



# Livestock and Society

## The Importance of Livestock

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**Written by:**

Mike McMorris and Chloe Neudorf  
Livestock Research Innovation Corporation

**Contributing Editor:**

Dr. Vaughn Holder  
Research Project Manager, in Beef Nutrition at Alltech

## What is it?

The Ontario livestock sector is a dynamic and highly efficient system. Globally, the livestock sector has an increasing demand for products in developing countries whereas in developed countries, such as Canada and the United States, demand for livestock products is plateauing. Human Population, Gross Domestic Product (GDP), urbanization, and technological changes have influenced the supply and demand patterns of livestock production since the Neolithic Revolution over 12,000 years ago. In the coming years we will experience a large increase in the world population primarily coming from eastern, developing countries.

We are seeing that the supply of natural resources is, and will be, a challenging factor in livestock and food production in the future. Arable land availability for agricultural and food production is decreasing as well as freshwater availability. Concern regarding greenhouse gas (GHG) emissions is expected to become a limiting factor on food and livestock production while the demand for food and protein will increase in coming years. Thanks to improvements in breeding, nutrition and animal health, the livestock sector has seen major improvements in efficiency and sustainability. Social concerns and views on livestock are changing in developed countries and the western world as human health and socio-cultural values are evolving.

Livestock has a complicated, yet simple, relationship with Society. Farming and horticulture shaped the way humans have evolved and created societies. For example, almost all of us have something in common, we all sit down at the dinner table and eat produce and meat that have been farmed to feed us. There is a small group of people whose livelihoods depend on you eating fresh, Canadian produce and meats opposed to the overly processed foods which are difficult to decipher where and how they are made.

## Why it matters to the Ontario Livestock industry:

Society is changing at an incredibly rapid pace. Industries and supply chains have been forced to become more flexible as a global pandemic, war in Ukraine and Russia, and a diminishing work force have challenged these systems.

In the next 30 years an influx in population of about 2 to 3 billion will become the new reality. The population will be much wealthier with a higher quality of life than ever before. Trends in protein consumption indicate that wealthier populations intake higher amounts of protein (Moughan, 2021). Protein production will have to adapt to its changing consumer demographic and needs. Approximately 4% of the earth's surface is appropriate for crop cultivation (Rotz et al., 2019). Climate change is present and looming. As a result, food production is more challenging for the future as resources such as water and arable land, become scarcer.

If the future is to be fully food secure, we must consider all options for producing high quality protein to feed the population as the removal of animal agriculture would create a massive protein deficit that cannot be overcome by growing crops due to the limitation on available arable land.

## What can livestock farmers do?

Eighty-six percent of global livestock feed is classified as inedible to humans (Moughan, 2021). Livestock, especially ruminants, can convert human-inedible raw materials into high quality food (particularly protein) for people. That food has unparalleled nutritional density (Mottet et al., 2017).

The Ontario Livestock Industry has an opportunity to change the negative viewpoints on animal agriculture and educate consumers, media, and the public on why Ontario livestock production is highly valued and should be encouraged. This message is important for consumers to understand as we transition into a world with a higher population and limited resources.

Reviews done regarding protein digestibility and amino acid composition comparing animal proteins to animal-free proteins are great sources of information outlining the benefits from animal protein that cannot be achieved artificially. Relaying this information to the sources criticizing animal protein is important for the Ontario livestock Industry in order to get facts into the foreground.

Adopting regenerative practices (see white paper on Regenerative Agriculture) has extensive benefits regarding the climate crisis. Regenerative techniques have many benefits, the most valued is the ability for carbon sequestration via multi-species grazing systems. Not only do regenerative techniques like rotational grazing create a carbon sink, but techniques in the regenerative model can also improve soil health, prevent drought and floods, decrease nitrogen runoff, improve water quality, create biodiversity, and manage pests (LaCanne & Lundgren, 2018). Regenerative practices have proven themselves and will become the new common practice to offset emissions in the agricultural industry. Improving degraded land is critical for maintaining and increasing livestock and food production. Food security depends on healthy and resilient systems.

## Cultural Change/ Challenges

Many of these new proteins which companies like Impossible Foods Inc and Beyond Meat are creating, are simply repackaging existing nutrients into plant-based meats, milks, and similar products. While there is nothing inherently wrong with that, we should not consider these to be a part of global protein supply, as those nutrients could have been consumed directly in the form of the crops used to make them. Even the lab grown meats will need to will need to be “fed” with existing amino acids from our existing supply, meaning that there is zero net contribution to global protein

security from such products. A robust conversation of the future protein security of the world must focus on maximizing the efficient use of the resources that we have, to produce protein, and to do so without unintended social, cultural, and environmental consequences.

## Research Gaps

Much of the anti-livestock sentiment in mainstream conversation is associated with the idea that livestock are bad for the environment. Critics focus very heavily on the emissions and pollution side of the equation, and very little on the effects of livestock on nutrient cycling through the environment and even carbon sequestration. We need to commit to understanding the role of livestock in ecosystems to quantify its effects on the environment.

## Innovation Gaps

Developing new methods of getting research into practice at the farm level

Clear research priorities, developed in collaboration between producers and academia and which clearly state industry problems and opportunities

## For more information

1. Dr. Vaughn Holder, Research Project Manager, in Beef Nutrition at Alltech
2. Please contact LRIC at [info@livestockresearch.ca](mailto:info@livestockresearch.ca) or 519-766-5464.

## Additional resources

## References

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