

# **Farm Environmental Management Systems in Nebraska: A Case Study**

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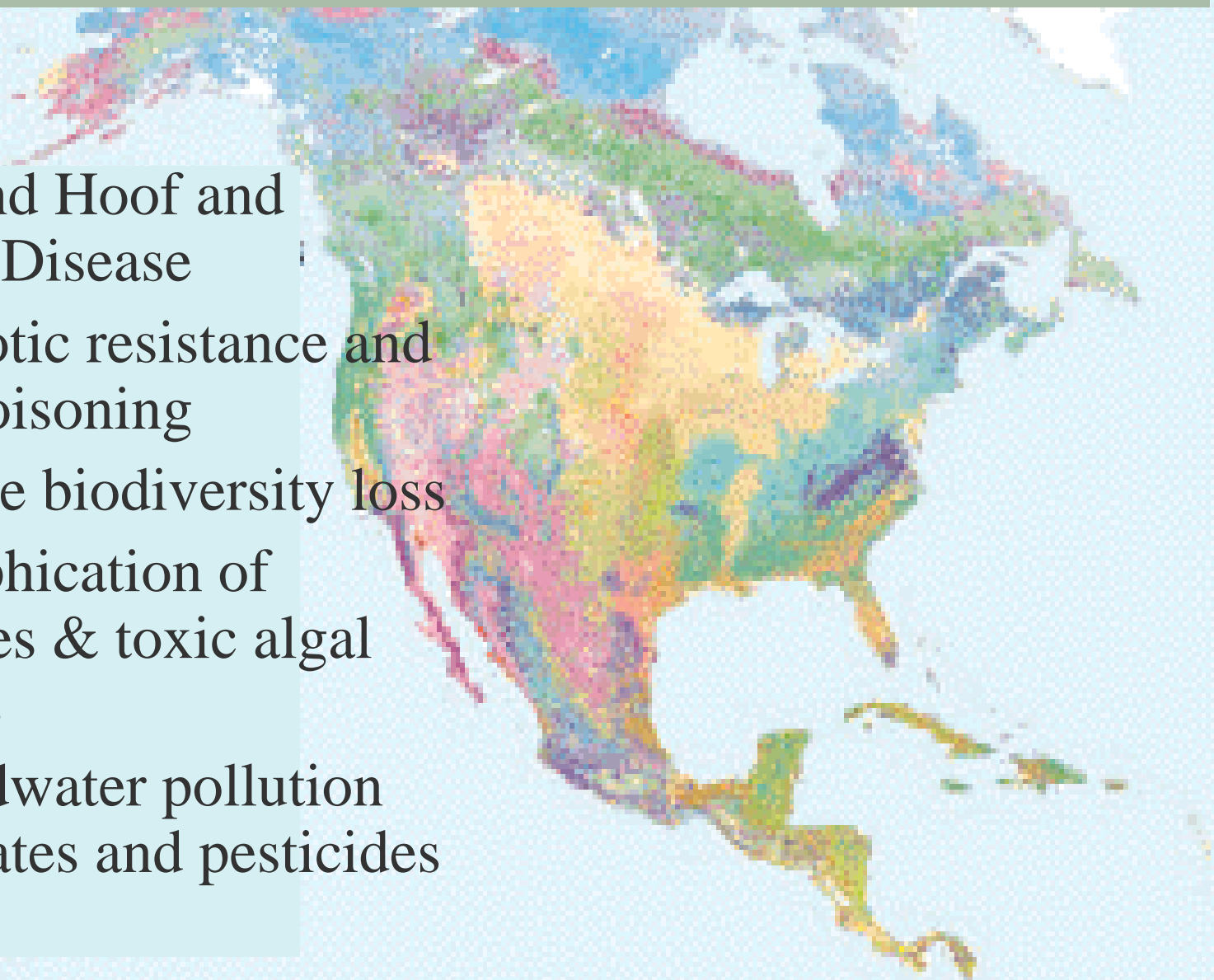
*Institute for Environmental Research and Education.*

*www.iere.org*

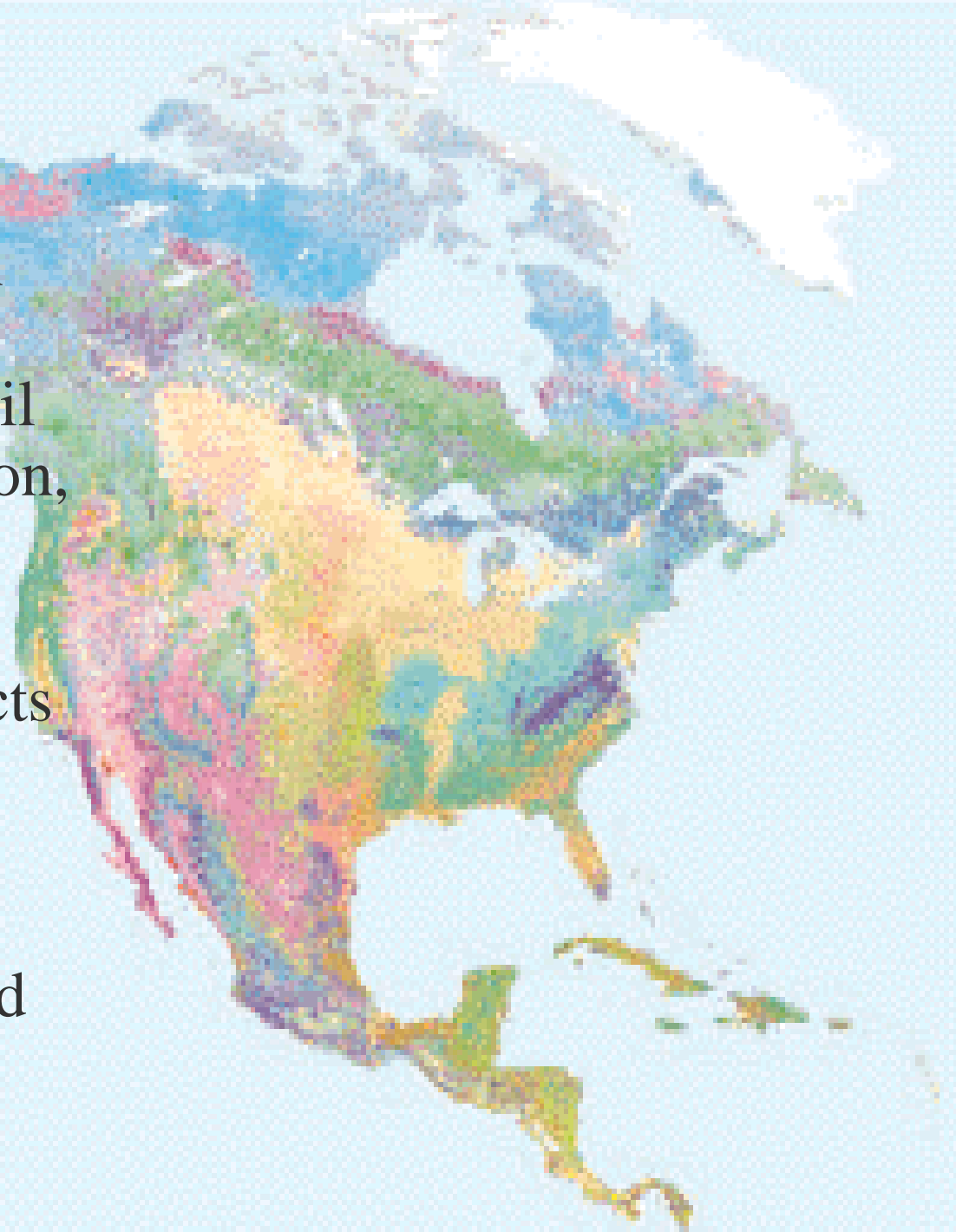
*Ecospheres, Lincoln June 2001*

# Farms Cause Real, Global Scale Problems

- ❧ BSE and Hoof and Mouth Disease
- ❧ Antibiotic resistance and food poisoning
- ❧ Massive biodiversity loss
- ❧ Eutrophication of estuaries & toxic algal blooms
- ❧ Groundwater pollution by nitrates and pesticides



- ❧ Global climate change through carbon release from soils, fossil fuel consumption, and livestock releases
- ❧ Pesticide impacts on people and wildlife
- ❧ Local air and water toxics and odor problems





# Public Perception of Agriculture

- In the U.S. 98% of the population views farms and farmers as “the other”
- Confined animal feeding operations are viewed as industrial production
- Farmers are held responsible for the pollution they cause & increased size of farms implies increased ability to pay for improvement

# Implications for Sustainability

- ❖ Agricultural sustainability is not about keeping people fed. It is about regaining the trust of the consuming public
- ❖ That means real, *disclosed & documented*, improved environmental performance
- ❖ It also still means social, economic and environmental sustainability
- ❖ *Only those farms that figure out how to become sustainable will survive over the next generation*



# IERE's Community EMS Approach to Sustainable Agriculture



ISO 14001 Conformance *How-to*



Life Cycle Assessment *Measuring stick*



Community Approach



Disclosure of Performance

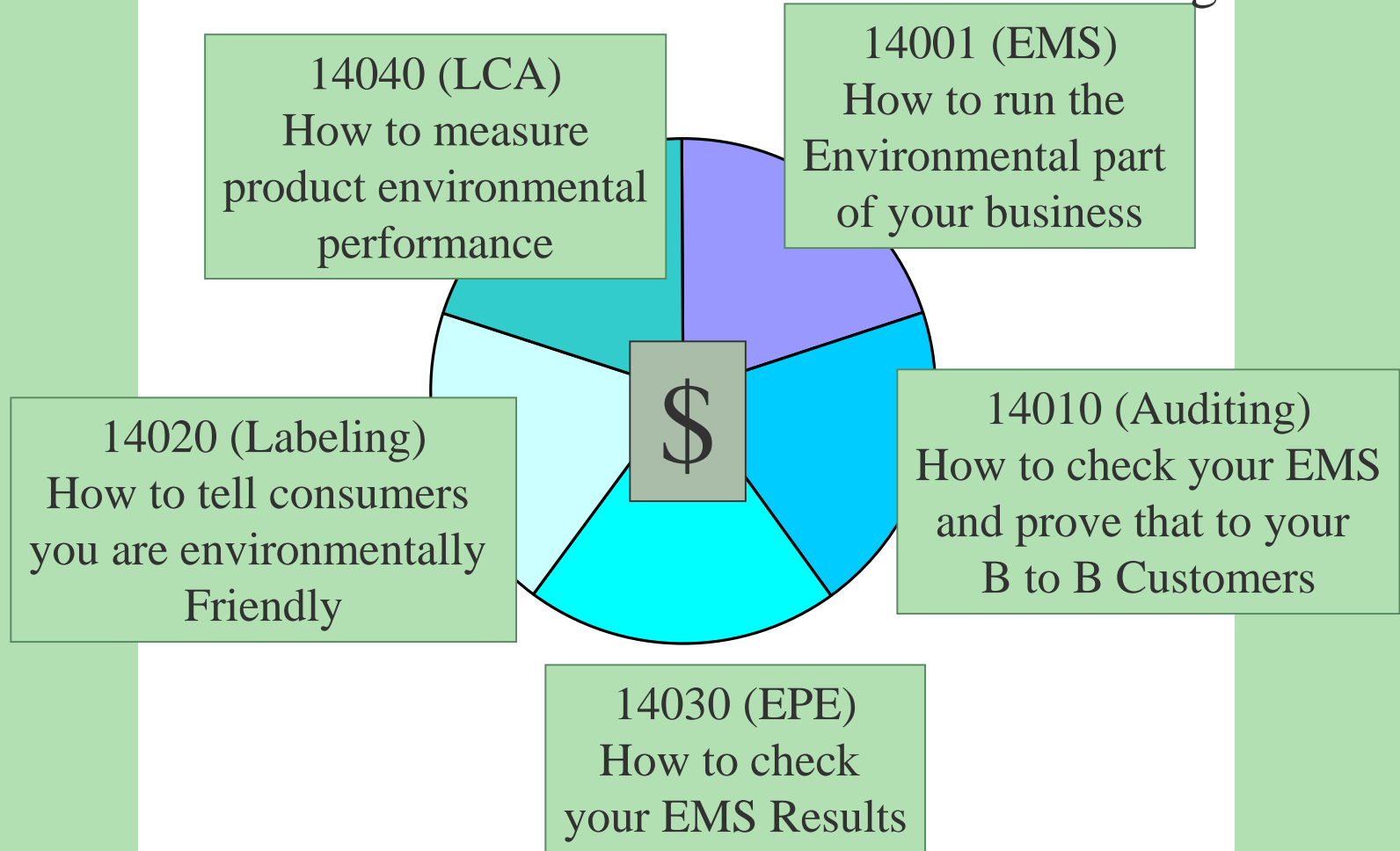


Ecolabels

*Disclosure  
To Public  
and  
Customers*

*For Producers, Processors, Consumers and Communities*

## ISO 14000 Series Standards: Global Thinking



# Community Involvement



# ISO 14001 Required Documents

- ✿ Environmental Policy
- ✿ Procedure to identify aspect; assure that they are considered in setting goals
- ✿ Procedure to identify and have access to applicable legal and other requirements
- ✿ Written objectives and targets, with roles & responsibilities & time-frame
- ✿ Roles, responsibilities & authority, and resources, Document & Communicate
- ✿ Training: Who, What, When
- ✿ Communication with Stakeholders: When and How
- ✿ EMS Documentation: How it Works



# ISO 14001 Documents

*(blah, blah, blah)*

- ❧ Document Control: How it's Done
- ❧ Operating Procedures (SOP's)
- ❧ Emergency Preparedness and Response Procedure
- ❧ Monitoring & Measuring Procedure
- ❧ Procedure for Non-Conformance and Corrective Action
- ❧ Procedure for Record Keeping
- ❧ Procedures and Records for Auditing
- ❧ Management Review Procedure & Recording

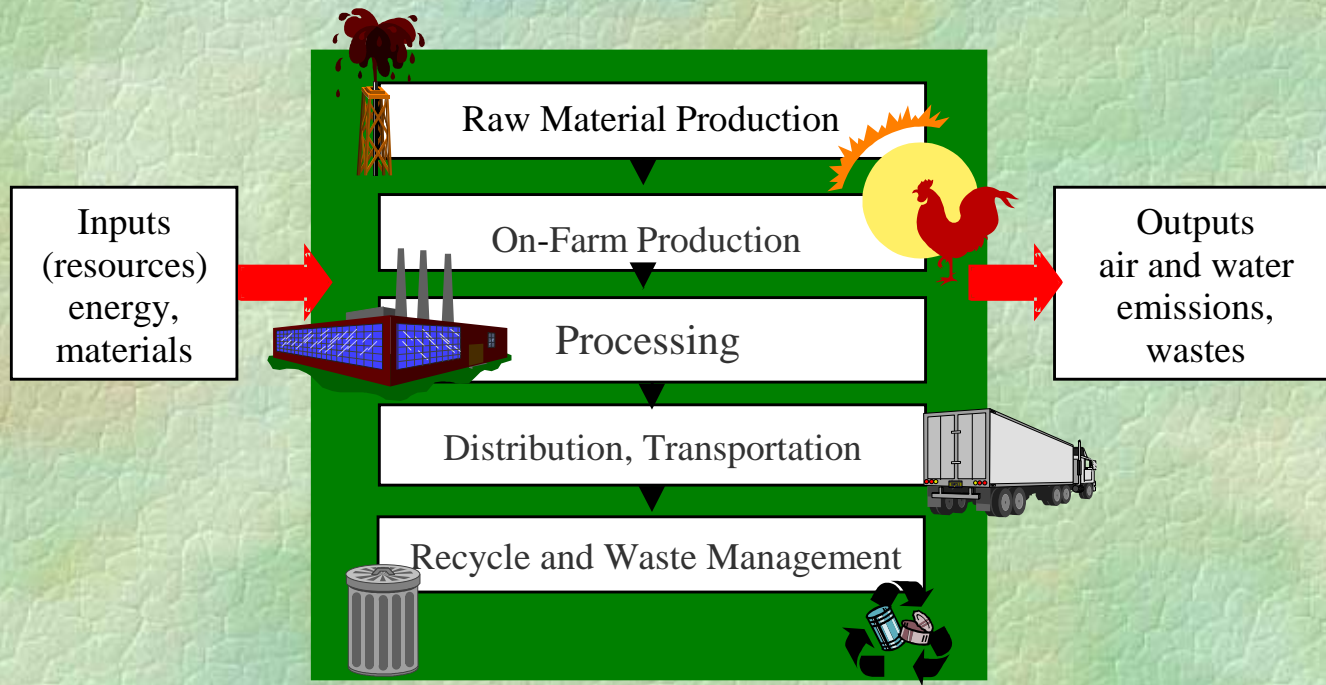
# Challenge: Reduce Documentation for Farmers

- Provide a step-by-step manual
- Fix certain approaches and SOP's
  - Performance Measurements
  - Aspects and Impacts Identification
- Have a fill-in-the blank approach to environmental documentation

*EMS Program Documentation for a Single Farm is 2-3 pages long; takes 8-12 hours of work*



# Life Cycle Assessment: Cradle to Grave Assessment



*Agricultural/Industrial System*

# LCA is the Holistic Yardstick of Environmental Performance

- ✿ Global Climate Change
- ✿ Stratospheric Ozone
- ✿ Photochemical Smog
- ✿ Airborne Toxicity
- ✿ Aquatic Toxicity
- ✿ Eutrophication
- ✿ Fossil Fuel Depletion

- ✿ Mineral Depletion
- ✿ Land Use/Ecosystems
- ✿ Water Conservation

- ✿ **Use of GMO's**
- ✿ **Use of Antibiotics**
- ✿ **Hormone Use**
- ✿ **Soil Conservation**



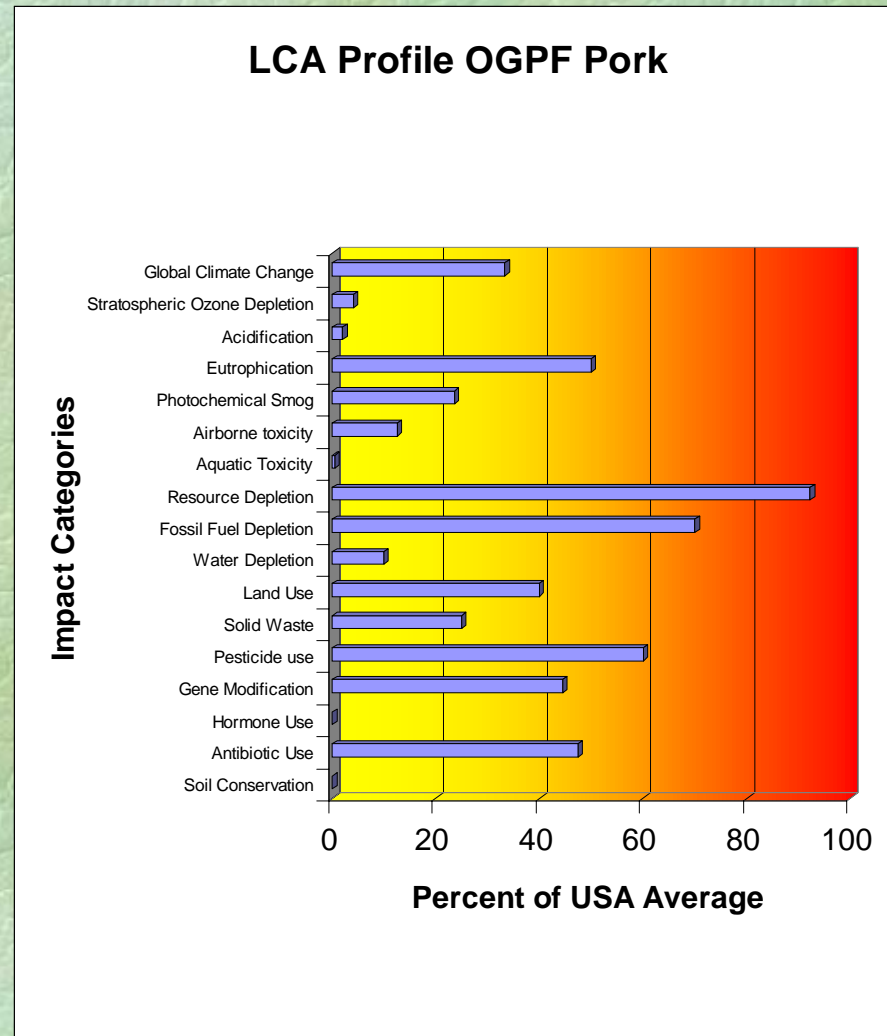
# Example EcoProfile/Ecolabel

Only Science  
Based Approach

Calculations  
Are Difficult

Output Easy to  
Understand

Basis of the  
Ecolabel = \$\$



# Acting Locally: Community Involvement

## ❖ Community Environmental Council

- Provide support to community
- Community provides oversight of operations
- Conduit for information between agribusiness & communities
- CEC actually in facilities

## ❖ Annual Disclosure— source of trust





# Loup Valley Dairy

- Family Farm, Calloway Central Nebraska
- 140 Milking Cows on 370 Acres
- Moving towards Management Intensive Grazing System
- Long term commitment to environmental performance



# Example Annual Report on Web Loup Valley Dairy



## Action Plan for 2000 and Performance

During the year 2000, Loup Valley *planned* to upgrade irrigation and fencing to facilitate intensive grazing.

*What they did was:* Added 0.5 miles irrigation tow line in 2001, used 1.5 miles electric fences for management intensive grazing.

They *planned* to maintain pesticide toxic equivalents at less than half the national average for dairy farms

*What they did was:* exceed this goal, using even less pesticide than last year



# Outcome

- ❧ Farm in 2<sup>nd</sup> Year in IERE Program
- ❧ Farm Environmental Performance improved on a year-to year basis
- ❧ EMS Provides discipline to farm management decisions
- ❧ Despite drought last year, farm is in the black



# EMS Annual Report Out/ Disclosure to Community

- ✿ Description of the Business
- ✿ Policy
- ✿ Aspects & Impacts
- ✿ Goals and Objectives & Performance to Those Goals & Objectives
- ✿ Contact Information

*Disclosure is the Basis of Trust*



# Case Study: Petersburg, NE and Family Quality Pork Processors

- ❖ Family Quality Pork Processors Co-op wanted to build an environmentally-friendly pork slaughter facility in Petersburg, NE.
- ❖ They met with the whole town— not just leaders
- ❖ The decision about whether to site the facility in the town was made by the town, not the Co-op
- ❖ 98% of the town voted to have FQPP there.



# FQPP Follow on

- ❧ Developed a Community Environmental Council to oversee the facility (meets semiweekly)
- ❧ Identified Community concerns
  - Size of the Facility
  - Odors
- ❧ Actions Taken Through Zoning Conditional Use
  - Legal restraints on production
  - Odorous processes forbidden
  - Ownership limited to FQPP



# In Summary

- Sustainability today has to focus on the public and the community
- The IERE Program integrates community outreach, environmental management on farm and in production facilities, and ecolabels
- Preliminary outcomes are positive: We are hoping for a sunrise, not a sunset to US Agriculture

# For More Information

☞ [www.iere.org](http://www.iere.org)

☞ Offices in Iowa and  
Washington State

☞ 206-463-7430