

Global Markets for Sustainably Produced Beef: Current Challenges and Future Opportunities



Dr. JOHN IKERD, PROFESSOR EMERITUS OF AGRICULTURAL AND APPLIED ECONOMICS,
UNIVERSITY OF MISSOURI –USA-- PREPARED FOR PRESENTATION AT THE 10^º SIMPÓSIO DA ASBRAM,
“WHERE ARE OUR OPPORTUNITIES,” SAO PAULO, BRAZIL, 23 NOVEMBER, 2017.

Global Market for Sustainable Beef: Challenges & Opportunities



John Ikerd, PhD -
Agricultural Economist

I am not an expert or authority on Brazilian agriculture, but I can speak with authority on the “principles” of sustainable animal agriculture.

My Truth! My Story! I grew up on a farm and worked for a large meat packing company before completing my Ph.D. degree in agricultural economics at the University of Missouri-USA.

I spent the first half of my 30-year academic career as a livestock marketing specialist, promoting industrial agriculture—farming as a business, not a way of life. I advised farmers to “Get big or get out.”

Global Market for Sustainable Beef: Challenges & Opportunities

John Ikerd, PhD - Agricultural Economist



Sustainability: Ability to meet the needs of the present without diminishing opportunities for the future.

While head of Agricultural Economics Department, I was forced to conclude that “industrial” agriculture was not sustainable for farmers, people, or land.

Industrial agriculture is not meeting the needs of all today and certainly is not leaving equal opportunities for future generations.

I couldn't continue teaching something that I no longer believed. I have spent the past 25+ years of my life educating and advocating for sustainable agriculture.

Negative Impacts of Industrial Animal Agriculture

Mid-1990s: A 1,000,000 head hog operation (CAFOs) was promoted as an economic development strategy by the University of Missouri.

I concluded, three family hog farms would be forced out of business for each person employed by the large corporate hog operation.

I continue to review research and have met with people in 17 states in U.S., 4 provinces of Canada, and in the UK—helping people protect their communities from the threats of industrial animal agriculture.

More than 50 years of research now confirms the negative ecological, social, and economic effects of industrial animal agriculture.

Some Conclusions of Scientific Meta-Studies

A 2 ½-yr study, 2008; funded by the Pew Charitable Trust.
Conclusions based on 185+ scientific studies:

“The current industrial farm animal production (IFAP/CAFO) system often poses unacceptable risks to public health, the environment and the welfare of the animals themselves.” They added: *“The negative effects of the IFAP system are too great and the scientific evidence is too strong to ignore. Significant changes must be implemented and must start now.”*

Some Conclusions of Scientific Meta-Studies

A 2006 Study by University of North Dakota; Reviewed 56 peer reviewed journal articles to support the conclusion:

“Based on the evidence generated by social science research, we conclude that public concern about the detrimental community impacts of industrialized farming is warranted. In brief, this conclusion rests on five decades of government and academic concern.. that has grown more intense as the social and environmental problems associated with large animal confinement operations have become widely recognized.”

Industrial Agriculture Displaces Independent Producers

U.S. Department of Agriculture Data:

Total agriculture employment:

1960; more than 8% of total U.S. employment

Today; less than 1% of total employment

Between 1980 and 2008:

41% fewer beef producers;

90% fewer hog farmers;

80% fewer dairy farmers.

Industrial livestock production=>fewer employment opportunities.

Industrial livestock production is being spread around the world by transnational corporations.

Some of the corporations and international organizations: Tyson Foods (US), WH Group (China), JBS (Brazil), International Monetary Fund (IMF), World Bank. FAO-UN is trying to remain neutral...


Rabobank-Report: ***Beefing up Brazil:***

“The world needs more beef, and Brazil is set to provide this beef by stepping up rapid intensification of its production sector over the next ten years... The growth will necessitate up to USD \$500 million in new infrastructure investments in feedlots alone.”

Industrial livestock production is being spread around the world by transnational corporations.

Rabobank Report – Report: **Upping the Steaks:**

“Brazil is expected to increase its beef production by around 2% per year over the coming decade. This will be supported by an increased use of systems that rely on pastures in combination with grains in order to accelerate growth and reduce time to market. These emerging systems, along with the traditional feedlot, are the key to improving productivity and mitigating risks, and are likely to be present in 45% of Brazil’s beef production by 2026, whereas today less than 30% of total beef production in Brazil uses these systems.”



Problems resulting from Industrial Agriculture are Global Problems.

Study by International Panel of Experts-Sustainability: **Uniformity to Diversity**; 2016, sponsored by FAO-UN. Conclusions from 350+ studies:

“Today's [industrial] food and farming systems have succeeded in supplying large volumes of foods to global markets, but are generating negative outcomes on multiple fronts: widespread degradation of land, water and ecosystems; high GHG emissions; biodiversity losses; persistent hunger and micro-nutrient deficiencies alongside the rapid rise of obesity and diet-related diseases; and livelihood stresses for farmers around the world.”

Problems resulting from Industrial Agriculture are Global Problems.

Environmental Impacts of Industrial Livestock Production:

Henning Steinfeld, author; funded by FAO-UN; 2006: **Livestock's Long Shadow**; *Environmental Issues and Options*, concluded:

“Livestock are one of the most significant contributors to today’s most serious environmental problems.” The livestock sector accounts for 9 percent of CO₂ deriving from human-related activities, a much larger share of greenhouse gases; generates 65 percent of nitrous oxide, which is 296 times as harmful as CO₂; and accounts for 37 percent of all methane (23 times as harmful as CO₂), and 64 percent of ammonia, which contributes to acid rain.”

Problems resulting from Industrial Agriculture are Global Problems.

Natural Resource Impacts of Industrial Livestock Production.

Henning Steinfeld, FAO-UN; 2006: **Livestock's Long Shadow:**

“The livestock business is among the most damaging sectors to the earth’s increasingly scarce water resources, contributing among other things to water pollution, eutrophication, and the degeneration of coral reefs. The major polluting agents are animal wastes, antibiotics and hormones, chemicals from tanneries... Widespread overgrazing disturbs water cycles, reducing replenishment of above and below ground water resources.” (20% of world’s pastures degraded, many tending toward desertification.)

Other negative impact of animal agriculture

Industrial Livestock Operations Spread **Antibiotic Resistant Bacteria:**

U.S. Center for Disease Control and Prevention-CDC: 2013 report concluded:

“Scientists around the world have provided strong evidence that antibiotic use in food-producing animals can harm public health... Use of antibiotics in food-producing animals allows antibiotic-resistant bacteria to thrive while susceptible bacteria are suppressed or die. Resistant bacteria can be transmitted from food-producing animals to humans through the food supply.”

Other negative impacts of animal agriculture

Industrial Livestock Operations Spread Antibiotic Resistant Bacteria:

Global Summit of Heads of State, General Assembly of the United Nations; 2016:

“The high levels of AMR [antimicrobial resistance] already seen in the world today are the result of overuse and misuse of antibiotics and other antimicrobials in humans, animals, and crops, as well as the spread of residues of these medicines in soil, crops and water.” The high levels of antimicrobial resistance in the world today are the result of overuse and misuse of antibiotics in humans, animals, and crops.”

Director-General of the FAO commented: ***“Antimicrobial resistance is a problem not just in our hospitals, but on our farms and in our food, too. Agriculture must shoulder its share of responsibility.”***

Other negative impacts of animal agriculture

Inhumane Treatment of Animals in Industrial Livestock Operations

World Society for Protection of Animals; 2012; Concluded:

“In the 20th century, intensive agriculture (ILOs/CAFOs), broke the ancient rule that militated in favour of good welfare for farm animals. No longer was it necessary to respect animal nature... Modern agriculture put animals into environments for which they were ill-suited, yet still assure production and profitability. Modern intensive production practices were first criticized on animal welfare grounds in the 1960s. Research in the subsequent 50 years has shown that these criticisms were well-founded.”

These problems represent opportunities for “sustainable animal agriculture”

Uniformity to Diversity: International Panel of Experts-Sustainability, FAO; 2016, report concluded:

“What is required is a fundamentally different model of agriculture based on diversifying farms and farming landscapes, replacing chemical inputs, optimizing biodiversity and stimulating interactions between different species, as part of holistic strategies to build long-term fertility, healthy agro-ecosystems and secure livelihoods.

Data shows that these systems can compete with industrial agriculture in terms of total outputs, performing particularly strongly under environmental stress, and delivering production increases in the places where additional food is desperately needed, and can also pave the way for diverse diets and improved health.”

These problems represent opportunities for
“sustainable animal agriculture”

Sustainable Agriculture must be Multifunctional.

Scientists from 58 countries; Report, “Agriculture at a Crossroads”; IAASTD; 2009; Observed:

“[Agriculture] provides food, feed, fiber, fuel and other goods. It also has a major influence on other essential ecosystem services such as water supply and carbon sequestration or release. Agriculture plays an important social role, providing employment and a way of life. Both agriculture and its products are a medium of cultural transmission and cultural practices worldwide. Agriculturally based communities provide a foundation for local economies and are an important means for countries to secure their territories.”

Large, mono-functional (economic) livestock operations have *detrimental* environmental and social impacts.


Only benefit of **Rabobank** “intensification”: **Economic Competitiveness**

Sustainable beef production: **Ecological, Social, and Economic**

World doesn't need industrial, mono-functional agriculture:

- Hunger in U.S.: one-in-eight adults, one-in-six children are “food insecure.”
- Growing problems of obesity, diet-related illness; bigger problem than hunger
- 70% - 80% of world population is fed by small farmers and animal producers
- Could double or triple output: holistic management, permaculture, organic
- Non-industrial foods fastest growing in U.S. – organic, humane, antibiotic free

Brazil's sustainable beef producers should strive to produce “BEST” beef in the world—not “cheapest” beef in world—millions, billions? will pay fair price.



Environmental Challenges provide Opportunities for Sustainable Beef Producers

Industrial agriculture: Linear production process:

- Uses inputs and natural resources to produce useful products, but also depletes natural resources
- Produces more waste than nature can absorb; pollutes air and water with chemical and biological wastes
- Economic advantage depends on depletion of fossil energy, groundwater, minerals—and fewer, lower skilled workers.
- No economic incentive to renew and regenerate resources

Environmental Challenges provide Opportunities for Sustainable Beef Producers

Sustainable agriculture: Circular production process:

- Sustainable beef production utilizes green plants that collect energy from the sun to provide energy to cattle, which return organic matter to the soil and provide energy for green plants.
- Green plants store carbon in the soil and high protein forages produced on carbon-rich soils can reduce methane emissions.
- Sustainable grass-based livestock produce less nitrous oxide; restore soil health; increase water holding capacity; restore water cycles; and can replenish aquifers.

Environmental Challenges provide Opportunities for Sustainable Beef Producers

Sustainable animal agriculture: Healthy Animals:

- No routine use of antibiotics;
- Humane animal environment;
- Healthier beef/animal products.

In U.S., grass-fed, pasture-raised, antibiotic-free are growing markets.

- With increasing public information; markets for sustainable animal product will keep growing.
- Primary obstacle will be “political power” of industrial animal agriculture.

Brazil’s sustainable beef producers should strive to produce “BEST” beef in the world—not “cheapest” beef in world—millions, billions? will pay fair price.

*Multinational corporations & organizations
will continue promoting industrial beef production in Brazil*

In exchange for cooperation, Brazil's government will be promised:

Increased Exports; Protected Nature Preserves; Conserved Fragile Resources.

Promises will prove false: No way to isolate agriculture from nature.

Polluted Streams/Dead Zones; Degraded Nature Preserves, "Race to Bottom."

Industrial agriculture is not sustainable "anywhere"—including Brazil.

Growing awareness of problems with "intensification" of animal agriculture will provide opportunities for sustainable beef producers.

Brazil probably has a comparative advantage in global sustainable beef.

Commitment to domestic food security would increase public support for sustainability.



Challenge: U.S. & Brazil; Efficient Means of Connecting with Consumers

Current high premiums for “organic” food: High marketing costs: assembly, transportation, processing, packaging, retailing.


Higher production costs would leave retail prices at affordable levels.

Transnational Corporations control food processing & distribution:

Sustainable beef producers who rely on corporately-controlled processing and distribution systems will be under constant pressure to reduce production costs-meaning to industrialize production.

Economic “sustainability” of ecologically & socially sustainable beef:

Depends on creating a sustainable alternative/parallel processing and distribution system, as well as sustainable production.



Am I Optimistic? Not necessarily, but I am hopeful.

My vision: A network of local, community based food systems, sustained by personal relationship of trust—and committed to ecological & social integrity.

- Community-based food systems would be linked regionally and even globally to ensure integrity—shared social and ethical values.
- Parallel food system would bypass corporate processors & distributors.
- I know a new, sustainable food system is possible—and absolutely essential.
- I meet many people who are creating the new sustainable food system.
- I have seen a lot of progress in sustainable agriculture over the past 30 years.
- The global food system of the future will be different—it can be “better.”

Am I Optimistic? Not necessarily, but I am hopeful.

Most important: “people are awakening” to the social and ethical values of human relationships.

We are material beings—we need the economy.

We are social beings—we need personal relationships.

We are moral beings—we need a sense of purpose and meaning.

Sustainable agriculture: not just fuel for the body; but food for the soul.

In this kind of spiritual awakening, there is always hope.
