Future of Traceability for Canada's Beef Cattle Industry

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In Canada, the beef cattle industry has a world-recognized animal identification system that facilitates traceback of an individual animal to the farm of origin in the event of a herd health or food safety problem. The Canadian Cattle Identification Agency (CCIA) administers this initiative under Health of Animals Act Regulations and in collaboration with the Canadian Food Inspection Agency (CFIA), livestock industry organizations and provincial governments.

Initially the mandate of CCIA was to provide information to CFIA to assist in tracing back to the farm of origin in the case of a herd health or a food safety event. More recently this mandate has expanded to include voluntary collection of birth dates, premises identification (ID), animal movement, and possibly in the near future, information such as value added attributes of animals and certified production protocols.

The addition of birth dates to CCIA's database was progressing well in 2006 with 1.44 million birth dates recorded from January to November. Unfortunately this dropped by 80% during the same period in 2007 due to the lack of consistent premium pricing for age-verified calves, the use of dentition for age-verification and the suspension of Alberta's manditory age verification policy.

Without sufficient numbers of age verified cattle, market opportunities for Canadian beef will continue to be missed as we will be unable to meet import requirements for age-verified cattle in Japan, south-east Asia, United States, and the European Union (< 20 or < 30 months of age). In addition, the USDA's Rule 2 covering imports of older cattle and beef, and the requirement by some food service providers (e.g., McDonald's Restaurants) also comes with an age-verification requirement of being born after the effective feed ban in Canada (1999).

In the near term, age-verified beef is only the "tip of the iceberg" in terms of a quality attribute valued by processors and consumers. Consumers, both domestically and internationally, are also looking for food products that are of a consistent quality, fat content, and portion size, that promote health, are environmentally friendly and are produced through animal welfare friendly practices.

Consumers are showing increased demand for beef products with "stacked" quality attributes such as organically produced, omega-3 or CLA enriched, low in trans fat and total fat, guarenteed tender, and have a low carbon footprint. To clarifiy this latter quality attribute, there are beef production systems that produce 17 kg of greenhouse gases (CO_2 equivalents) per kg of retail beef, while others produce 36 kg CO_2 equivalents per kg retail beef. Thus both a product quality attribute and an "envirnmental goods and service" (carbon credit) is produced.

Each of the quality attributes will be a function of the animals genetics, the production system and/or the processing. For example, innovative beef producers in Canada, United States and Australia are combining forces with genetic companies to

identify genetic marker panels for traits such as feed efficiency, carcass quality and meat quality. Animals can then be directed to fit specific niche markets through genetic marker assisted selection and marker assisted management. These types of production systems require traceability systems where production and processing procedures can be fully tracked from birth through producers, auction markets, feedlots, packers, processors, wholesalers, distributors, retailers and exporters.

In Alberta, the Traceability Branch in the Environment and Food Safety Sector of Alberta Agriculture and Food has the mandate to ensure that Alberta has an active voice in national discussions and is involved with industry in creating leading edge traceability systems. Presently, the Traceability Branch in collaboration with CCIA, and industry partners are developing the infrastructure for premises ID and full animal and product tracking in Alberta.

This infrastructure will form the basis of a completely automated, noninvasive traceability infrastructure that should have the capability to operate at the speed of commerce. Given the numerous objectives of traceability and product quality verification systems, it is not surprising that participants are a mix of government/industry organizations with industry-wide initiatives and private companies with individual supply chain initiatives.

It is imperative for the success of full traceability in Canada that these two broadly based interest groups find ways to collaborate in the sharing and transfer of data and information through each segment of the production and value chain. Traceability systems not only have the potential to improve food safety, but also to improve efficiencies and remove costs from the production and marketing system, as well as increase the supply of beef products with traceable unique, valued quality and production attributes, leading to increased market access and industry competitiveness.