



SUSTAINABILITY: WE ARE ALL IN THIS TOGETHER.....

LIKE IT OR NOT!

NGFA Country Elevator Meeting, Dec 10, 2013
St. Louis, MO

Fred Luckey
Chairman/President

Field to Market

The Alliance for Sustainable Agriculture





Sustainability Backdrop

- Every day the planet wakes up with 200,000 more people to feed
- Every second we lose an area the size of a football field to soil erosion and urbanization.....while adding two more people to the population
- Nature takes 500 years to replace 25 millimeters of lost soil
- Farming uses 70% of the worlds fresh water withdrawal
- The UN estimates that by 2030 the world will need 30% more fresh water and 50% more energy....and 70% more food.
- Rural migration to cities, deforestation, biodiversity, water quality.....and the list goes on of challenges.



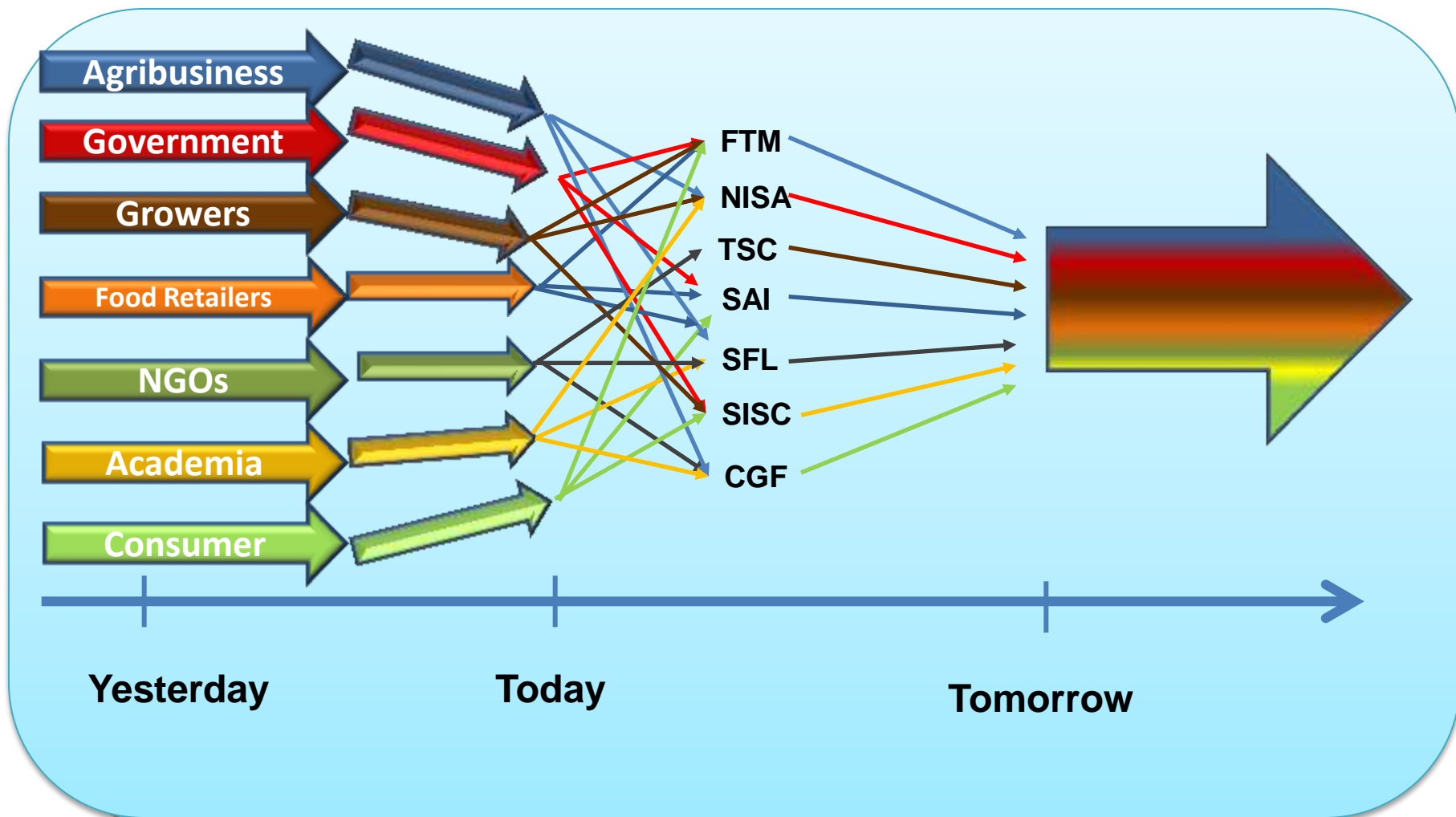


Bottom Line

- We need to produce more food in the next 50 years than we have in the past 10,000.
- We only have one planet, and we are using its resources 50% faster than it can take
- **WHAT WE ARE ASKING IT TO PROVIDE IS SIMPLY NOT SUSTAINABLE.....!**

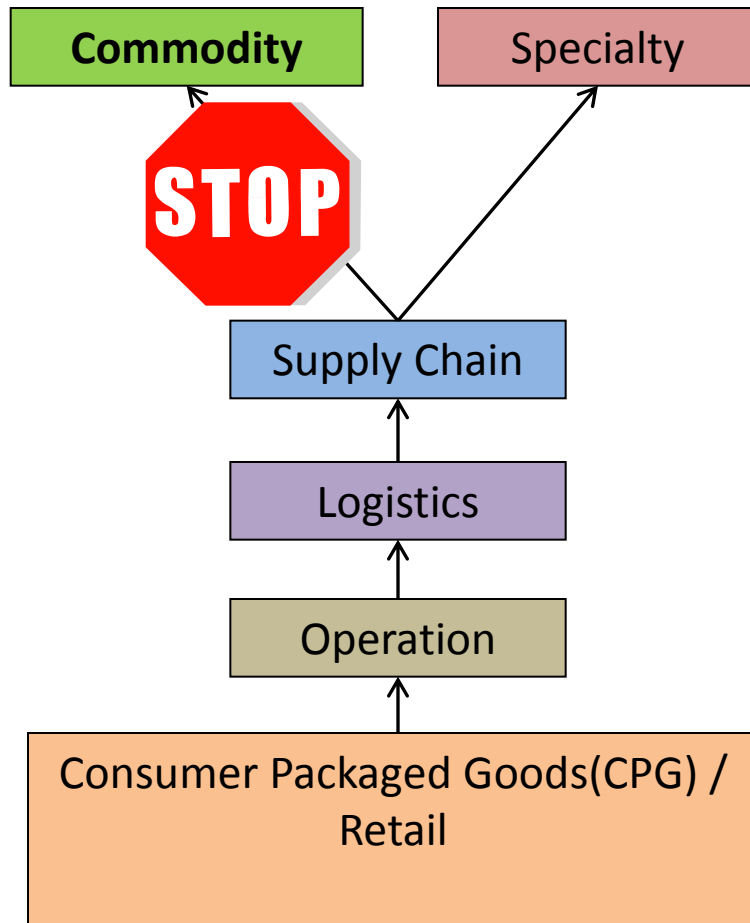


The Journey Gets Complicated....

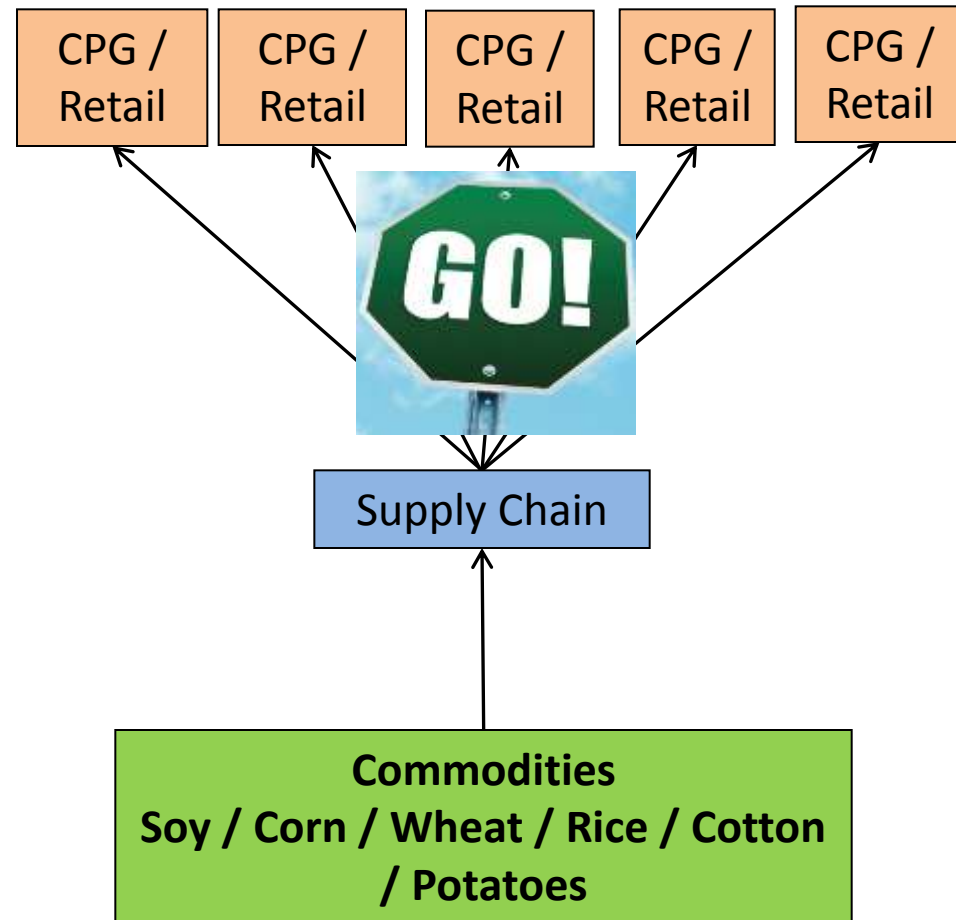




Traditional Approach

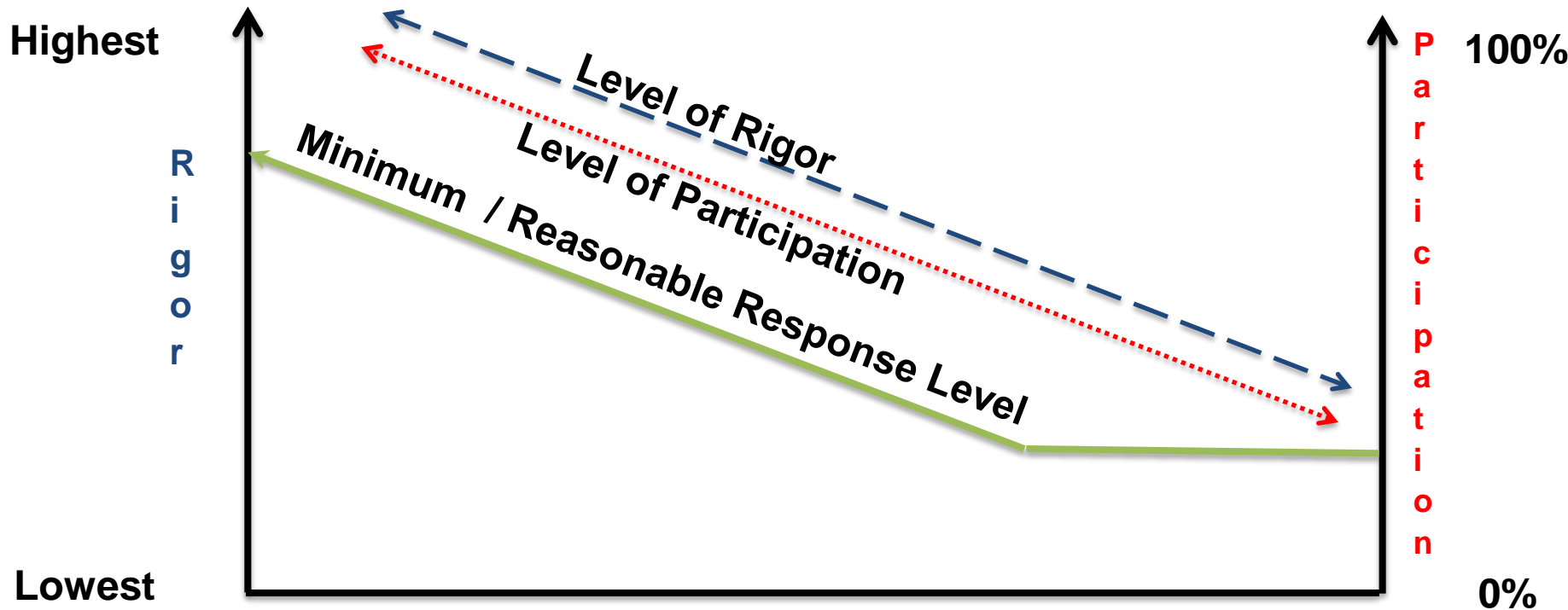


Field to Market Approach





Supply Chain Sustainability Response



Specialty

Identity Preserved
Contract Grown
Differentiated
Narrow Application
Traceable
Low Volume
Higher Value

Supply Chain Scope

Commodity

Open Market
Sourced
Broad Application
Non-Specific
Generic
Non-Traceable
High Volume
Lower Value





From Big Ideas..Field to Market Emerges

- Focus on commodities crops
 - Unique supply chains and traceability issues
- Develop science- and outcomes-based measures
- Engage the full supply chain
 - Include producers
 - Identify the key indicators for sustainability
 - Measure broad-scale trends and field-scale outcomes
- Scale and implement metrics for sustainability programs
- Correlate actual field level metrics to practices





What is Field to Market?

- **A collaborative stakeholder group**
 - Producers, agribusinesses, food and retail companies, conservation associations, universities, and NRCS
- **Identifying supply chain strategies to define, measure, and promote continuous improvement for agriculture**
 - Addressing the challenge of increasing demand and limited resources
- **Developing and piloting outcomes-based, science-based metrics and tools**
 - Fieldprint Calculator, a free, online tool to help growers analyze their operations and help the supply chain explain how food is produced
 - National Report on environmental and socioeconomic trends over time for U.S. commodity crops
- **www.fieldtomarket.org**

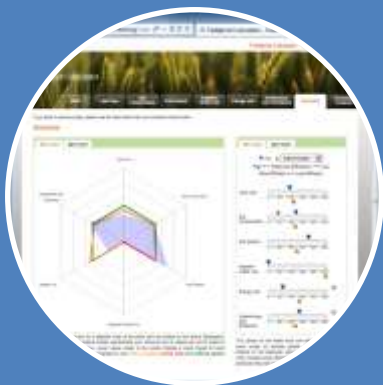


WHO IS FIELD TO MARKET?

- Farmers and groups of farmers wanting to benchmark their performance
- Supply chain companies wanting to engage farmers in supply chain initiatives and continuous improvement
- Conservation groups partnering with farmers to address watershed or regional opportunities



Deliverables: What We Are Doing



Grower Fieldprints:
Individual
opportunities for
continuous
improvement



Supply chain
projects:
Direct engagement
in continuous
improvement



National indicators
report:
Documentation of
overall trends

Public data and models
Collaboratively developed
Outcomes based

Field to Market Fieldprint Calculator



[Home](#) | [Fieldprint Calculator](#) | [Fieldprint Projects](#) | [National Report](#) | [Resources](#) | [News](#) | [Blog](#)



Field To Market: The Alliance for Sustainable Agriculture

Field To Market is a diverse alliance working to create opportunities across the agricultural supply chain for continuous improvements in productivity, environmental quality, and human well-being. The group provides collaborative leadership that is engaged in industry-wide dialogue, grounded in science, and open to the full range of technology choices.



National Report

The 2012 report represents environmental and socioeconomic indicators for measuring outcomes of on-farm agricultural production in the U.S. [More...](#)

News

[Field to Market seeks its first Executive Director](#)

Field to Market seeks its first Executive Director to guide the organization through its transition to an independent organization, working to foster continuous environmental improvements in agriculture.



Fieldprint Calculator

An educational tool to help you assess how some of your operational decisions affect overall sustainability performance. [More...](#)

Fieldprint Projects

Currently Field to Market has projects in the field and many more getting started. For the most current information about projects in the field, [visit this page for updates](#) or [contact us](#).





The Fieldprint Calculator:

Measuring Field Level Outcomes and Identifying Opportunities for Improvement





What is the Fieldprint Calculator?

- An online education tool for row crop farmers that indexes their agronomics and practices to a fieldprint
- Helps growers evaluate their farming decisions and compare their sustainability performance

— In the areas of:

- Land use
- Soil conservation
- Soil carbon
- Water use
- Energy use
- Greenhouse gas emissions
- Water Quality
- Biodiversity in development

— Against:

- Their own fields
- Their own performance over time
- County, state and national averages



Fieldprint Calculator Start Page

The screenshot shows the Fieldprint Calculator web application in a browser window. The browser address bar displays <http://www.fieldtomarket.org/calculator>. The page title is "Fieldprint Calculator - Field ...". The application header includes the "Field to Market" logo and navigation links for "Fieldprint Calculator", "My Account", and "Logout".

The main content area features a large banner with the text "Fieldprint Calculator" and a row of tabs: "Start", "Land Use", "Soil Conservation", "Soil Carbon", "Irrigation Water Use", "Energy Use", "Greenhouse Gas Emissions", "Summary", and "Economic Analysis". The "Start" tab is currently selected.

Below the tabs, a message states: "To go back to previous tabs, please use the tabs rather than your browser's Back button." The "Start" section includes a blue information icon and a paragraph: "On this page, you will locate your field and enter information about its soil and your crop rotation, management system, transportation, and drying practices. This information will be used to calculate your Fieldprint for a variety of indicators on the following tabs."

The form is divided into two main sections. The left section contains input fields for:

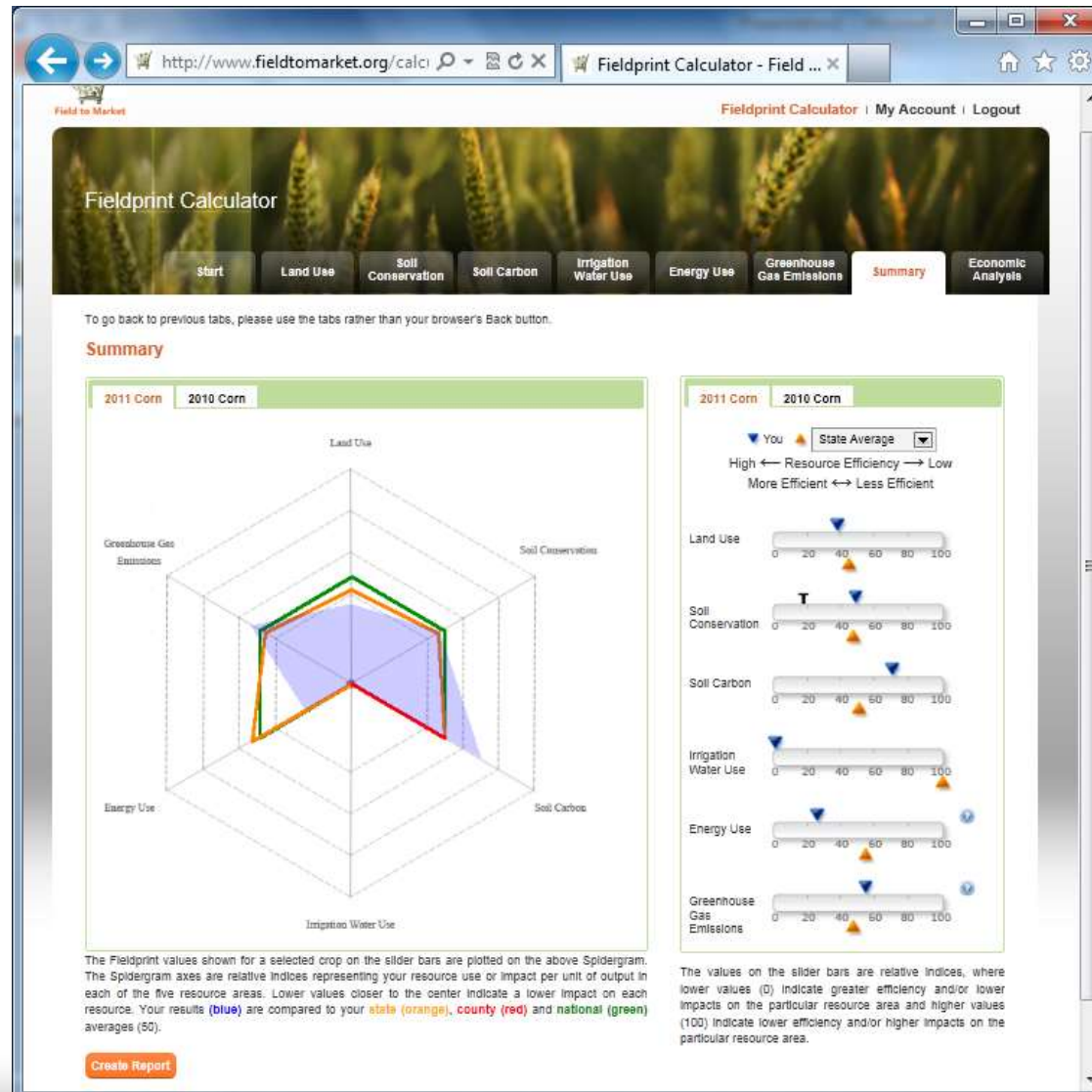
- Session: "Demo - IA Corn" (dropdown)
- Units: "U.S. Customary" (dropdown)
- Location section with:
 - State: "Iowa" (dropdown)
 - County: "Kossuth County" (dropdown)
 - Field Name: "My Typical Corn Field" (text input)
 - Field Lat (optional): (text input) dec. deg.
 - Field Lon (optional, negative value for U.S.): (text input) dec. deg.
 - Area: "158.97" (text input) acres

Buttons for "Zoom" and "submit" are located below the area input. The right section contains a map with a yellow rectangular field boundary. Above the map are icons for a hand, a heart, and a close button, along with the instruction: "Click and drag to move. Double Click to zoom in." The map includes a scale bar (0 to 1000 m) and coordinates (-94.08448, 43.41567). A "Data Sources" link is visible in the bottom right corner of the map area.

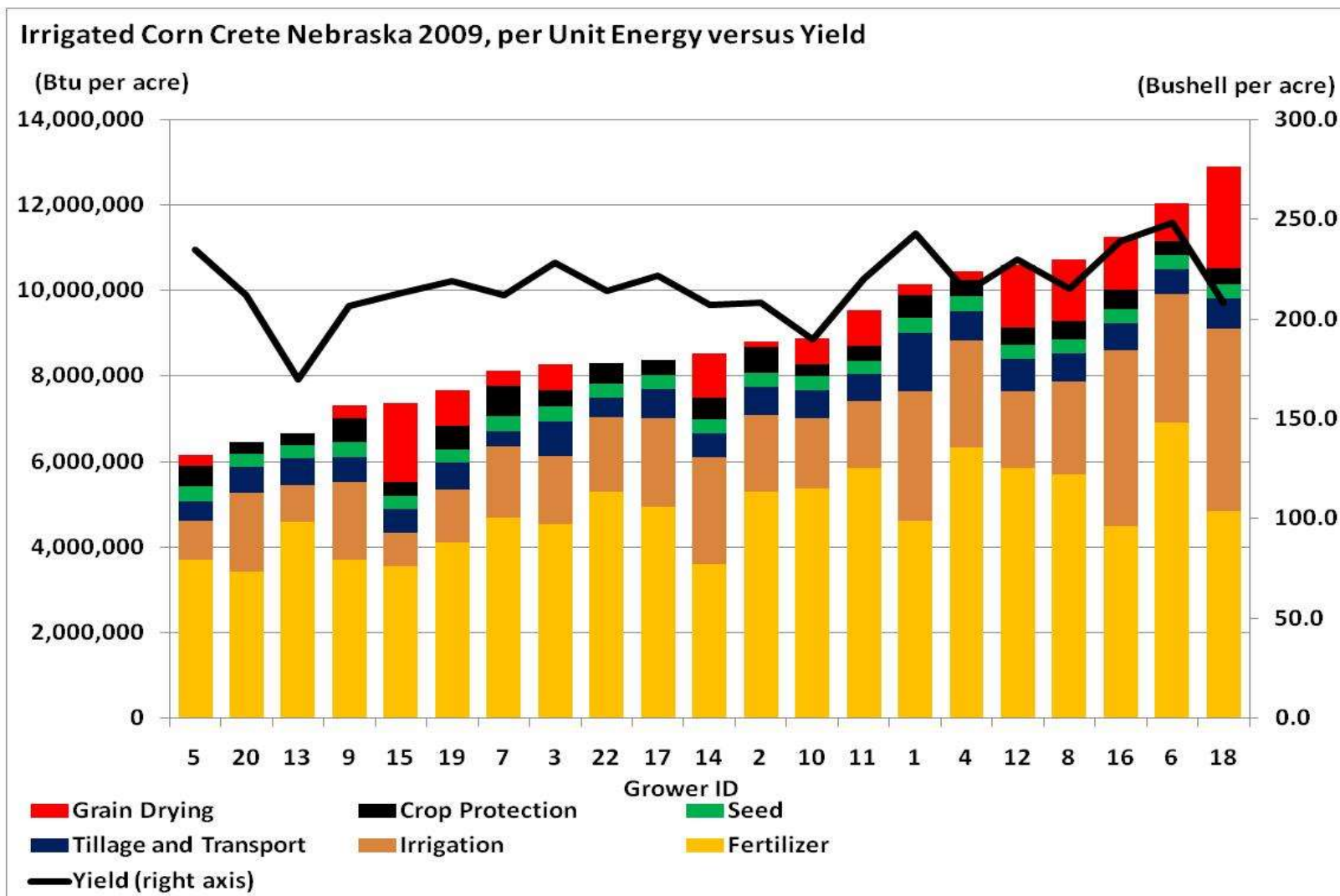
The footer contains navigation links: "Home", "About Us", "Contact Us", "Members", "Privacy Policy", and "Sitemap". The copyright notice reads: "© 2011 Field to Market. All Rights Reserved."



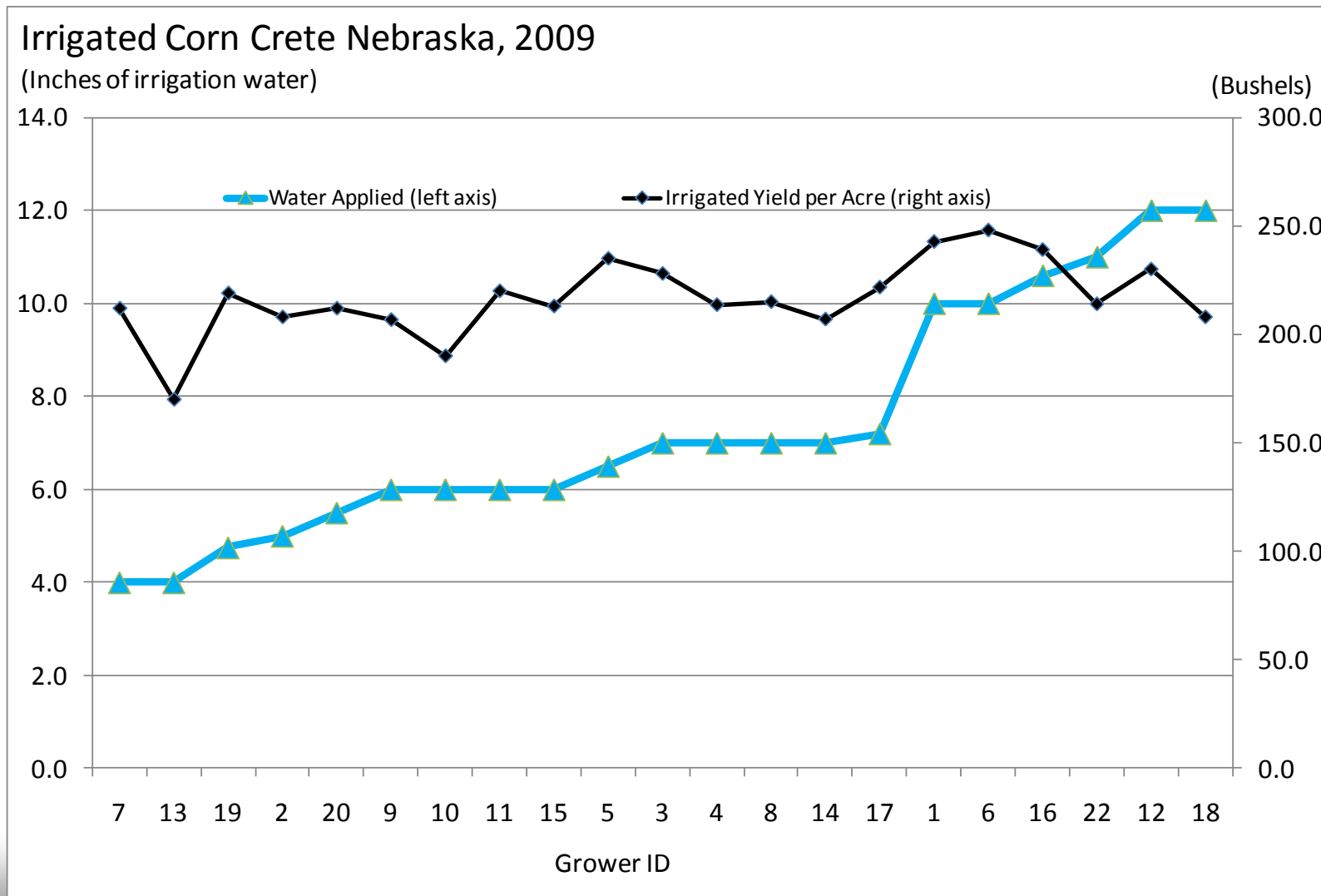
Fieldprint Calculator Summary Page



Energy Use Efficiency



Irrigation Water Use Efficiency





Environmental Indicators Report:

The Sustainability Story of U.S. Agriculture





Report Objectives

- **Analyze trends** over time for environmental and socioeconomic sustainability indicators
- **Establish a baseline** against which to measure future improvements
- **Create enabling conditions** for an informed, multi-stakeholder discussion of sustainability
- Advance an **outcomes-based, science-based** approach
- **Provide broad-scale context** for more local efforts



2012 Soybean Results

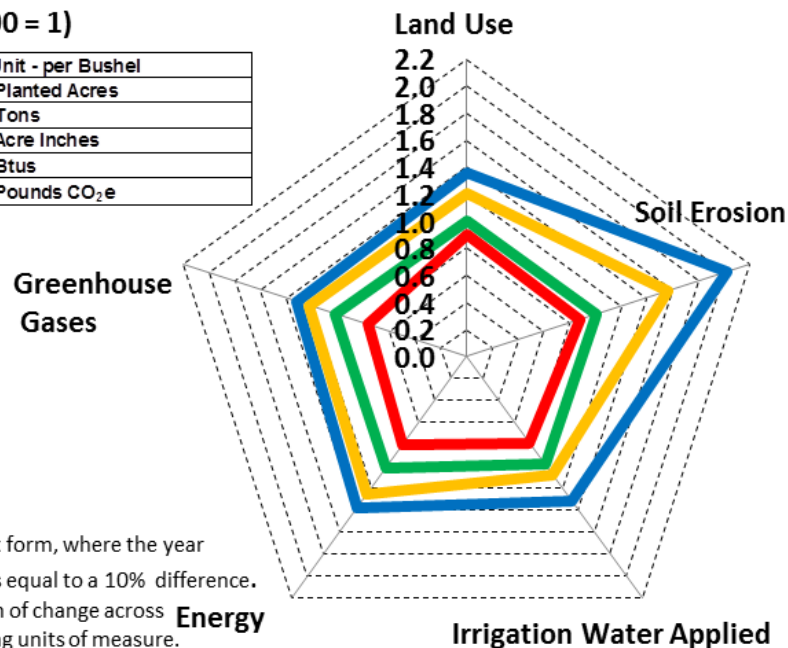
Resources per bushel

**Index of Per Bushel Resource Impacts to Produce Soybeans
(United States, Year 2000 = 1)**

Year	2000 *	Unit - per Bushel
Land Use	0.027	Planted Acres
Soil Erosion	0.131	Tons
Irrigation Water Applied	0.766	Acre Inches
Energy	70,669	Btus
Greenhouse Gases	15.1	Pounds CO ₂ e

* Five-year average 1996 - 2000

- 5 Yr. Avg. 1980 - 84
- 5 Yr. Avg. 1987 - 91
- 5 Yr. Avg. 1997 - 01
- 5 Yr. Avg. 2007 - 11

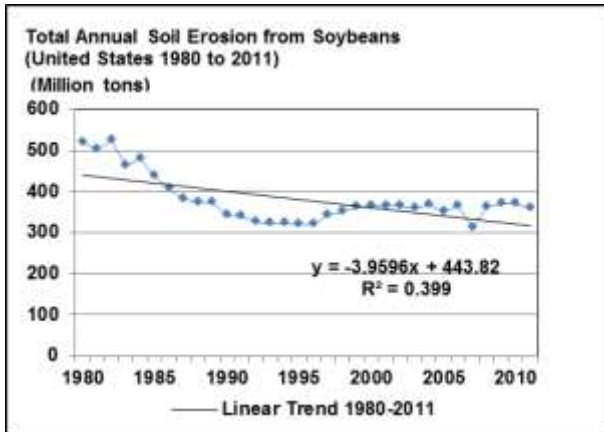


Note: Data are presented in index form, where the year 2000 = 1 and a 0.1 point change is equal to a 10% difference. Index values allow for comparison of change across multiple dimensions with differing units of measure.

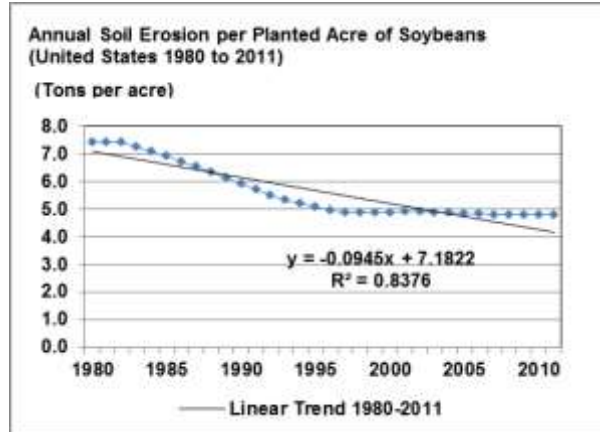


A Closer Look

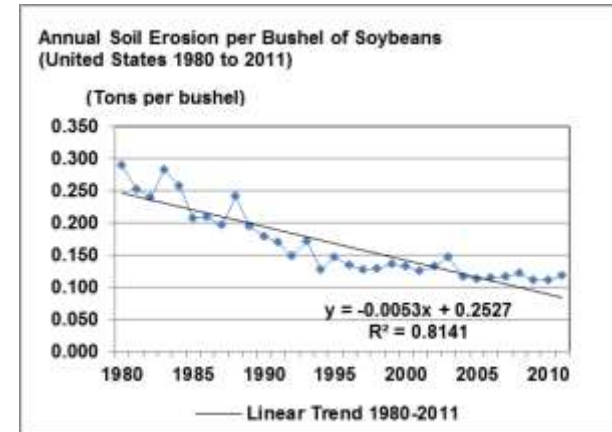
Soybean Results: Soil Erosion



TOTAL



PER ACRE

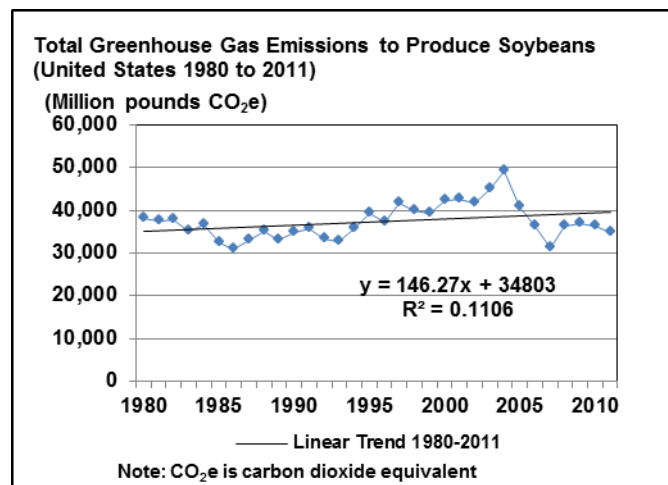
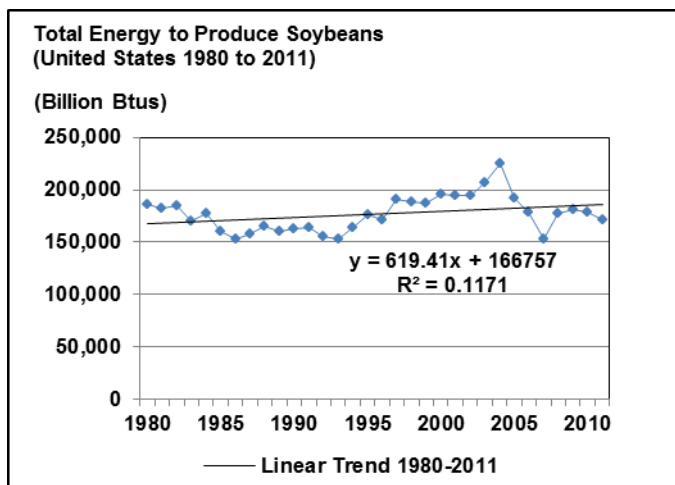
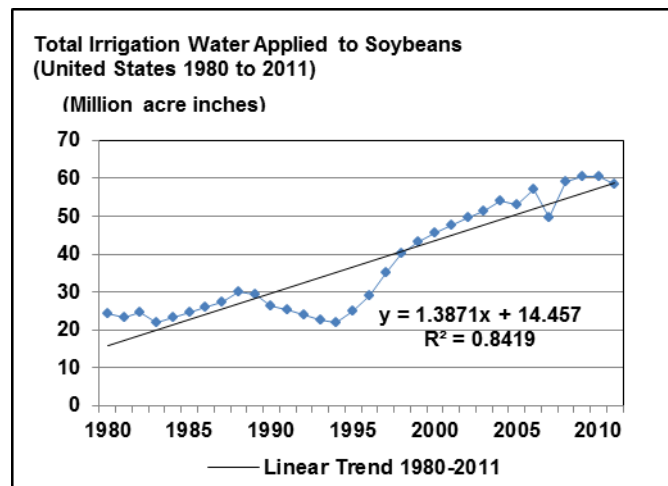
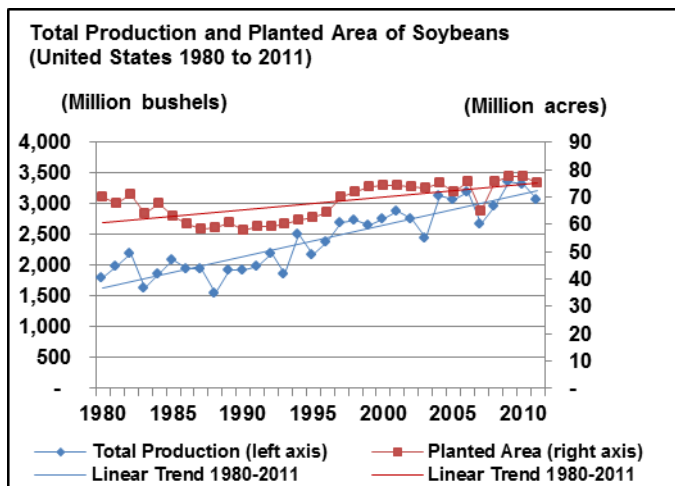


PER BUSHEL

- **Total soil erosion** decreased over most of the study period, but has increased more recently (similar for corn)
- **Per acre soil erosion** decreased during first half of study period, then leveled off (similar for corn, cotton, and wheat)



Soybeans: Additional Total Use Trends





Why participate with FTM?

- Demand for our crops is growing while the supply of resources is not, ie. Land, water, energy, etc.
- Past successes do not guarantee future successes.
- Evidence exists that there are opportunities for continuous improvement.....if unearthed!
- Downstream food processors and retailers are concerned about the sustainability of their supply chains and have made commitments to consumers and stakeholders
- Given the challenges ahead, status quo responses are not acceptable
- But, responses are dependent on many factors and ‘one size does not fit all.’





Path Forward



- Acknowledge preferences
- Respect differences
- Listen
- Learn
- Exert leadership
- Move ahead together

Micros



Field to Market