

Social License Reality: Livestock Production and Manure Management

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Key points

- Agriculture has opportunities to develop social licence for securing existing and developing new markets.
- Social licence is the privilege to operate with minimal restrictions by maintaining public trust for doing what is right.
- Livestock organizations need to move strategically to maintain social licence and develop the sector.

Agriculture is at an interesting time in history. More and more of the population are becoming more distant from agriculture production and are either seeking to understand agriculture production or looking at it from their non-agriculture contexts.

The urban population in Alberta became larger than the rural population in the early 1950s. The Alberta urban population is now about six times larger than the rural population and growing at a much faster rate. Alberta is not unique in this, it is a global trend. As the years pass since this cross-over and increase in urbanization, citizens are becoming more distant or removed from farms and farming. Their frame of reference for agriculture is no longer coming from grandparents or an aunt or uncle, but from school books, the media, and grocery stores. These non-agriculture contexts inform the consumer and voting public. They are environmentally aware, food conscious, media savvy, and can provide social licence to agriculture or some other industry.

Social licence can be defined as “The privilege to operate with minimal formalized restrictions or requirements through maintaining public trust by doing what is right.” The public customers expect a certain standard of behaviour that is carried in regulations or is what they expect from providers of their food. Regulations could be something supposedly familiar like SPCA (Society for the Prevention of Cruelty to Animals) or foreign to them like AOPA (Agriculture Operations Practices Act). General expectations could be proper storage of commodities and clean, refrigerated display cases. Social licence is dynamic and needs to be continually earned or maintained. It can be lost easily, through some sort of disaster, often precipitated by a specific event such as a food product recall or disease outbreak.

When one thinks of disease outbreaks in agriculture, BSE (Bovine spongiform encephalopathy) always pops to mind but there are others such as recent events with avian influenza. Packing plant recalls of contaminated meats always brings a chorus of activist criticisms. Meats are not the only commodity impacted; vegetables can be affected as well. A large *salmonella* outbreak in green vegetables in the United States was tracked back to organic farms. Conventional, organic, free-range, and other systems of production are not immune from public criticisms when disasters occur. Social licence takes a hit in all cases.

In early 2013, the Retail Council of Canada served notice that they expected changes in animal husbandry practices for poultry and hogs that were over and above regulatory requirements. Later in the same year, a food service company refused eggs from particular Alberta suppliers in response to an undercover video revealing animal cruelty. Undercover videos across the livestock sector in Canada (and the United States) have been effective in impacting social licence and public perception of agriculture. Those videos receive more attention than the positive efforts of the National Farm Animal Care Coalition (NFACC) – bad news travels faster, farther. These events do however, underline the need for all players in the food supply chain to work together to develop and maintain social licence. Disasters in one small component can impact all players up and down the supply chain and across the agriculture sector.

Alberta has many of the beef cattle in Canada, about 5.5 million cattle and calves along with about 1.5 million hogs. We slaughter about 2 million each of hogs and cattle each year. Here is an estimate of Alberta livestock

numbers along with a 2013 estimate of manure that they produce and the nitrogen and phosphorus in that manure by quantity and value.

	Number of animals ^z		Manure ^y (kg yr ⁻¹)	N ^y (kg yr ⁻¹)	P ^y (kg yr ⁻¹)
	2012	2013			
Cattle and calves	5,460,000	5,535,000			
Bulls	91,700	91,200	1,401,196,800	8,217,120	2,225,280
Milk cows and dairy heifers	121,100	120,300	2,321,802,030	12,475,110	2,740,434
Beef cows and beef heifers	1,847,900	1,867,600	25,108,014,400	147,166,880	39,779,880
Calves	1,756,900	1,767,800	7,638,663,800	44,725,340	12,197,820
Slaughter steers and heifers	1,642,400	1,688,100	15,030,842,400	88,118,820	23,802,210
Pigs	1,395,000	1,420,000	1,827,540,000	12,070,000	4,544,000
Sheep and lambs	201,000	207,000	137,034,000	1,449,000	289,800
Totals			53,465,093,430	314,222,270	85,579,424
Value of nutrients in manure				\$375,700,540	\$288,201,296

^z Alberta livestock on farms on July 1. Livestock numbers from Alberta Agriculture Statistics Factsheet, 2014, Agdex 853.

^y Manure, N, and P coefficients from: A geographic profile of manure production in Canada, 2001. Cat # 21-601-MIE-No.077. Appendix A, Table 1. (dairy coefficient adjusted to reflect heifer mix). Calculations based on 2013 livestock numbers.

^x Based on urea priced at \$550 per tonne; phosphate at \$750 per tonne; P x 2.29 = P₂O₅.

If one could capture all the nutrients within manure without losing any of it, there is hundreds of thousands of dollars' worth of value waiting to be captured. Manure handling processes need to capture as much value as possible in the stockyards and when applied to fields. Don't waste money.

Along with nutrients there can be pathogens, pharmaceuticals, and hormones present in manure. Farms need to pay attention to stockpiled manure and potential losses in the piles as well as appropriate application rates on different land types. Care must be taken to let soil do its role in metabolizing manure to harvest the embedded nutrients and clean up any undesirable compounds. The Agriculture Operations Practices Act provides guidelines to prevent buildup of salinity and nitrogen from repeated manure applications. Science informs farmers how to deal with other compounds and how to efficiently harvest or retain the most nutrients.

Is simply following regulations enough? Will that keep the public happy and generate trust of farmers? Farm reputation gains public trust. Market trust is also at stake. There are various movements at play, mostly initiated by the retail sector and non-government organizations that develop and retain social licence. One example is the national Round Table on Sustainable Beef. All members of the supply chain come together to discuss risk, assurance, public trust, and related issues. It is in everyone's interest to reduce risks in production and markets. Retailers are experimenting with labeling, segregated product lines, marketing. Governments, non-government organizations, and research organizations are experimenting with foot printing, life cycle analyses, and nutrient flow systems.

The Public still trusts farmers the most, surveys continue to indicate that. What can farm and commodity organizations do to maintain that trust and build social licence? Is it independent initiatives or collaboration? Does it involve a larger scope of players that convert commodities into food? We live in an interesting time where we will likely see some significant changes and opportunities.