

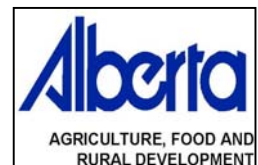
**Alberta Agriculture Food and Rural Development  
Industry Development Sector  
NIF Project # 2003-073  
Final Report**

**DETERMINING THE VALUE OF A CENTRALIZED  
PROCESSING SYSTEM FOR CULL DAIRY COWS**

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## **1.0. Abstract**

The pilot project ‘Determining the Value of a Centralized Processing System for Cull Dairy Cows’ had an overall goal of improving the humane handling and slaughter of cull dairy cows in Alberta. To achieve this objective the pilot study explored the potential for establishing a Centralized Processing System (CPS), in consultation with industry stakeholders.

The project was initiated in October 2003 and a CPS was established in cooperation with North West Foods (NWF), Edmonton, and two auction markets (as assembly points) in Rimbey and Westlock. A toll-free telephone number was established for producers to contact the project coordinator to book cull cows for slaughter. Producers had the option of dropping off cows at either assembly point or deliver animals directly to the plant. Once enough animals for a full load was booked, the project coordinator made arrangements with NWF for a delivery date. Producers were then contacted with specific dates and timelines for cull cow drop off at the assembly point. Transportation from the assembly point to the plant was arranged by NWF. Cows were checked for CCIA ear tags and fitness for transport at the assembly point. Producers included the CCIA ear tag numbers on the livestock manifest. The manifests were then copied and sent with the trucker to NWF. This assured individual payments to producers for their animals, even with a mixed load of cows. A 24-hour kill guarantee was in place, and all cows arriving at the plant were killed the same day. Producers were paid a rail grade price directly by North West Foods (after applicable deductions).

After facilitating the processing of 960 cull cows, the project came to an abrupt end in early July 2004 following a fire at the NWF plant that destroyed the facility. However, during its operation the project did meet the overall goal of improving the humane handling and slaughter of cull dairy cows. A major advantage with the CPS was that producers could ship “wet” (lactating) cows because of the 24-h kill guarantee. The project delivered timely and relevant information to enhance producer-awareness of humane transportation issues. The project illustrated that a comparable dollar value for culls could be received by going directly to the plant, as opposed to the auction. As a

cooperator, NWF was satisfied with the functioning of the assembly points, and was willing to take over the organization of loads through assembly points upon completion of the pilot project. If NWF continues this initiative (upon rebuilding the plant), it should consider establishing a larger number of assembly points to reach more producers. The project offered dairy producers a dependable and, for the most part, convenient option for humane disposal of cull cows. While the CPS could not be utilized by producers in southern regions of the province, within the scope of the pilot project, it did offer benefits for a large number of dairy producers.

## **2.0. Introduction**

The pilot project; ‘Determining the Value of a Centralized Processing System for Cull Dairy Cows’ emerged from the recommendations of a feasibility study<sup>1</sup>, and was conducted in response to a series of reports identifying animal welfare issues surrounding the disposal of cull dairy cows.

In 1999 the Alberta Livestock Protection System (ALPS) identified the need to improve the humane handling of cull dairy cows. The main concern centred on cows sold at auction markets that were being held for up to a week or more at collection points. The stress of prolonged handling and transportation before arriving at an abattoir was an issue.

A 2002, the Alberta Milk and Alberta Farm Animal Care report<sup>2</sup>, ‘Handling of Cull Dairy Cows in Alberta,’ identified a number of welfare issues related to cull dairy cows; downers arriving at the U.S. border, transport of unfit animals, limited disposal options for producers and lack of care for culls at the auction. The report recommended that the industry determines why so many culled dairy cows were leaving the province, develops a 24-hour kill guarantee for cull dairy cows, and creates benchmark information that could be used to improve and measure progress.

In 2002/2003 Alberta Agriculture Food and Rural Development's (AAFRD) IDS-New Initiatives Fund funded a feasibility study<sup>1</sup> to assess the viability of a centralized processing system (CPS) for the humane handling of cull dairy cows. Under the principal applicant's leadership, Faunus Consulting found that there was significant concern within the dairy industry and animal welfare law enforcement personnel (Alberta SPCA and CFIA) that large numbers of cull animals were remaining in the marketing system for extended periods, or were leaving Alberta, being shipped long distances. A large number of cull cows were being bought at auction markets by speculative buyers who would channel them through other auctions, hold and fatten them for resale, or ship them to U.S. kill plants. There was much speculation on where these cows were going, how long they were in the marketing system and what their ultimate destination was. The study, completed in April 2003, found that a CPS for cull dairy cows might address these concerns in a manner that would be both economical and convenient for producers, thereby encouraging their participation.

A pilot project was recommended to investigate the practicality of a CPS and determine if a CPS could function as envisioned, prior to considering fuller implementation. In the interim, a single case of BSE in Alberta halted all live animal cross border shipments. As a result, disposal of cull dairy cows became a serious issue with thousands of culls remaining on farm. A CPS became even more important for facilitating cull cow disposal.

This pilot project built upon the recommendations of the feasibility report<sup>1</sup> and involved industry and other stakeholders identified as key participants (e.g., Alberta Milk, Alberta Farm Animal Care (AFAC) Association, Alberta SPCA, North West Foods Inc., and XL Beef). The key participants had expressed interest and/or support in the pilot project prior to its initiation.

A means of facilitating the movement of cull cows directly to slaughter via a CPS was seen to potentially provide a number of benefits to the dairy industry and food animal industries in general:

- A CPS could serve as a prototype for other industries, particularly the beef industry, which faces similar welfare issues related to cull disposal;
- An improved public image for all of livestock agriculture. Animal welfare issues in one industry may be generalized to another. For example, dairy cows and beef animals are not always distinguished, so a problem in one industry may be transposed on to another;
- Enhance the global competitiveness of Alberta's agriculture industries with regard to animal welfare standards;
- As transportation and handling stress can negatively impact meat quality, culled dairy cows going directly to slaughter will likely yield a better quality product than if they went through an extended marketing procedure;
- Offer producers a humane, accessible, economical and convenient option for disposing of their culls;
- Offer Alberta packing plants a steady supply of cull dairy cows;
- Address the shortage of viable disposal options available to producers for their cull cows.

The pilot project ran from October 2003 until July 2004.

### **3.0. Objectives**

The overall goal of the project was to improve the humane handling and slaughter of cull dairy cows in Alberta. To achieve this goal the pilot study explored the potential for establishing a Centralized Processing System (CPS), in consultation with industry stakeholders (producers, processors, transporters, SPCA, and AFAC). Specific objectives were:

1. To evaluate the transportation options available for centralized assembly/pickup and delivery to packing plants.
2. To identify packing plants that would participate in the project and establish a CPS for cull dairy cows offering a 24-hour kill guarantee.
3. To determine the value of a CPS including costs, ease of use, and long-term viability.

4. To identify non-economic values of a CPS (welfare issues for cows, less time in the marketing system, convenience for producers, ability to ship lactating cows).
5. To obtain benchmarking (e.g., reasons for carcass condemnation) and price-tracking information where possible.
6. To be involved in education and extension activities that will increase awareness and benefits for producers. For example:
  - a. Written articles in agricultural publications;
  - b. Presentations at dairy industry and other agricultural meetings/conferences;
  - c. Extension effort topics may include: benchmarking results, meat grading procedures, cull dairy cow welfare issues, costs of drying off a lactating cow, general information on pilot project progress.

## **4.0. Methods**

The feasibility study<sup>1</sup> in 2002/2003 had identified two processing plants interested in the pilot project. Follow up was done with each plant to secure their participation in the pilot.

XL Beef declined to participate, in spite of earlier interest. A meeting with North West Foods Inc. in Edmonton confirmed their participation in the project. An informal written understanding, including a list of responsibilities for each party was communicated between North West Foods, the Project Coordinator, the Project Leader and two identified assembly points. All parties agreed upon their role within the pilot project.

North West Foods suggested assembly points, which the project coordinator followed up on. Arrangements were made to have two assembly points - one in central Alberta at Rimbey Auction Market and one in northern Alberta at Triple J Auction in Westlock. North West Foods declined having an assembly point in southern Alberta.

Producers were notified of the start of the project through an article in *Milking Times*. A 1-800 toll free number was set up to provide producers with a convenient means of

reaching the Project Coordinator. Individual Alberta dairy producers, who had been participating in a Western Dairy Science Inc. (WDSI) initiative to deliver cull dairy cows directly for slaughter to the XL Beef plant in Moose Jaw, SK were informed of the opportunity to deliver their cows to an alternate plant. The WDSI project was an emergency, short-term response to the backlog of cull dairy cows that had been accumulating since BSE was found in Alberta. *Milking Times* was used throughout the project to inform producers about the project and any developments. Extension articles were written on topics of concern that arose as a result of the project.

A draft of Alberta Milk's Humane Handling Guide for Cull Dairy Cattle<sup>3</sup> was used as the basis for a one-page humane transportation guideline summary (See Appendix A). The summary was published in *Milking Times* and distributed to SPCA, CFIA, North West Foods and assembly point managers. It provided guidance to producers and others involved in the project to determine fitness for transport of culled animals.

Alberta SPCA and CFIA inspectors were notified of the start of the pilot project. Arrangements were made to have Animal Protection Officers (APO's) for the SPCA or CFIA inspectors provide 'spot-checks' at the assembly points to ensure humane transportation rules were being followed.

A database was developed to track numbers of cows shipped through the assembly points, dates, location and any issues arising (e.g., condemnations, rejected animals).

Market prices were also tracked in two ways:

1. Internet market reports from individual auctions
2. Bi-monthly visits to an auction on sale day to study prices and evaluate the condition of cull dairy cows going through the ring

Market prices were then compared to the rail grade price offered by North West Foods.

The process for delivering cull dairy cows to North West Foods was designed as follows:

- Producers wishing to use the assembly points contacted the Project Coordinator via toll-free telephone to book in their animals.

- Producers wishing to haul animals directly to the plant contacted North West Foods.
- The Project Coordinator booked in animals until a full load was accumulated, at which time arrangements were made with North West Foods for a delivery date.
- The Project Coordinator made arrangements with producers and the assembly point once a date was established. Specific timelines were arranged for cull dairy cow arrivals at the assembly point. North West Foods made transportation arrangements from the assembly point to the plant.
- On the delivery day all cows were checked for CCIA ear tags and fitness for transport. Producers were asked to include the CCIA ear tag numbers for their animals on the livestock manifest (See Appendix B). The manifests were then copied and sent with the trucker to North West Foods. This allowed for individual payments to producers based on their own animals, even within a mixed load.
- All cows arriving at North West Foods were killed within 24 hours.
- Producers were paid a rail grade price, with all deductions for transportation, assembly point fees and other fees deducted by North West Foods before issuing a cheque directly to the producer.

Interview questions were developed for North West Foods, individual producers and truckers to evaluate their perspectives on how the pilot project functioned. Individuals were contacted via the telephone for their input. Producers contacted included those that continued to use the pilot project and those that had ceased using it, in order to get a realistic evaluation.

## **5.0. Results**

The overall objective of the pilot project was to improve the humane handling and slaughter of cull dairy cows in Alberta. This objective was achieved. A CPS was seen to provide an additional option for dairy producers to dispose of their cull cows. Feedback from producers and North West Foods was generally positive. While movements of cull

cows through the assembly points were variable, producers and North West Foods expressed a desire to continue using a CPS. In addition, there were spin-off benefits as a result of the project. One trucker took it upon himself to coordinate his own dairy clients and deliver culls directly to North West Foods.

The project coordinator was able to communicate one-on-one with producers. This allowed for individual information extension efforts on:

- Humane handling and disposal of culls
- Determining fitness for transport and
- Raising general producer awareness of welfare issues related to cull cow disposal

The objectives of the project included determining the feasibility and value of a CPS, which encompassed economic and non-economic values. Extension efforts were integral to raising producer awareness of the project and providing producers with information that would be helpful to them in dealing with their cull animals.

## ***Economic Considerations***

### **Expenses**

Costs for producers using an assembly point included:

- Transportation to North West Foods from the assembly point (\$18 – 20/head from Rimbey, \$11 – 18/head from Westlock)
- Assembly point fee (\$10/head)
- Alberta Cattle Commission Fee (\$2/head)
- Brand Inspection (\$1.12/head)
- Grading (\$1.40/head)
- Insurance (\$2.50/head)

**Total: From Rimbey = \$35.02 to \$37.02 From Westlock = \$28.02 to \$35.02**

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Producers delivering directly to the plant avoided the assembly point fee, but otherwise incurred the same expenses (transportation costs would vary, however). Producers delivering their culled animals to an auction would not have an assembly point fee, but would incur ring fees at the auction. Ring fees vary from auction to auction, but two central Alberta auctions quoted \$18/head as their fee. Transportation costs would likely be less, as most producers are located close to an auction.

Other economic considerations also came into play. If a carcass was condemned, producers delivering animals to North West Foods faced a condemnation fee of \$50. This was a relatively rare occurrence. Only 2 of the 178 cows delivered through the assembly points were condemned.

At the auction, several producers reported not being able to sell their animals, or receiving such a low price that the producer lost money. Generally speaking, any animal with a physical condition (slight lameness, thin, etc.) was at risk of not selling or selling for a very low price (1 – 5 cents/lb). The risk of this happening seemed to increase between October 2003 and July 2004, as noted from comments received by producers and observations by the project coordinator at auction markets. The reason for this is likely due to the continued limited market for culled cows, such that buyers can be more selective in the animals they will accept. In addition, Lakeside Packers, a federally inspected processing plant, stopped accepting over-30 month old animals at its plant in early May 2004.

Every individual producer's situation will ultimately affect the costs incurred regardless of the option chosen – CPS, direct delivery to North West Foods or auction. The CPS option, while probably costing a small amount more than using an auction due to additional transportation, was not excessively over-priced. For producers with lactating cows, the CPS offered a significant advantage because they could ship their wet (lactating) cows due to the 24 h kill guarantee that was in place. The CPS option relieved producers of the responsibility of drying off cows prior to shipping for slaughter. Direct

delivery to North West Foods is likely the most cost effective option for those producers conveniently located near the plant.

### **Price Tracking**

In an effort to determine the economic value of using a CPS, or direct delivery to a processing plant, auction market prices were monitored and compared for the period of the pilot project. One auction was regularly attended on its sale day to assess the condition of animals and their resulting selling price. These results were compared to the rail grade price that North West Foods paid to producers, to assess whether a comparable dollar value was paid to producers using the CPS.

There were a number of issues with getting an accurate assessment between auction live weight prices and North West Foods' rail grade price for dairy cows:

- The actual dollar value paid on a rail grade is determined by the weight of the dressed carcass. Dressed dairy cow carcasses can weigh anywhere from 40 – 55% of the live weight. Higher grades tend to yield higher dressed weights. For example, a D3 dressed carcass may only yield 40-45% of the live weight of that animal. A D1 dressed carcass will tend to yield at least 50% of the live weight of the animal.
- The condition of an individual animal can vary a great deal, and will result in great variance in price paid (either live weight or rail grade). Therefore, it is impossible to make straight comparisons between animals.

A CANFAX report on 'Live vs. Dressed Sales'<sup>4</sup> explains the differences between live weight and rail grade pricing. The article states:

*To estimate the carcass weight of an animal the dressing percentage needs to be accounted for. Dressing percentage (yield) is the percent difference between the warm carcass and the shrunk\**

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\* Shrinkage is the amount of weight an animal loses during sorting, transporting, standing, weighing, or any situation that may cause a degree of stress. It is the difference between the gross body weight before handling and the net sale weight. Shrinkage represents a loss in value. There are two physical types of shrinkage. The first is excretory shrinkage. Excretory shrinkage is the loss of contents in the belly, digestive tract and bladder. This type of shrinkage is common and occurs during the first few hours of transport, or when cattle are taken off food and water. Small amounts of excretory shrinkage do not harm animals. Acceptable levels of excretory shrinkage are from two to six per cent of initial live weight. Livestock usually recover quickly from excretory shrinkage once provided with rest,

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*live weight. Therefore, if a producer owns a steer that would weigh approximately 1250 lbs (shrunk) and it would dress at 60%, the carcass weight would be 750 pounds. Dressing percentages can be highly variable and are influenced by factors such as live weight, fat level, age, sex, diet, breed, transportation distance, and handling facility conditions.*

With these difficulties in mind, a rough comparison of live weight auction market prices and rail grade North West Foods prices was made. Table 1 and Figure 1 illustrate this comparison.

Table 1: A comparison of live weight auction prices\* and rail grade prices at North West Foods

	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>June</b>
Auction D1-D2, Range	16-24	12.25-21.5	15-24	19.5-26.5	20-27.5	28.5-37	27.5-35	19.25-27	18.5-24.5
<b>Average</b>	<b>20</b>	<b>17</b>	<b>19.5</b>	<b>23</b>	<b>23.75</b>	<b>32.75</b>	<b>31.25</b>	<b>23</b>	<b>21.5</b>
Auction D3-D4, Range	11.5-16.5	7-12.75	7-15.5	13-18.5	12-20	20-29	21-28	14.25-20	12.25-18.5
<b>Average</b>	<b>14</b>	<b>10</b>	<b>11.25</b>	<b>15.75</b>	<b>16</b>	<b>24.5</b>	<b>24.5</b>	<b>17</b>	<b>15.5</b>
Holsteins at Auction, Range	7.5-16.5	6-13.5	8-17	12.5-23	8-19	24-32	20-29	10-22	8.5-17.5
<b>Average</b>	<b>12</b>	<b>9.75</b>	<b>12.5</b>	<b>17.75</b>	<b>13.5</b>	<b>28</b>	<b>24.5</b>	<b>16</b>	<b>13</b>
NWF** D1-D2, Range	25-30	25-30	25-30	30-40	30-40	40-60	40-60	35-50	35-50
<b>Average</b>	<b>27.5</b>	<b>27.5</b>	<b>27.5</b>	<b>35</b>	<b>35</b>	<b>50</b>	<b>50</b>	<b>42.5</b>	<b>42.5</b>
NWF D3-D4, Range	20-25	20-25	20-25	20-30	20-30	25-40	25-40	25-35	35-50
<b>Average</b>	<b>22.5</b>	<b>22.5</b>	<b>22.5</b>	<b>25</b>	<b>25</b>	<b>32.5</b>	<b>32.5</b>	<b>30</b>	<b>30</b>

\*Prices in cents per pound; \*\*NWF = North West Foods

Points to note about Table 1:

- Live weight auction prices were gathered from auction market websites<sup>6</sup> across Alberta. The price ranges were determined by averaging the range of auction market prices collected for each month. There were, at times, significant variations in price between different regions.

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food, and water. The second type of shrinkage is tissue shrinkage. Livestock will suffer tissue shrinkage when the belly, digestive tract and bladder are empty and the animal is dehydrated. The body will then start compensating for the loss by drawing moisture and nutrients from the carcass tissues. Source: Ropin' the web – Agricultural Marketing Manual<sup>5</sup>

- Prices for Holsteins in particular were only noted by two auctions. Most auctions only distinguished between D1-D2 and D3-D4.

A description of the ‘D’ grades<sup>7</sup>, with a source for further information, is noted in Appendix C.

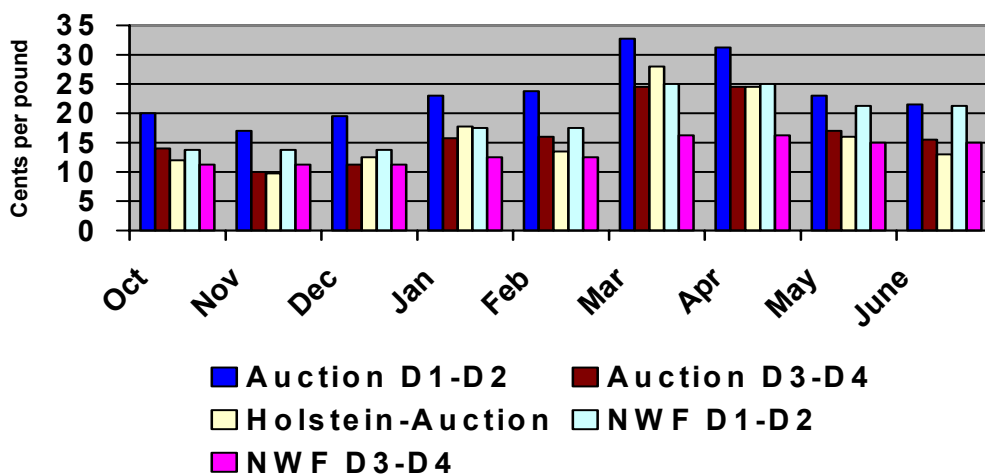


Figure 1. Month-wise comparison of actual (auction) and estimated (slaughter house) live weight prices.

Points to note about Figure 1:

- Auction D1-D2, Auction D3-D4, and Holstein-Auction are the average live weight prices at auction taken from Table 1.
- NWF D1-D2 and NWF D3-D4 are the average rail grade prices at North West Foods taken from Table 1, but converted to a live weight price assuming a dressing percentage of 50%

Figure 1 would indicate that the rail grade price paid by North West Foods sometimes brought a slightly lower value to producers for their culls, particularly in comparison to D1-D2 auction prices. However, comparing live weight auction prices, as reported on auction market websites, to rail grade prices can be difficult and misleading.

Most Holsteins sell for D3 and D4 prices. This can be seen in Figure 1 by comparing the yellow (Holstein) bar with the red (D3 – D4) bar. Most D1’s and D2’s are beef culls, which generally sell for higher prices than Holsteins. North West Foods’ D1 – D2 price was generally equal or better than the average auction market Holstein price. When

North West Foods received a particularly exceptional animal they generally paid an extra premium for the animal (over their highest quoted rail grade price).

North West Foods' D3 – D4 price was generally lower than all auction prices. However, producers often sent their poorer quality animals to North West Foods and their better culls to the auction. The quality of the animals presented at auction often seemed higher than those delivered to North West Foods. A number of individuals (truckers, producers and North West Foods) indicated that producers were choosing to ship their nicer animals to the auction and their poorer animals to North West Foods. This would reflect in higher prices paid at the auctions.

For ease of comparison, averages were used. However, these are not true averages. For example, in the range of D1-D2 live weight auction prices given for October; 16 – 24 cents/lb was paid. It is possible there may have been only one 24-cent cow, but several 16-cent cows. It is impossible to know, but obviously this possibility would affect the average considerably.

The average rail grade price noted for North West Foods is not the average price paid to producers, but the average price offered. For example, North West Foods offered a rail grade price of 25 – 30 cents/lb for D1's and D2's in October, with the average being 27.5 cents/lb. But, in one load of 17 cows in October, 9 animals were given an additional premium of 5 cents over the 30-cent price. All other animals were graded D2 and paid 25 – 30 cents/lb. The actual average price paid for animals in this load was approximately 31.50 cents/lb. The project coordinator could not always access the exact price paid for individual animals, hence the rail grade price ranges were used.

A qualitative assessment of live weight versus rail grade price was done during auction market visits. Notes were taken regarding the condition of the animals being sold at auction and the live weight price they brought. A qualitative visual comparison was done between auction market animals and those delivered through a CPS. While this assessment was much more subjective, the following points were noted:

- There were times during the project that higher quality culls (D1's) sold for a higher price at the auction.
- Generally D3 – D4 culls did better price-wise at North West Foods. Producers risked losing money on these animals at the auction as they would either not sell, or would bring a very low price. In June and July in particular, the project coordinator received several calls from producers whose culls had not sold at the auction.
- The price at the auction was much more variable. In a single month the price could change significantly. This also affected the averages noted in Table 1 and Figure 1. Prices through North West Foods tended to be more stable.
- Overall it seemed that the live weight price paid at the auction and the rail grade price were reasonably comparable, given the relative condition of the animals.

### ***Non-Economic Values***

There were several non-economic values identified with using a CPS or delivering cull dairy cows directly to North West Foods for processing:

- Ability to ship wet (lactating) cows with a 24-hour kill guarantee – no need to dry cows off prior to shipping.
- Ability to receive some financial benefit for animals with physical conditions that limit their marketability through auction markets.
- Decreased time in the marketing system yields a better quality product and should therefore yield a higher financial benefit for processor and producer.

### **Lactating Cows**

Producers appreciated the opportunity to ship wet (lactating) cows directly to slaughter, knowing that a 24-hour kill guarantee existed. Drying off a cow prior to shipping entails additional expenses and a potential risk that the animal's condition may deteriorate.

When a lactating cow is identified as needing to be culled, it is in the best interests of the animal to be culled as soon as possible.

However, lactating cows were still regularly seen at auction markets. This marketing activity is frowned upon, as lactating cows are not milked at the auction, causing the animal considerable discomfort. The animal's condition will likely deteriorate if not expeditiously slaughtered. There were incidences where lactating cows were sold at the auction, but held there for several days until a load could be assembled. In at least one situation where this occurred the cow was euthanized after several days for humane reasons. The carcass was wasted and the animal had endured additional pain.

### **Cows with Other Physical Conditions**

All animals should be fit for transport before being loaded. Cows with minor lameness may be suitable for a short haul (less than 4 hours) transport if they are going directly for slaughter. Such animals should generally not go through the auction marketing system, as they must endure additional handling and transport before being slaughtered. There is also no guarantee that such animals will be slaughtered in a reasonable period of time.

A guideline was developed to aid producers in deciding if their animals were fit for transport. Producers were cognizant of this requirement when using the CPS.

### **Quality of Product**

Additional handling and transport can cause significant stress to an animal, which in turn affects the carcass quality. North West Foods preferred direct shipment to the plant for this reason. In the case of culled animals, direct shipment minimizes the risk of condemnation due to a further deterioration in condition caused by an extended period in the marketing system

## **Ease of Use & Long Term Viability**

A Centralized Processing System (CPS) for cull dairy cows received moderate support. While producers expressed interest in a CPS, only the Rimbey assembly point had cows delivered to North West Foods regularly. While the level of interest was high, many producers found that the assembly points were not convenient. Producers often opted to deliver their animals directly to North West Foods or to an auction for this reason.

North West Foods determined the choice of assembly points. Certain assembly points, which may have been more convenient, were either not acceptable to North West Foods or declined to participate. Table 2 illustrates the number of cull cows moved through each assembly point and those delivered directly to the plant. Only one cow was rejected at the assembly point due to being unfit for transport to North West Foods.

Table 2: Cows Delivered to North West Foods through this project

Mode of Delivery (Nov 2003 – Jul 5, 2004)	Number of Animals
Via Rimbey Assembly Point	153
Via Westlock Assembly Point	25
Direct to North West Foods	782*
<b>Total</b>	<b>960</b>

\*This is an approximate number based on North West Food (Robert Kunnick)'s best estimation of 20 – 25 animals per week. Due to fire damage to North West Foods' computer systems, an exact number could not be calculated.

Producers who regularly delivered their culls to an assembly point reported high levels of satisfaction with the process. Producers who ceased using the assembly points reported dissatisfaction with:

- Costs of transportation (having to pay a trucker for transportation from the assembly point to the plant)
- Lack of convenience (assembly point not located in a location near them)
- Price paid by North West Foods (felt the auction offered a better price)

A CPS was seen to provide an additional option for dairy producers to dispose of their cull cows. General feedback from producers and North West Foods was positive. While movements of cull cows through the assembly points were variable, producers who participated in this pilot study, and North West Foods, expressed a desire to continue using a CPS.

Producers in southern regions of the province expressed interest in a CPS for their region. However, North West Foods was not interested in receiving animals from southern regions due to the distances involved. The prices being paid for cull cows likely would not have warranted assembly points further south due to the increased costs for transport that producers would have incurred.

At least one trucker took it upon himself to coordinate his own dairy clients and deliver culls directly to North West Foods from the Lacombe region. This created an additional convenient option for producers in this area. The trucker expressed that this arrangement was working well for both himself and his clients.

North West Foods was satisfied with the functioning of the assembly points. They were willing to take over the organization of loads through assembly points upon completion of the pilot project. As disposal options for cull dairy cows remain limited, it is likely that use of the assembly points would have increased with time.

### ***Education/Extension Efforts***

Communication with producers on issues related to cull dairy cow disposal were conducted through:

- One-on-one communications with individual producers (e.g., telephone, displays at conferences)
- Articles in a variety of producer-oriented publications (Milking Times, Western Producer, Milk Producer Magazine)
- Interviews on radio (Call of the Land)

- Western Canadian Dairy Seminar

Further details are noted under the “Presentation to Industry” section.

## **6.0. Conclusions**

The pilot project came to an abrupt end in early July 2004 due to a fire at the North West Foods plant that destroyed the facility. This unfortunate incident has resulted in another serious blow to dairy producers needing to dispose of culled animals. After the incident the Project Coordinator spoke with several producers and two truckers who indicated that North West Foods had provided a valuable option to dairy producers with cull cows. The interest in delivering animals directly to the plant had been building and producers were seeing the value in disposing of their culls in this manner.

In speaking with one of the owners of North West Foods he indicated that the plant would be re-built and would be in operation for 2005. At that time the plant would re-institute a CPS and continue business as usual. The plant will be re-built with a higher capacity, to better accommodate culled animals.

North West Foods believed the pilot project had been a success and that it had benefited the plant by helping them to build their dairy clientele and business. Just prior to the fire there was a two-week waiting period to get animals into the plant, due to demand. A waiting load of cows booked through the CPS had to be cancelled as a result of the fire.

The pilot project, ‘Determining the Value of a Centralized Processing System for Cull Dairy Cows,’ was seen as an overall success by producers and by North West Foods. While the assembly points were not accessed, as fully as hoped, producers were willing to deliver their culls directly to the plant on their own or via a trucker.

The pilot project met its overall goal of improving the humane handling and slaughter of cull dairy cows through

- Producer education (increased awareness of fitness for transport issues, importance of drying off wet cows or delivering them directly for slaughter, importance of a 24-hour kill guarantee)
- Availability of additional options for delivering cull dairy cows directly to slaughter (CPS, trucker initiative that developed as a result and raising awareness regarding North West Foods' existence).
- Illustrating that a comparable dollar value for culls could be received by going directly to the plant, as opposed to the auction

Additional considerations:

- If North West Foods decides to re-implement a CPS, they should consider other assembly locations in order to increase convenience for producers. Producers were willing to use the CPS, but not willing to go out of their way or incur additional expenses.
- North West Foods offered producers a humane and, for the most part, convenient option for disposing of culls. While the location of the plant was not suitable for producers in southern regions of the province, it did offer benefits for the majority of dairy producers. Locating a plant further South to offer similar services would benefit producers, but at this time XL Beef is the only federally inspected plant taking cull animals in Alberta. If other proposed slaughter facilities are developed as planned, a CPS may work in southern regions of the province.
- Overall, the highest quality dairy culls did bring better prices at the auction. However, the majority of dairy culls will get a comparable dollar value by going direct to the plant.

## **7.0. Presentation to Industry**

Presentations regarding the project were made to industry on an ongoing basis through:

- One-on-One conversations with producers
- Written articles

- Interviews
- Western Canadian Dairy Science Seminar

A copy of this final report is also being submitted to Alberta Milk. If requested by Alberta Milk, a presentation of the results will be made after the Agency has reviewed the final document.

### **One-on-One**

The project coordinator discussed a variety of issues with producers. Producers sought out the project coordinator's advice when:

- Determining an animal's fitness for transport;
- Identifying animal welfare issues that would also affect the marketability of cull animals (e.g., risk of condemnation due to infection)
- Identifying viable options for cull cow disposal (CPS, direct-to-plant, auction, on-farm euthanasia);

Producers were interested in doing what was right, but desired some guidance in the decision making process. They generally understood that delivering their culls directly for slaughter was a preferred option from a welfare perspective. However, they expressed that, economically, it needed to be a viable option too. Convenience was another factor that affected producer willingness to deliver culls directly to a plant versus the auction.

In addition to discussions with producers the Project Coordinator discussed the project with:

- Veterinary clinics who called looking for information for their clients, and
- An accounting firm that handles accounts for many dairy farms.

### **Written Articles**

Several written articles were published either by the project personnel or by other publications through interviews with the Project Coordinator. Below is a summary of the articles and their topics:

- Milking Times (November 2003 issue) – introduction of pilot project
- Milking Times (November 2003 issue) – publication of one page humane transportation guide
- Western Producer (January 22, 2004 issue) – Project Coordinator interviewed for article on cull dairy cow disposal and the project
- Milking Times (January 2004 issue) – short reminder about the project
- The Milk Producer Magazine, a publication of Dairy Farmers of Ontario (February 2004 issue) – Project Coordinator interviewed for article on cull dairy cow disposal and the project
- Milking Times (February 2004 issue) – update on the project (numbers of animals shipped, price comparison between auction and CPS, welfare advantages of using CPS or direct deliver to North West Foods)
- Milking Times (May 2004 issue) – project update and information on reasons for condemns, welfare advantages of using a CPS for wet cows and price comparisons between the auction and direct delivery (including through a CPS) to North West Foods
- Milking Times (June 2004 issue) – extension article on on-farm euthanasia was developed as a need for this information was identified through discussions with producers
- Milking Times – final article on the project and future direction (to be published in the October 2004 issue)

## **Interviews**

In addition to the interviews that were included in producer publications, the Project Leader did one radio interview. The interview was aired over a one-week period across several radio stations affiliated with the show ‘Call of the Land.’ No dairy producers

called the Project Coordinator as a result of this interview, but several beef producers were interested in getting more information on the project.

### **Western Canadian Dairy Seminar**

Two posters were set up at booths for the conference (one at the WDSI booth and another at the Alberta Farm Animal Care (AFAC) Association booth). The Project Coordinator and Project Leader both attended the conference for all three days of the conference. A small number of producers approached to ask questions about the project.

While attending a gait score analysis workshop at the seminar, some interesting information was revealed. The gait score analysis workshop itself was very useful. It illustrated the need to educate producers on detecting minor changes in gait that can lead to eventual lameness. Detecting and treating (e.g., medication, hoof trimming) lameness in dairy cows at an early stage can extend the productive life of the cow and ensure more timely disposal if culling is necessary.

The workshop allowed for interactions between different groups involved in the dairy industry. A hoof trimmer was in the same small discussion group as the Project Coordinator. The person knew about the cull cow project. Apparently producers were using his services when they decided to cull a cow and ship it through one of the assembly points. Producers were using hoof trimming as a means of ensuring their culls were fit for transport to the plant. According to many hoof trimmers at the workshop most dairy producers do not regularly use a hoof trimmer. Why hoof trimming is not being used as a regular course of treatment to extend the productive life of dairy cows was unknown.

## **8.0. Industry Reaction**

As the pilot project involved working directly with dairy producers, industry reaction is an integral part of the 'Results' and 'Conclusions' sections. Feedback from industry regarding the project was generally positive. Dairy producers appreciated the additional options for disposing of the culls that the pilot project offered.

There was a strong reaction of disappointment when it was learned that North West Foods plant had burned down. Producers felt that they were just starting to utilize the plant and build trust in its people and operations. There is considerable concern about what will happen now.

## **9.0. References**

1. Alberta Agriculture Food and Rural Development, 'Adding Value to Cull Dairy Cows Feasibility Report,' April 2003.
2. Alberta Milk and Alberta Farm Animal Care, unpublished report, 'A Report on the Handling of Cull Dairy Cows in Alberta,' May 2002.
3. Alberta Milk and Alberta Farm Animal Care, draft document, 'Humane Handling Guide for Cull Dairy Cattle.'
4. Alberta Beef Producers website, CANFAX Reports, 'Live vs. Dressed Sales,' [http://www.albertabeef.org/05prod/Canfax%20Articles/05cf\\_dressed.html](http://www.albertabeef.org/05prod/Canfax%20Articles/05cf_dressed.html).
5. Alberta Agriculture Food and Rural Development website - Ropin' the Web, Agricultural Marketing Manual, 1999, 'How Shrinkage Affects Returns for Feeder and Slaughter Cattle,' [http://www.agric.gov.ab.ca/economic/marketing\\_manual/livestock/livestock\\_m7.html](http://www.agric.gov.ab.ca/economic/marketing_manual/livestock/livestock_m7.html)
6. CanFax website, <http://www.canfax.ca/>, under 'Links,' "Livestock Auction in Western Canada"
7. Livestock and Poultry Carcass Grading Regulations (SOR/92-541). Canadian Legal Information Institute. <http://www.canlii.org/ca/regu/sor92-541/whole.html>.

## **Appendix A**



### ***Humane Transportation Guideline Sheet***

***“Marketing of unfit dairy cattle is unacceptable and it is the responsibility of anyone owning or handling dairy animals to ensure this does not occur.” – Humane Handling Guideline for Cull Dairy Cattle***

Alberta Milk and Alberta Farm Animal Care have been developing a Humane Handling Guide for Cull Dairy Cattle. The Guide is almost complete and will soon be made available to all Alberta dairy producers. Below are some key points from the Guide that can be used when determining whether to ship a culled animal or not.

#### **Do Not Transport Conditions**

- Very thin and weak – at risk of being condemned, usually have a secondary condition;
- Unresponsive infection with continuing fever over 104°F;
- Infectious arthritis affecting more than two joints;
- Hip fracture, broken back or broken leg;
- Downer – an animal that cannot rise, remain standing or walk without assistance;
- Congestive heart failure with brisket fluid and abdominal fluid;
- Severe cancer eye – infection beyond the orbit of the eye, involving the bones and tissues of the face;
- Signs of nervous disorder or poisoning;
- Prolapsed uterus.

#### **Short Haul Transport (under 4 hours) to Nearest Slaughter Facility**

- Visibly lame and unable to keep up with the group – ship in separate compartment with ample bedding, do not use steep ramps;
- Slick cows with little winter hair or coming from a warm barn – winter conditions;
- Displaced abomasums – ship in separate compartment with ample bedding;
- Frozen or frostbitten teats;
- Cancer eye – but cow can still see;
- Respiratory distress – ship in separate compartment with ample bedding;
- Lumpy jaw;
- Bulls with penis injury;
- Blindness - ship in separate compartment;
- Amputated limb - ship in separate compartment.

Lactating cows can be shipped to a slaughter facility with a 24-hour kill guarantee.

## Appendix B

### Livestock Manifest

**LIVESTOCK IDENTIFICATION SERVICES LTD.**  
**OFFICIAL ALBERTA MANIFEST** AC 560176

Pen Number	Date					
Pay to Owner	Phone Number					
Owner's Address	Postal Code					
On Account of (Consignor)	Phone Number					
Consignor's Address						
Destination Address						
Destination Address	City or Town					
<small>Feed and Veterinary Drug Declaration:                  I declare that these animals, while under my ownership or control, have not been fed any materials prohibited under the Health of Animals Act (Canada) and that, in the case of animals intended for slaughter, appropriate withdrawal times for veterinary drugs and biologicals have been observed.</small>						
<b>Finance Declaration (Optional)</b> Name of lender having lien or security interest in the livestock:						
<b>Description of Livestock: Show the correct brand information.</b>						
Number	Colour	Kind of Livestock	Brand/EID	Brand Location	Other Brands	Brand Location
Total	I certify that the information given above is true. X Owner's signature (or authorized shipper)					
Brand Inspector				Vehicle's License Number		
Transporter's Name				Driver's Signature		
Transporter's Address				Trucking Charges		
Received and Counted By:						
Date				Time		

LIS0426 REV. 05/2002

**Calgary Office Copy** Manifest # AC 560176

## **Appendix C**

### **Grading Standards**

The following meat grading information is taken from the Livestock and Poultry Carcass Grading Regulations (SOR/92-541 ) and can be found at: <http://www.canlii.org/ca/regu/sor92-541/whole.html>

#### **Grade Standards for Canada D1**

**36.** The standards for a beef carcass of the grade Canada D1 are the following:

- (a) the maturity characteristics set out in Schedule II to this Part;
- (b) muscling that is excellent; and
- (c) a fat covering that
  - (i) extends well over the ribs and loins and moderately well over the hips and chucks,
  - (ii) is firm and white or slightly tinged with a reddish or amber colour, and
  - (iii) is less than 15 mm in thickness at the measurement site.

#### **Grade Standards for Canada D2**

**37.** The standards for a beef carcass of the grade Canada D2 are the following:

- (a) the maturity characteristics set out in Schedule II to this Part;
- (b) muscling that ranges from medium, with some deficiencies, to excellent; and
- (c) a fat covering that
  - (i) extends moderately well over the ribs and loins and lightly over the hips and chucks,
  - (ii) ranges from firm to slightly soft,
  - (iii) has a colour ranging from white to yellow, and
  - (iv) is less than 15 mm in thickness at the measurement site.

#### **Grade Standards for Canada D3**

**38.** The standards for a beef carcass of the grade Canada D3 are the following:

- (a) the maturity characteristics set out in Schedule II to this Part;
- (b) muscling that is deficient to a degree of emaciation; and
- (c) a fat covering that is less than 15 mm in thickness at the measurement site.

#### **Grade Standards for Canada D4**

**39.** The standards for a beef carcass of the grade Canada D4 are the following:

- (a) the maturity characteristics set out in Schedule II to this Part;
- (b) muscling that ranges from deficient to excellent; and
- (c) a fat covering that is 15 mm or more in thickness at the measurement site.

### **SCHEDULE II**

*(Sections 2 and 36 to 39)*

#### **MATURITY CHARACTERISTICS FOR BEEF CARCASSES**

1. Cartilaginous caps on the thoracic vertebrae that are more than half-ossified.
2. Lumbar vertebrae that have no evidence of cartilage or of a red line present on the tips of the spinous processes.
3. Spinous processes that are generally hard, white and flinty when split.
4. Ribs that are wide, flat and white.
5. A sternum that shows advanced ossification.