



Western Beef Development Centre

Is Carcass Traceback Possible for the Cow-Calf Industry?

Introduction

A project conducted by the Western Beef Development Centre was designed to develop an Information Management System that transfers production and carcass data from the cow-calf producer to the feedlot to the packing plant and back to the producer. This would allow information to be tracked from pasture to plate on individual animals, as well as to facilitate sound management practices for producing safe, consistent, high quality beef. Knowledge of breeding history and carcass quality for each individual calf would assist in identifying breeding programs that may produce predictable carcasses of desired quality for high lean meat yield and marbling. This information could then be used to focus on breeding programs that target carcass quality and increase the profitability of herds.

Background

There are many technological changes and consumer demands facing today's beef producers. A major adaptation by the industry is mandatory identification of cattle, from birth through to slaughter. This identification system will help ensure the safety and quality of Canadian beef and provide a mechanism by which the industry can track important animal health, production, and economic information.

Within the beef industry, methods used to market and sell cattle are changing. These changes include:

1. Packers and retail outlets are developing programs requiring specific carcass quality characteristics such as high lean meat yield and marbling traits.
2. Branded products such as "Sterling Silver Beef", "Canadian Angus Beef", and "Ranchers Reserve" demand cattle that fit packers standards, in an effort to provide consistent quality to retail customers.
3. Grid pricing systems are being developed to reward sellers for quality, by offering premiums for carcasses with specified marbling and lean meat yield parameters.
4. Feedlots are working with cow-calf producers to develop retained ownership programs to attract cattle that meet the requirements of packer programs and consumer demands.

These developments will facilitate change to the way cattle are bred, raised, and marketed and also offer opportunities for producers who are prepared to adopt these new technologies.

Objectives

The Information Management Systems for cow-calf producers was a project developed to determine the roadblocks associated with moving carcass and production data through the value chain. The project was used to explore the ease of information exchange, costs associated with information collection, reliability of the information collected, and use of information by the producer.

Producers were encouraged to enroll in the to establish benchmarks for herd performance. As well, the information is an important tool in making breeding, management, and marketing decisions.

Procedures or Cooperators

Thirty-two beef producers were enrolled in the project and asked to submit their farm records for each phase of livestock production. The information was entered into "CowSense", (a record-keeping software program), and tracked for three years. In each year calves were followed through each stage of production. Information was gathered in terms of weights, cost of gain, deaths, and final carcass data. At year-end, Whole Farm Cost Of Production information was also collected and used to generate a cost analysis for the cow-calf enterprise. Final reports were returned to producers with their individual information as well as summary report of all producers on the program.

Western Beef Development Centre (WBDC) personnel managed the project, which involved the collection of farm records, feedlot data, and carcass data directly from the packing plants. The project required continuous dialogue with each producer, coordination of the collection of data, and visitations to each producer to explain and discuss the final reports.

The collection of carcass data involved visiting the packing plants each day a producer had cattle to be slaughtered to ensure the results of the grading were made available to the WBDC. The two packing plants that cooperated with the project were XL Beef in Moose Jaw, Saskatchewan and Cargill Packers in High River, Alberta.

Results

The majority of farm records were submitted in their original form, which indicates that many producers are using their calving books as their main management system. Of the

program because the information could be thirty-two producers involved in the project, only four were using any type of computer program or software to aid in management. The software programs being used were generally Excel or Lotus spreadsheets. The main reasons for the lack of electronic management systems included (i) the cost and (ii) the lack of flexibility of current software programs.

Currently a number of options are available for producers to market their calves. These options include (i) selling to an auction market, (ii) selling directly to a feedlot on a bid system, or (iii) retained ownership via custom feeding arrangements with a feedlot. Information transfer is much easier with the last option; however, the majority of calves are sold at weaning through auction markets because producers still prefer competitive bidding and do not want the risk of retained ownership. Even though the WBDC tracked information on all thirty-two herds, only six producers retained ownership of their calves through to slaughter, and it is estimated only five of these producers used information from the project to improve their management practices. This leads to a discussion of roadblocks, information transfer, and the utilization of information systems.

Road Blocks

Ease of information exchange

The ease of information flow was explored from each sector of the beef industry. The information collected from the cow-calf producer was the easiest step to perform, as these producers had a vested interest in the outcome of the project. The first stumbling block occurred at weaning, as many producers rely on the auction mart system to market their cattle. This program was targeted to producers who were willing to retain ownership of their calves or to market them in lots to cooperating feedlots in order to decrease the difficulty of tracking calves. This was an interesting opportunity for producers to develop an alliance with an order buyer or

feedlot. If animals were moved through these two channels it was possible to follow the animals through the finishing phase and collect some feeding information. Some feedlots were generally willing to individually weigh cattle if they felt there was an advantage for them, whereas others were only willing to provide pen averages for in and out weights.

For individualized carcass data to be returned to the feedlot, there were only two ways to ensure this information was collected. First, a technician had to be present to collect it, or secondly, the animals had to be identified with an electronic ear tag so as not to interrupt the high speed chain in plants where slaughter occurred. Grading sheets were only returned to the person or organization from whom the plant had purchased the cattle. This was either an order buyer, feedlot, or individual producer. This added considerable confusion to the system because in order to retrieve carcass data, the cow-calf producer had to contact the feedlot or order buyers about the carcass results concerning calves originating from their operation.

Cost of Program

The overall cost for the program was quite difficult to measure. In its current form the cost was approximately \$17.01 per cow in year one which decreased to \$13.30 per cow in the second year. This lowered cost reflects the increase in numbers of animals involved in the program. As this system remains labour intensive (on farm visits, in feedlot tagging and weighing, in plant data collection, etc.), it is doubtful producers currently feel the value from this program constitutes the costs associated with it.

As, this program was characterized as a “research project”, feedlots and packing plants were not restricting access or charging back for the services that we requested of them. If this program were to lose the designation of a “research project,” it is expected feedlots and packers would begin to see an opportunity to charge a fee for providing this information to producers. A survey of participants indicated

producers would pay up to \$5.00 per head for the data generated by IMS.

Reliability of information

The reliability of the information generated through this program is somewhat compromised at the packing stage. Previous research by Basarab *et al.* (1997) has stated that integrity of carcass identification is less than 75% accurate. In most high-speed packing plants animal identification is still dependent on the sequencing of carcasses from the knocking box through inspection until grading. There are many points of removal of carcasses along the chain and it is possible for carcasses to be removed, replaced, or lost in the coolers. This creates a problem when the integrity and reliability of the information is challenged. It may be possible in the future that a permanent form of identification would be used on each carcass to remove any possible errors in the final point of information collection. Information collected for this project was much more reliable because personnel were present at slaughter to manually retrieve the information.

Use of information

Many producers realized the value of the information returned to them through the IMS project. The shortfall or weakness of the project was the incorporation of this information into an improved management strategy for individual cow-calf operations. One possible explanation is producers are unsure of how to use the information from the project or incorporating the information would require significant changes they are unwilling or unable to make in their operations. It is of interest to producers to see the cow-calf information of other participants involved in the program. The difficulty is that producers wish to know how management differences could influence overall cost of production and how this varies between different herds. The information was used and discussed when on farm visits took place as it offered producers an opportunity to ask questions. However,

the WBDC did not make recommendations to producers involved in this project.

Conclusions

From the volumes of information gathered from the IMS project, it can be concluded that there are a number of issues impacting the adoption of Information Management Systems in the cow-calf sector of the Beef Industry.

An interesting observation is that beef quality has been influenced by the consistency of carcass grade and aging of the beef. A recent fact sheet from the Beef Information Centre states "...there has been a tremendous growth in retail, breed, and packer processor branded products in Canada that identify and market both aging programs and the value of higher marbled beef. Canadian cattlemen and packers have adjusted their production and marketing practices to meet this demand."

Over the last twenty years, producers have changed their breeding programs, which is evident in the switch to Angus because of the marbling qualities associated with this breed. However, a study by the Department of Rural Economy, University of Alberta indicated, "...grid pricing will not necessarily increase producer returns and grid pricing may not be enough to move the industry forward to compete with pork and poultry. The industry can manage their cattle to meet certain grid specifications, however, genetics is a key ingredient in targeting specific beef markets. Genetics is a numbers game and cannot be easily managed by small cow-calf players in the beef industry."

Producers must be able to identify the sire for every calf on the project. In order for carcass data to be meaningful the sire's identification is critical. This requirement makes any carcass traceback program difficult to adopt because of current production practices in the commercial cow-calf industry. Most producers run several bulls with their cowherd and others depend on community pastures for summer grazing where bulls run with a cowherd made up of many patrons. This is a practice that does not appear to be changing in the foreseeable future.

The value of an Information Management System for a cow-calf producer may be driven by cost of production information rather than the potential increase in the value of the animal sold into a value-based marketing system.

In the end producers need to have some indication of the cost to adopt an Information Management System. Producers can determine profitability if they know their costs of production, which is much easier to do if they have access to affordable and user-friendly information systems.

References: Basarab, J.A., Milligan, D. and Thorlakson, B.E. 1997. Traceback success rate of an electronic feedlot to slaughter information system for beef cattle. *Canadian Journal of Animal Science*. 77:525-528.

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