Breakout Session C-IV
Sustainability Research Review

Global Roundtable for Sustainable Beef
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Welcome!
li ta mi ksi tsi ko!
Osiyo!

Thanks to our sponsors:

- Alberta Livestock and Meat Agency;
- Canadian Roundtable for Sustainable Beef;
- Dawn Meats;
- Elanco;
- GrowSafe Systems;
- Inalca;
- The OSI Group;
- Rabobank

Remember to tweet using #GCSBeef2016
Strategies for Sustainability Programs

1. Threshold compliance frameworks
   A. Compliance criteria established by an authority (regulatory, market access, etc)
   B. Participants subject to audits for compliance and either pass or fail the criteria

2. Incremental compliance frameworks
   A. Compliance criteria for tiers of performance established by an authority (NGO, market segment)
   B. Participants achieve a ranked certification based on audited performance – silver, gold, platinum or 1-3 stars, etc.

3. Continuous improvement frameworks
   This is the approach we use for most US ag programs
ANSI/ASABE 629: A Continuous Improvement Framework for Sustainable Agriculture

1. Define
   A. Define Sustainability for the Enterprise
   B. Identify Sustainability Performance Indicators
   C. Select Metrics for PIs

2. Plan
   A. Benchmark SPI Metrics
   B. Set Goals for Each SPI
   C. Develop Strategy to Meet Goals

3. Implement
   A. Implement the Strategy
   B. Measure, Assess and Report Results
   C. Adapt Strategy to Improve Outcomes
US Ag Sustainability Programs
Adopting the Framework

US POULTRY
U.S. POULTRY & EGG ASSOCIATION

NATIONAL CORN GROWERS ASSOCIATION

National Institute for Animal Agriculture

BEEF

USA Rice

US SEC

American Peanut Council

United Soybean Board

Pork Checkoff

Cotton Incorporated

Field to Market

The Alliance for Sustainable Agriculture
Sustainability is Continuous Improvement

1. Define
   A. Define Sustainability for the Enterprise
   B. Define Key Performance Indicators
   C. Select Metrics for KPIs

2. Plan
   A. Benchmark KPI Metrics
   B. Set Goals for Each KPI
   C. Develop Strategy to Meet Goals

3. Implement
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Criteria for Key Performance Indicators

Key Performance Indicators (KPIs) are things we measure to inform decisions. KPIs should be:
1. Outcomes Based.
2. Science Driven.
3. Technology Neutral.
4. Transparent.
USRSB Indicator Selection

1. Identify the six most important indicators
   – Important to producers
   – Important to their customers

2. Select indicators that have established metrics
   – Develop experience with assessment and reporting
   – Create a process that works for everyone

3. When the first phase of indicators are established, identify the second phase
What are the most important things?

Divided participants into mixed groups at each table. They identified the five most important issues/concerns from each MSG for each dimension.
What are the most important things?

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Prioritized Indicators by Sector Using a Materiality Matrix

![Diagram of a materiality matrix with sectors and priorities]

- **Planet (Environment)**
- **Other Stakeholder Sectors**
- **Producers**

The diagram illustrates how different sectors and priorities can be categorized using a materiality matrix, aiding in the prioritization of indicators.
HIGH PRIORITY INDICATORS

- Animal Health and Well-being
- Efficiency and Yield
- Water Resources
- Land Resources
- Air and Greenhouse Gas Emissions
- Worker Safety and Well-being

Indicator Definitions

**Animal Health and Well-being:** The cumulative effects of cattle health, nutrition, care and comfort.

**Efficiency and Yield:** Efficiency is the unit of input required to produce a unit of output and yield is the total product generated per unit of time or space. Both concepts address waste as a negative characteristic and drive toward improved profitability.

**Water Resources:** The volume of water consumed by a sector for each process and any impacts on water quality by a sector for each process.

**Land Resources:** The stewardship of terrestrial and aquatic habitat in relation to water, soil and biodiversity in an area. Impacts of land use and land use conversion, both caused by and prevented by ranching and farming activities.

**Air and Greenhouse Gas Emissions:** The cumulative emissions of pollutants, including particulate matter, greenhouse gases and other gaseous emissions from a sector for each process.

**Worker Safety and Well-being:** The implementation of safety programs and training to provide a safe workplace and help to prevent workplace accidents and injuries associated with production, processing, and distribution of beef and the relative prosperity of workers employed in those activities.
Next Step: Metric Development

• Identify the measurable elements within each indicator
  – Each sector will identify what is already being measured, what can be measured, and what should be measured

• Common measurements across sectors will be classified as System Metrics

• Metrics that are unique to a sector will be classified as Sector Metrics

• Prioritize System and Sector Metrics for benchmarking
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Today’s breakout session speakers

Dr. Greg Thoma, University of Arkansas

Prof. Thoma is the Bates Teaching Professor of Chemical Engineering at the University of Arkansas. Dr. Thoma has led numerous food and agriculture life cycle assessment projects: milk, cheese, milk delivery systems, yogurt, swine, poultry, corn, and beef. He serves on the steering committee for the Swiss National Research Program, “Healthy Nutrition and Sustainable Food Production.” He is the North American subject editor for Agriculture for the International Journal of Lifecycle Assessment.
Today’s breakout session speakers

Dr. Frank Mitloehner, University of California, Davis

Professor Mitloehner is Air Quality Extension Specialist, Department of Animal Science, University of California – Davis. Dr. Mitloehner is the former chairman of a global United Nations FAO project to benchmark the environmental footprint of livestock production. He serves as workgroup member on the President’s Council of Advisors on Science and Technology (PCAST) and as member on the National Academies of Science Institute of Medicine committee on “A Framework for Assessing the Health, Environmental, and Social Effects of the Food System”.
Dr. Roger Cady, Global Sustainability Lead, Elanco

Dr. Cady serves as Global Sustainability Lead for Elanco working across animal protein species to provide information to the retail chain in support of sustainable agricultural practices.

He is currently focused on methods to reduce natural resource use in the production of animal protein and promote environmentally sound and economically viable practices in food animal production.

Dr. Cady has been instrumental in engaging academic stakeholders across agriculture to participate in sustainable ag research.