; Nutrients</th>
<th>Pesticides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied water</td>
<td>Fertilizer applied</td>
<td>Application info</td>
</tr>
<tr>
<td>Crop ET</td>
<td>Soil organic matter</td>
<td>Product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rate</td>
</tr>
<tr>
<td>Air Quality/Energy</td>
<td>Waste</td>
<td>Biodiversity</td>
</tr>
<tr>
<td>Equipment usage</td>
<td>Harvest yields</td>
<td>Vegetation types</td>
</tr>
<tr>
<td>Pesticide usage</td>
<td>Waste items</td>
<td>Weed cover</td>
</tr>
<tr>
<td>Electricity usage</td>
<td>Waste streams</td>
<td>Crop mgmt practices</td>
</tr>
</tbody>
</table>
2010 Pilot Testing

100+ growers in 17 crops in 14 states

<table>
<thead>
<tr>
<th>Processing Tomatoes</th>
<th>Fresh market Tomatoes</th>
<th>Winegrapes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus</td>
<td>Potatoes</td>
<td>Stone Fruit</td>
</tr>
<tr>
<td>Leafy Greens</td>
<td>Onions</td>
<td>Berries</td>
</tr>
<tr>
<td>Herbs (fresh)</td>
<td>Carrots</td>
<td>Almonds</td>
</tr>
<tr>
<td>Cherries</td>
<td>Pears</td>
<td>Apples</td>
</tr>
<tr>
<td>Green Beans</td>
<td>Sweet Corn</td>
<td></td>
</tr>
</tbody>
</table>

With funding from the USDA-NRCS Conservation Innovation Grant
Pilot Objectives for 2010

Evaluating:

- Feasibility of data collection
- Data collection costs
- Usefulness and value for participants
- Usefulness and value for buyers/customers

Results will be used to refine the draft metrics.
Participant Materials

Data Entry Spreadsheet

<table>
<thead>
<tr>
<th>Data Item</th>
<th>Guidance</th>
<th>Unit</th>
<th>2009 Amount</th>
<th>2010 Amount</th>
<th>Data Source</th>
<th>Data Availability (0-4 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Farm Area</td>
<td>Enter total area of farm</td>
<td>Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm area with vegetative cover</td>
<td>Enter total area currently treated, including cropped and non-cropped fields</td>
<td>Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm area with perennial vegetation</td>
<td>Area with perennial vegetation</td>
<td>Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area with Predominantly Native Vegetation</td>
<td>Area where &gt;50% of vegetation is native (visual estimate)</td>
<td>Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area free of noxious weeds</td>
<td>Area free of noxious weeds (visual estimate)</td>
<td>Acres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cropped Area Management Score</td>
<td>See below for instructions</td>
<td>Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Cropped Area Management Score</td>
<td>See below for instructions</td>
<td>Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Management Practices -- Cropped Areas

1. Cover crop
2. Increased cover crop
3. Fallow and site management
4. Integrated Pest Management
5. Seasonal haying
6. Reduce impact of farm practices on wildlife
7. Interplanting of multi-staged crops
8. Use of multiple crop species or varieties
9. Crop rotation
10. Minimize pesticide drift
11. Other (please specify)
12. Other (please specify)

Feedback

Metric: Soil, Nutrient & Water Quality

Feedback

An important element of the pilot is to get your feedback on the process you went through to collect data for the metric and to get your overall impression of the metric itself.

1. How many hours would you estimate you spent gathering the data for this metric?
2. Did you incur any expenses in gathering data other than man hours? If so, how much and what for?
3. Which data was the most difficult to gather and why? Besides the feedback given in the Data Availability column, do you have additional feedback about gathering the data?
4. What is your overall impression of the metric and how can it benefit your operations?
5. What suggestions do you have for improving this metric?
Pilot Participation

- 35* growers in 18 crops in 8 states
- 58* data sets (multiple fields, crops & years)
- 15 grower interviews with non-participants

* = data still trickling in... more growers, crops, states

Participant Field Size

<table>
<thead>
<tr>
<th>Field Size (Acres)</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>8</td>
</tr>
<tr>
<td>11-100</td>
<td>18</td>
</tr>
<tr>
<td>100-200</td>
<td>12</td>
</tr>
<tr>
<td>&gt;200</td>
<td>2</td>
</tr>
</tbody>
</table>

www.stewardshipindex.org
### Pilot Participation – Geography and Crops

<table>
<thead>
<tr>
<th>State</th>
<th>Crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>berry-nursery, carrots, herbs, lettuce, onions, oranges, peaches, raspberry, strawberry, processing tomatoes, walnuts, winegrapes,</td>
</tr>
<tr>
<td>Oregon</td>
<td>Onions</td>
</tr>
<tr>
<td>Idaho</td>
<td>Potatoes</td>
</tr>
<tr>
<td>Colorado</td>
<td>Potatoes</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Potatoes, green beans, sweet corn</td>
</tr>
<tr>
<td>Michigan</td>
<td>Potatoes, lettuce</td>
</tr>
<tr>
<td>Florida</td>
<td>Peppers</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Potatoes</td>
</tr>
</tbody>
</table>
Pilot Participation – Challenges

• Voluntary initiative - pilot testing SISC metrics was not top of the to-do list, even when buyer called repeatedly for the data submission.

• Even for growers committed to sustainability programs, was difficult to engage their time commitment.

• For many, there was not a clear perceived benefit to the grower and concern that metrics would only advantage buyers.

• Concerns over data confidentiality overwhelmed perceived benefits of participation.
Pilot Quotes

• “Establishing baseline is helpful.”

• “If you can demonstrate that we will benefit from being able to track this information, then I am all for it. We aren’t equipped to take it on right now.”

• “I found out how many kw it takes to irrigate crop and accurate $$ figure in field.”

• “Very difficult to define these things. The value is in awareness of the various factors and a consciousness of them when making decisions.”

• “Crop production data is spread across different parts of business & hard to find...”

• “Overall impression is good, benefit by possibly using less water which will save on energy costs and fertilizer/chemigation applications.”
Response rate = those data sets that provided data for the metric areas listed
Findings – data collection complexity

Fast-paced veg production:
Lots of variables in each field = Complexity!
Key Findings – Data collection readiness

• Some pioneering growers collecting most of the data as requested, but the majority of growers are not.
• Data is generally available, but not accessible in the requested format.
• Some data not collected in ways that allow for allocation to individual fields.
• Some data incomplete; differences in data collection methods affected data quality.
• Data collection methods, costs, and time requirements varied.
Key Findings – Feedback on draft metrics

- The metrics are generally acceptable.
- Simplify where possible.
- Guidance on data inputs needs further revision.
- Several cross-cutting issues need to be addressed.
- The value proposition was unclear to some participants.
The Path Ahead

1. Release Beta version of 3-4 metrics by May 1.
   - Involve pilot growers in refining metrics.
   - Which metrics? Most useful to growers, most important to consumers and where growers have data.

2. Continue to develop and pilot test the remaining metrics.

3. Build the capacity for growers – through their trade associations - to
   - collect data for monitoring sustainability performance
   - adopt continuous improvement “measure to manage” business strategies.

4. Begin work on data aggregation software platform with needs assessment, but as a secondary priority until more farm-level data collection capacity is built.
Performance Metrics & Early Adopters

Correlation to technology/change adoption phenomenon?
Why metrics? What’s in it for me?

Another buyer mandate!@#!…or something more?

Sustainability as a business management strategy:

>>> Do more with less.
>>> Cost savings.
>>> Process of continuous improvement.

“Save money and farm better.”
Metrics >> data-driven, on farm continuous improvement.
OUTCOMES???
What are the results on People, Planet, Profitability???

Data Collection & Mgmt Platform
Sustainable Winegrowing Program
2001 - present

Growing and winemaking practices that are sensitive to the Environment, responsive to the needs and interests of society-at-large (social Equity), and Economically feasible to implement and maintain.

With funding from USDA-NRCS Conservation Innovation Grants and USDA Specialty Crop Block Grants.
Farm-level benchmark reports help growers and their associations assess performance and identify targets for improvements.
### 10 years of data demonstrating continuous improvement

<table>
<thead>
<tr>
<th>Participating Vineyard Organizations</th>
<th>1,320 organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres Farmed by the 1,320 Organizations</td>
<td>366,386 acres</td>
</tr>
<tr>
<td>Acres Assessed by the 1,320 Organizations</td>
<td>252,297 acres</td>
</tr>
<tr>
<td>Organizations Submitting Results</td>
<td>906 organizations</td>
</tr>
<tr>
<td>Assessed Acres in Database</td>
<td>224,927 acres</td>
</tr>
</tbody>
</table>
Why metrics matter for growers –
For data-driven continuous improvement

>>> Save money and Farm Better

The 5Ps of Sustainability:

Principles: Strategy drives company direction.
Processes: Management areas (farming, packing, cooling, HR, etc.)
Practices: What gets done and how. (drip irrigation, scouting, employee benefits, etc.)
Performance: Using metrics to assess impact on 3Es.
Progress: Making change and evaluating improvements over time.
What’s next for SISC?

1. Release Beta version of 3-4 metrics by May 1.
2. Continue to develop and pilot test the remaining metrics.

3. Build the capacity for growers – through trade associations - to
   • collect data for monitoring sustainability performance
   • adopt continuous improvement “measure to manage” business strategies.
   >>> organize peer groups of growers to implement
      Beta version of metrics and continue pilot testing.
   >>> build programs for self-assessment, benchmarking, targeted education, peer-learning.

4. Begin work on data aggregation software platform with needs assessment, but as a secondary priority until more farm-level data collection capacity is built.

www.stewardshipindex.org
You’re invited to join us on this journey.

www.stewardshipindex.org

www.sureharvest.com