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LCA at the Heart of the EMS: IERE's Sustainable Agriculture Program

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www.iere.org

Information About IERE

- ❧ Institute for Environmental Research and Education
- ❧ Non-Profit 501(c)3
- ❧ Offices Located in Iowa and Washington State
- ❧ Programs in natural and social sciences oriented towards fact-based environmental decision making
- ❧ Co-Sponsor of this conference

Why Sustainable Agriculture

- ❖ Agriculture causes immense environmental impacts, world wide
- ❖ IERE was approached by a group of producers to provide third-party oversight of their environmental performance
- ❖ LCA is a good way to capture agricultural impacts
- ❖ Ecolabels are an important economic driver, leading to *much* increased farmer profits

Agricultural Project

- ✿ In several Midwest states
- ✿ Producers of meat: pork, beef and goats
- ✿ Producers own packing plants
- ✿ Near vertical integration facilitates the LCA

IERE's Community EMS Approach



ISO 14001 Conformance



Community Approach



Life Cycle Assessment



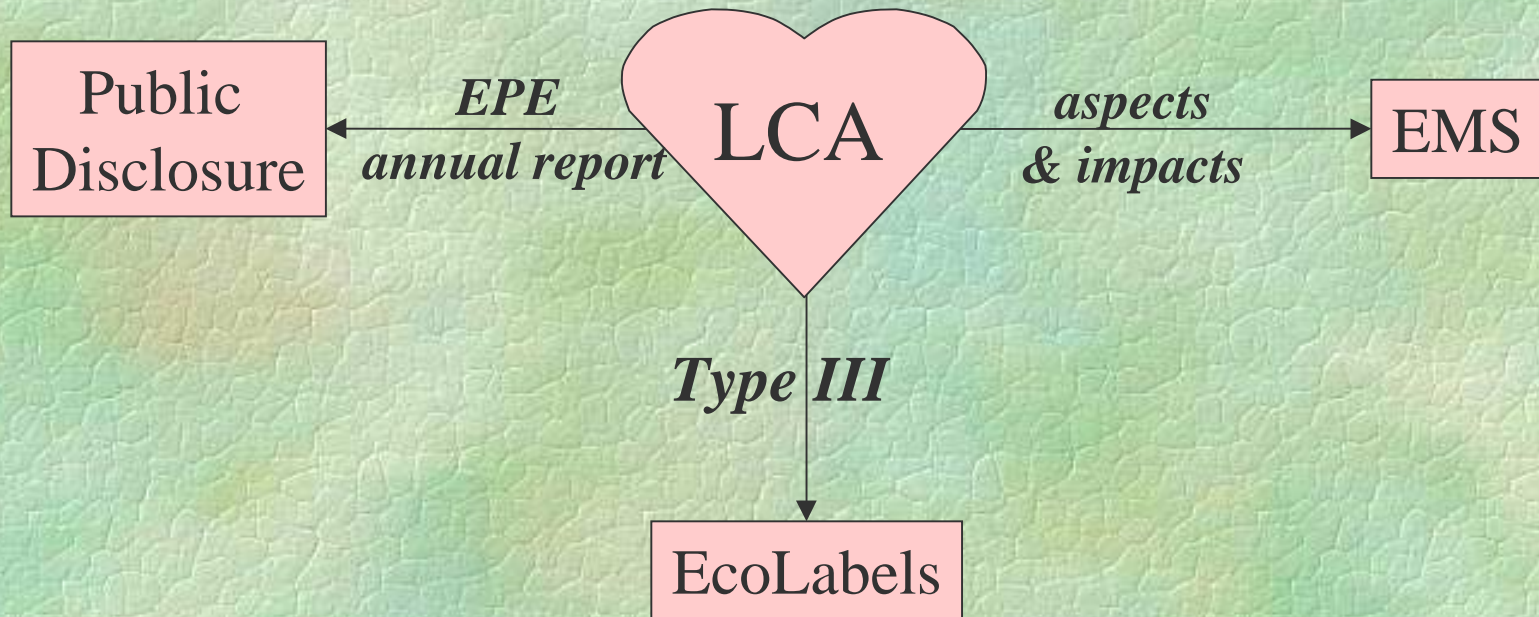
Disclosure of Performance



EcoLabels



LCA at the Heart of the Program



IERE's Three Level Verification Steps in the LCA Gradually

- ❧ Basic: compliance and ISO 14000 certification; annual disclosure and community verification
- ❧ Mature: all the above, plus measure of performance with *life cycle indicators*, and data gathering outside the facility begun
- ❧ Leadership: all the above, plus *LCA showing comparison with the industry average*

All the ISO 14000 Series Used

- ❧ 14000 Series Environmental Management Systems: self-declaration
- ❧ 14010 Series Auditing: through community
- ❧ 14020 Series Labeling: Type III
- ❧ 14030 Series Performance Evaluation based on LCA
- ❧ 14040 Series Life Cycle Assessment: the yardstick

Environmental Impact Categories

- ☞ 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**

Report out

- ❧ Goals and objectives stated in LCA terms
- ❧ Annual reports stated in LCA terms
- ❧ Type III (LCA-based) Ecolabel

What We Know About Ecolabels in USA

- ❖ Customers can't be lied to (or credibility is lost): verification is essential
- ❖ Customers will accept mistakes, *if* they are disclosed and corrected
- ❖ Food products is one of the highest potential profit areas, but any food ecolabel **MUST** include reduction in pesticide use.
- ❖ The more kinds of superior environmental performance on one label, the better

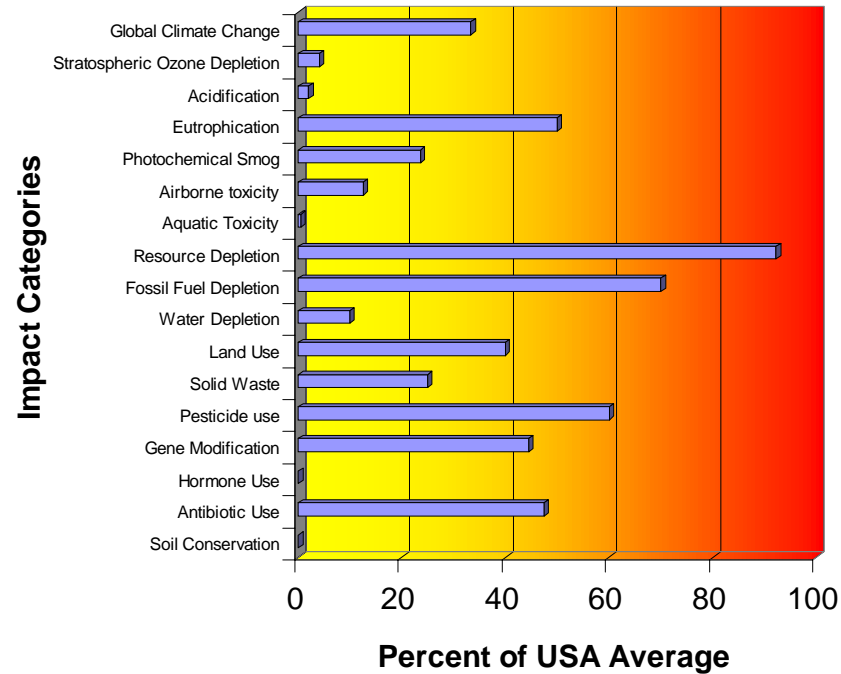
Advantages of Ecolabels

- ✿ Market Advantage (*from Hartman Report*)
 - over 30% of the population is concerned & prefers to buy “green”
 - Over 7% of the population will pay over 10% premium for “green”
 - Branded meat products bring an average of 40% premium at wholesale
- ✿ Increased profitability for local businesses

Example Annual Report

- ☞ *Environmental Policy*
- ☞ *Description of the Business*
- ☞ *Environmental Life-Cycle Indicators*
- ☞ *Environmental Targets and Goals*
- ☞ *Performance Against Targets and Goals*
- ☞ *Compliance*
- ☞ *Contact Information*

LCA Profile OGPF Pork



IERE's Labeling

- ❖ Once facilities reach the leadership level, it is possible to develop Type III ecolabels for individual producers
- ❖ Labels have serial numbers, and a website provides more information
- ❖ Buyers can check up on the environmental performance of particular sources

Type III EcoLabels & the Internet



Green Pig # 150102



Farm Information

Osage Triple A Farm is located on 250 rolling acres in northern Missouri

Bill and Betty Farmer are second generation farmers on the land, and they have recently passed it over to their son Bob and his wife Jane.

The Farmers have 125 sows on the farm, which help them produce 2000 hogs per year. The hogs are fed partially by the grain they grow themselves, but they also buy grain as far away as Sweden to grow their hogs.

Audit and Verification

- ❧ Verification by community based verifiers
- ❧ Training provided by IERE, covers EMS, LCA, Auditing and Internet usage
- ❧ Annual audit schedule
- ❧ Audits published on the web

Why Have A community Environmental Board?

- ✿ More community involvement
- ✿ Local control
- ✿ Better communication
- ✿ More knowledge of environmental issues
- ✿ Advantages to new and existing companies
- ✿ Closer working relationship between business and citizens
- ✿ Outlet for local concerns
- ✿ Positions the community as progressive with positive attitude toward business.
- ✿ Serves as buffer from outside organizations
- ✿ Reduce 'fear factor'
- ✿ Increases opportunities for local companies and individuals