WHAT WE LEARNED
CONDUCTING AN
INDUSTRY FARM TO
FORK LCA FOR
BEEF, THE DOS &
DON’TS”

Kim Stackhouse, P.h.D
CONTINUOUS IMPROVEMENT

• Committed to a journey
• Benchmark research
  • Trust
Important to remember that there are tradeoffs and food production will result in an impact — the goal is improvement over time.
WHAT DID WE FIND?

• **Improved over time**
  - 6 years we have improved 5% Environmental and social, 7%

• **Innovations within the food system**
  - Crop yields, machinery and irrigation technology, manure management, precision farming, and animal performance
  - Biogas capture, closed-loop water cooling systems, waste water recycling, and “right size” packaging
WHAT SURPRISED US?

• Vast definitions of sustainability
  • Lack of comments on GHGs, more on animal welfare, traceability, etc.

• Food waste
LIFE CYCLE ASSESSMENT

LCA

Pre-harvest
USDA-ARS
2005 2011

Post-harvest
BASF
2005 2011

Eco-Efficiency Portfolio
ECO-EFFICIENCY PORTFOLIO

Figure 4 | Eco-efficiency Portfolio: U.S. Beef – Phase 1
ENVIRONMENTAL FINGERPRINT
Since 2005 emissions to soil have been reduced by 7%
Since 2005 greenhouse gas emissions have been reduced by 2%
Since 2005 acidification potential emissions have been reduced by 3%
Since 2005 emissions to water have been reduced by 10%.
Since 2005 occupational illnesses and accidents have been reduced by 32%
2014 Global Conference On
SUSTAINABLE BEEF

SUSTAINABLE BEEF:
BUILDING A VISION FOR OUR FUTURE

Nov. 2-5 | Sao Paulo, Brazil | WTC Events Center

Co-hosted by: Global Roundtable for Sustainable Beef & GTPS – Brazilian Roundtable on Sustainable Livestock
Since 2005 land use has been reduced by 4%
Since 2005 energy use has been reduced by 2%
ENERGY CONSUMPTION

MJ/UB

2005
2011

Non-Renewable

Renewable Non-Bio-Based

Renewable Bio-Based
LCAs

- Can’t tell you everything
  - Don’t always give you the complete story
  - Rules/standards that may not apply to beef
- Beef is COMPLEX
  - Grazing, ecosystems, bi-products, embodied energy
  - Biogenic carbon
DON’T

• Spend time on social indicators (yet)
• Send surveys first, start with a data set
• Expect an LCA to answer biodiversity questions
BENEFITS BEEF LCA?

• Tell our story
• Good science → baseline
• Supply chain focus in the right areas for improvement
KEEP IN MIND

• Continuous improvement over time
• A journey, NOT a destination
• Have a sustainable product today and we want a more sustainable product tomorrow
THANK YOU

kstackhouse@beef.org