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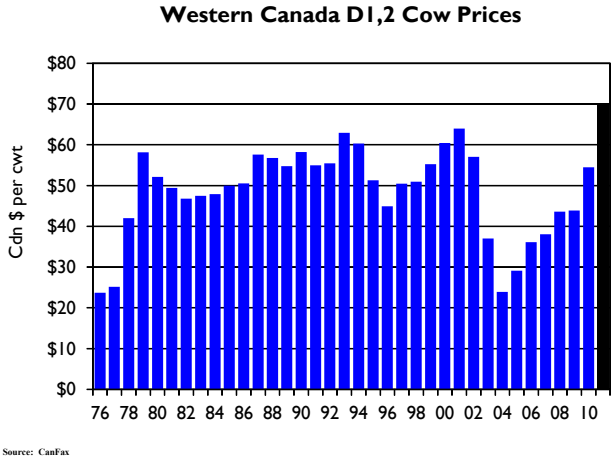
The Fall Run: Cull Cows & Trading Calves

A lot happens during the fall run and the decisions made now determine if a cow/calf operation is profitable for the year or not. September through December as the largest placement months of the year, decisions made in this time period also have a significant impact on the breakeven for a feedlot in the coming year.

This special issue is focused on the decisions producers make during the fall run: whether culling or feeding cows, selling or retaining calves what are the market signals one needs to consider. How does a feedlot decide what they are willing to pay for calves and if they are filling their feedlot with yearlings or calves? This is what determines if the price offered a cow/calf producer is good or not based on market fundamentals.

CULLING COWS?

Cull cows represent 15-17% of gross income on cow/calf operations and are an important contributor to cash flow. On July 1, 2011 beef cow inventories were down only 2.1% from 2010 at 4.2 million head. Cow marketings are projected to be 621,000 head in 2011 down 22% from 2010 to be the smallest in history (excluding the record lows of 03 & 04). The combination of a reduced culling rate and increased heifer retention is encouraging. It would imply that 2011 is going to be a year of consolidation, with liquation being mostly behind us.



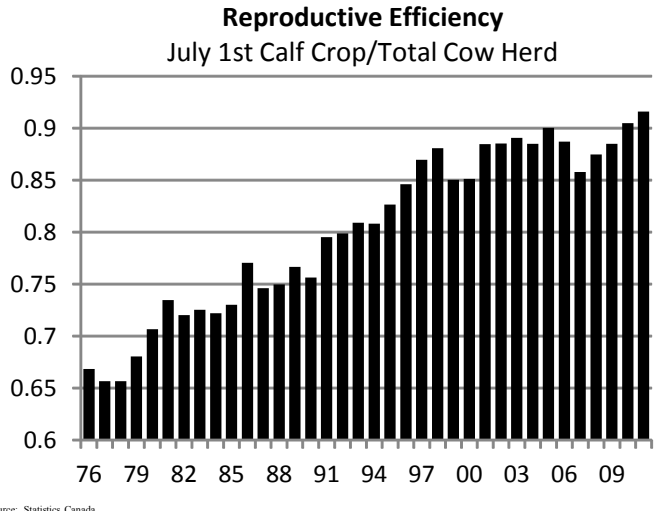
As marketings shrink cow prices have moved into record high territory with cow prices projected to average $72/cwt in 2011 up from the previous record high of $64/cwt set in 2001. Higher prices are providing a greater incentive to increase culling rates and replace these animals with better genetics in order to improve reproductive efficiency.

Why sell cows?

There are two things that will have a significant impact on a cow/calf producer's bottom line regardless of what price calves are selling this fall. First is maximizing reproductive efficiency and the second is minimizing feed costs relative to feed efficiency. For a cow/calf operation, good reproductive rates are critical to operational success and profitability. It is generally expected that each breeding age female in the herd will produce a healthy calf each year and successfully raise each calf to weaning time. Cows that do not produce calves on an annual basis use resources that could be used to support more productive cattle. Poor reproductive efficiency also influences the per unit cost of production (e.g. the breakeven price per pound weaned) because cows who don't wean calves have costs that must be covered by the remaining pounds of calves weaned.

$$\textit{Reproductive Efficiency} = \frac{\textit{Number of Calves Weaned}}{\textit{Number of Females Exposed}}$$

The July 1st calf crop as a percentage of the total cow herd (beef and dairy) has historically averaged 87.5%. After steady improvement from 1977 to 1998, advancement in reproductive efficiency has been relatively flat over the last decade as small to negative margins in the cow/calf sector reduced incentives to invest in the cow herd and producers focused on minimizing costs.



To think about it another way consider that in 2011 the reproductive efficiency of the national herd was 92% that means that with a culling rate of 8% we would just be removing the animals that were not performing without any consideration of age, udders, legs and feet, disposition or feed conversion. The beef cow culling rate is projected to be 9.5% in 2011, higher than the 8%, indicating producers are culling for other reasons (i.e. calf performance) as well.

If only culling for problem cases, what progress is being made genetically? Increasing culling rates to include these things can be done while still having a stable or even increasing herd as long as heifer retention is increased accordingly. However, if reproductive efficiency is low in a herd you must increase the number of heifers retained even more due to the multiplying effect. Since not only is a higher percentage of available heifers required when reproductive efficiency is low, but because of lower reproductive efficiency fewer total heifers are available to replenish the herd. The more heifers required for replacements means a larger reduction in the number of marketable heifers, which in light of an overall smaller calf crop due to low reproductive efficiency has a dramatic impact on returns.

Table 1

Cows	Reproductive Efficiency	Calves Weaned	Total Heifers	Heifers Retained	Culling Rate	Market Heifers	Market Steers	Calves Sold
100	93%	93	47	13	12	34	47	80
100	90%	90	45	13	12	32	45	77
100	88%	88	44	14	12	30	44	74
100	86%	86	43	14	12	29	43	72

Table 2

Cows	Reproductive Efficiency	Calves Weaned	Total Heifers	Heifers Retained	Culling Rate	Market Heifers	Market Steers	Calves Sold
100	93%	93	47	8	7	39	47	85
100	90%	90	45	11	10	34	45	79
100	88%	88	44	14	12	30	44	74
100	86%	86	43	16	14	27	43	70

So what is the difference between 90% and 86% weaned? Table 1 shows the number of heifers that would be needed in order to maintain a steady herd. Assuming that 50% of all calves are female and a constant 12% culling rate regardless of reproductive efficiency - the result is that for every 100 cows 5 more calves are sold annually with a 90% reproductive efficiency compared to 86%. The second table assumes a culling rate equal to the number of unproductive cows, resulting in 9 fewer calves sold for every 100 cows from a herd with 86% reproductive efficiency versus a herd with 90%. Not only are there more cull cow sales with a lower reproductive efficiency level, but there are also the costs associated with buying or developing more replacement heifers.

A Note on Longevity

While cows producing smaller calves at weaning time may not generate a profit during the low priced years, during high priced years even the late-born calf will bring a profit. Therefore it is important to consider the age of one's cows and if they have paid for themselves. After a cow has paid for herself, every calf afterwards only has to pay for the maintenance of the cow. A producer must consider their operation, the hassle of keeping some of the older cows that still produce calves and the revenue they would bring.

When to sell cows?

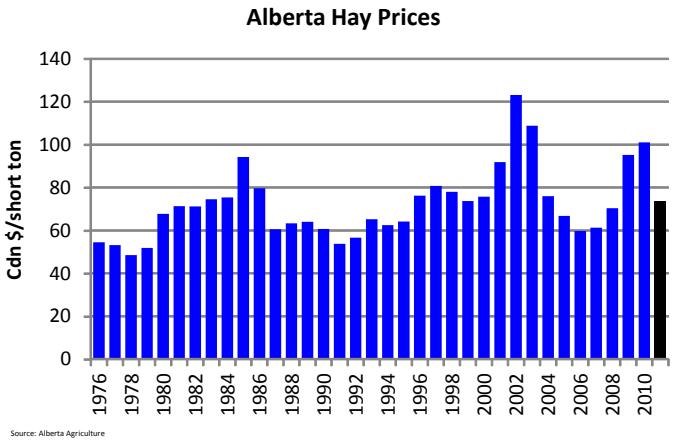
There are a host of reasons to sell a particular cow, but when should you sell her? This depends on (1) the seasonality of cull cow prices, (2) the price difference between D1/2's and D3's and the percentage of cull cows in each grade, and (3) the cost of feeding cows to sell at a later date.

Seasonally the lowest price for cows is in the fourth quarter when supplies are the largest. On average, cow prices rally $9/cwt from November to April. Putting weight on by feeding cows to achieve a better price by improving a slaughter grade or selling into a better market only makes sense when the price spread between D1 and D3 prices is large enough and the cost of feed is low enough.

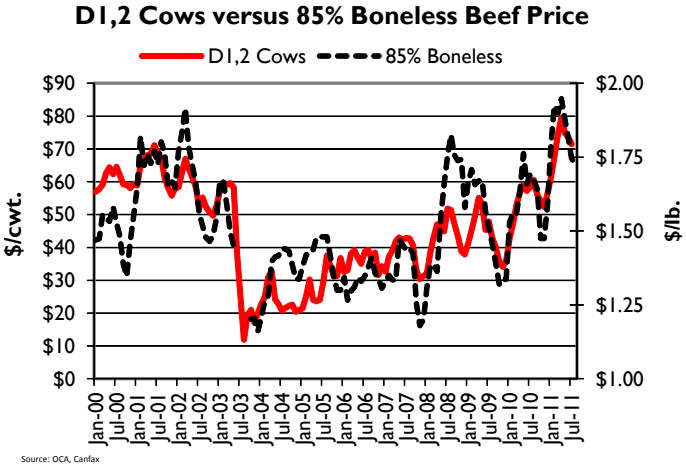
So far in 2011 the price spread between D1/2 and D3 cows is $9.75/cwt, which is wider than the spread in 2010 of $7.23/cwt and the five year average spread of $7.75/cwt. This is actually just below the 98-02 average of $10/cwt. The narrower spread from 06-10 was caused by large supplies of cows which kept D1/2 prices lower and discouraged any feeding of cows. As cow supplies tighten a wider spread has been re-established supporting D1/2 cows at a premium price. Historically not only do you have the $10 premium for D1/2 cows, but also a $9 rally from November to April. Therefore, if you have a 1300 lb D3 cow in November valued at $45 ($585/head) by spring she has gained 200 lbs and is now is worth $63 at 1500 lbs or $945/head leaving $360 to feed her for five months or $72/month.

Alberta hay prices have averaged $73.50 per short ton in 2011 compared to a 98-02 average of $88.50/ton and a 06-10 average of $77.50/ton, with high prices in 2009 and 2010 due to drought.

Feed costs, yardage, death loss, and interest should all be included in a cost analysis.



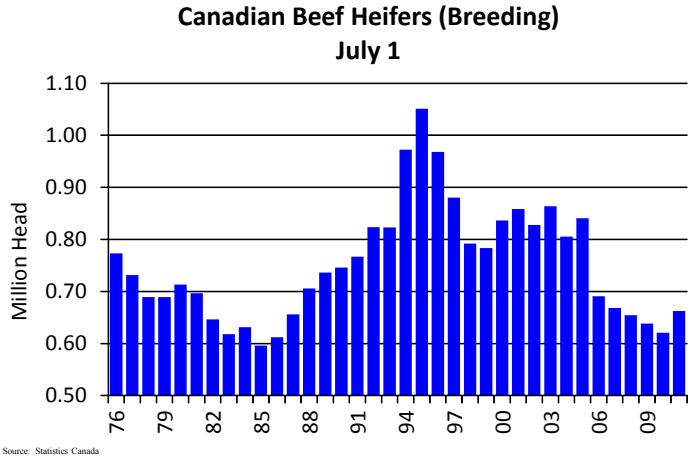
This year cow prices did not rebound in August to spring highs; instead they leveled off through the summer as large US cow slaughter caused by severe drought in the south limited any upward movement. Prices will be supported throughout the fall by strong trim demand. Supplies of lean trim have been relatively tight with smaller non-NAFTA imports, which are down 22% in the first six months of 2011. Lean trim prices are averaging $173/cwt so far in 2011, 21% higher than a year ago and 23% higher than the five year average. Therefore, the gain from November to April may not be as large as typical, with a projected spring peak of $80/cwt similar to what was seen in 2011.



If selling in the fall, price seasonality would indicate that selling sooner is better than later heading into the fall. As calves are weaned culls start coming to market depressing prices. Cow prices typically fall $7/cwt from August to November.

REPLACEMENT HEIFER NUMBERS

Beef replacement heifers in Canada were up 6.7% at 662,200 head on July 1st as higher calf prices last fall has encouraged retention. While up from year ago, this is still 12% below the historic average of 752,000 head. Therefore, the increase does not indicate expansion but stabilization of the cow herd. It should also be remembered that the replacement heifer number is always soft at this point as some of these heifers will be open and go to market. However the upward trend is encouraging.

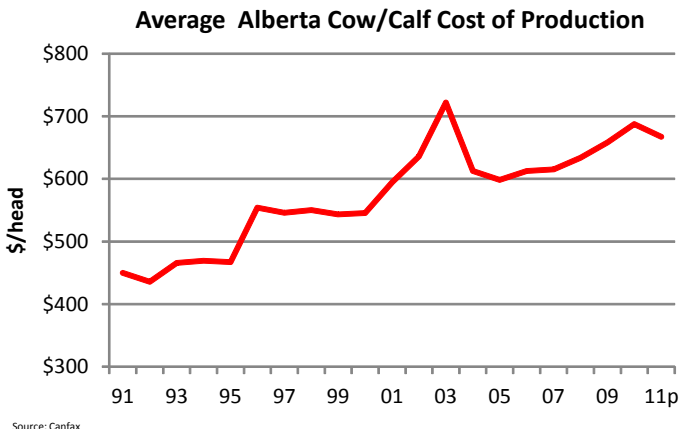


Beef heifer replacement numbers continue to be down in the East, while there is a significant increase in the west with B.C. up 0.6%, Manitoba up 2.8%, Alberta up 7.8% and Saskatchewan up 12.3%. The difference in optimism reflects feed availability and relative cost as barley continues to be significantly cheaper than corn. Any serious expansion moving forward will depend upon feed availability, credit availability, and producer appetite for risk.

Remember heifer calves retained this fall will not produce beef for another 2-3 years. But if you purchase instead of raising your own heifers you can run more mature cows that are raising a calf every year. This maximizes the resources on an operation by reducing the time an animal is not producing a calf. This also provides an opportunity to bring in new genetics on a regular basis.

SELLING CALVES: COW/CALF BREAKEVENS

Western Canadian breakevens in the cow/calf sector have increased 50% over the last 20 years, which is a 7% annual increase on average. Knowing your breakeven price before selling allows you to know when to hold onto your calves and when to take the money with a nice profit built in. The breakevens in 10/11 are estimated to be 3-4% lower with cheaper wintering costs last year. When combined with a higher projected calf price, profitability is expected to swing up.



When calculating the economic unit cost of producing a calf it is important to include the cost of grass, as even if it is owned there are expenses (i.e. taxes, fencing, etc.) associated with it and there is the opportunity cost of what you would have received if you had rented it out. Similarly it is important to include the cost of labour to get an accurate idea of what it costs to maintain the cow herd. Adjusting for open cows is also important as the revenue from the current calf crop must cover the expenses of the entire cow herd maintained over the past year. Other items include: veterinary costs, medication, marketing, depreciation on equipment, interest on any loans and herd replacement costs for bulls, cows and heifers.

Table 3

Break-Even Weaned Calf Price						
		Annual Maintenance Cost per Cow				
	1.28	**$550**	**$600**	**$650**	**$700**	**$750**
Weaning weight (lbs)	450	$1.29	$1.52	$1.52	$1.64	$1.75
	500	$1.16	$1.37	$1.37	$1.47	$1.58
	550	$1.05	$1.24	$1.24	$1.34	$1.44
	600	$0.96	$1.14	$1.14	$1.23	$1.32
	650	$0.89	$1.05	$1.05	$1.13	$1.21
	700	$0.83	$0.98	$0.98	$1.05	$1.13

An annual maintenance cost of $700/cow gives a breakeven of $134/cwt on a 550 lb calf . Alberta 550 lb steer prices are currently $153/cwt giving a $19/cwt margin ($104.50/head). Calf prices are expected to average $145-150/cwt throughout the fall providing a margin of $11-16/cwt ($60-88/head).

Retaining Ownership

Cow/calf producers tend to look at retaining ownership when prices are low to increase potential returns and sell into a different market. However, when retaining ownership one also takes on the price risk associated with selling into a future market. After years of the cow/calf sector seeing negative returns as a result of high feed costs, a high dollar and soft demand, feeder prices have finally turned around in light of reduced supplies.

In the feedlot sector risk is still evident with careful risk management needed for both selling of finished cattle and buying of inputs, as volatility continues to occur just at higher prices. So why would anyone retain ownership this year when they can take the money and run? This depends on ones experience with retaining ownership and if you know how your cattle will perform.

All sectors of the industry have opportunities for positive returns during sharp upturns in the market; just as all sectors of the industry tend to experience losses during sharp downturns in the market.

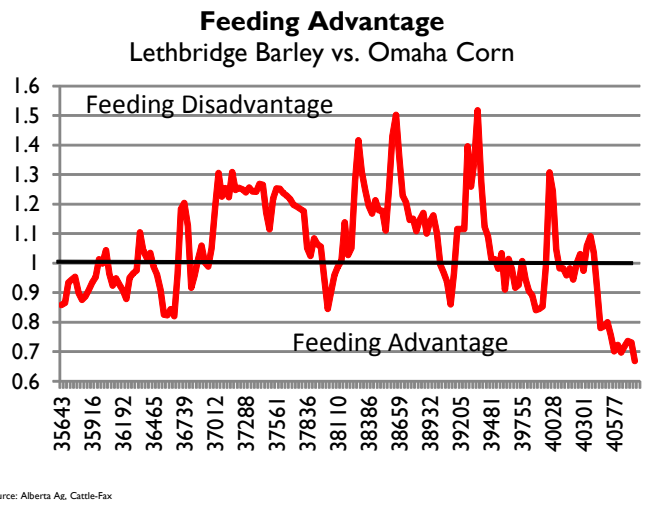
FEEDLOT WILLINGNESS TO PAY

Looking forward to the fall run feedlots will be considering what kind of supply is available as they make buying decisions. The July 1st inventory report showed calf numbers (< 1 year) are down 0.5% and steers (>500 lbs) are down 1.1%. Using these two numbers we can estimate the supply of beef feeders outside of feedlots, which will be placed over the coming six months. This number includes the number of beef calves, beef steers and slaughter heifers less the July 1st cattle on feed number. The feeder and calf supply outside of feedlots is estimated to be down 2% from 2010 and 19% below the peak in 2005.

Smaller inventories create competition and support feeder prices in times where there is excess capacity in the feedlot sector. But once the sector has rationalized, either by some feedlots moving to backgrounding or exiting the industry, the competition for numbers diminishes. Currently we are seeing over capacity not in terms in terms of feedlots operating at lower rates of turnover as a result of small numbers. Lower than desired turnover rates increase the overhead carried by each animal in the feedlot raising fed cattle breakeven prices and decreasing a feedlots willingness to pay for feeder cattle.

Canada has had a cost of gain advantage as compared to the US since September 2010; encouraging feeder cattle to remain in Canada to be finished. Over the last year Lethbridge barley has averaged 78% of the Omaha corn price. Considering the US corn situation, with production and projected supplies potentially being lower than demand, rationing of corn is expected with corn futures at US$7.78/bu for March 2012. This will limit US feedlot demand for Canadian feeders.

[1] A $700 annual maintenance fee divided by 550 lb calf = $1.34/lb or $134/cwt



Source: Alberta Ag, Cattle-Fax

Barley is not a substitute for wheat or corn for ethanol production. Therefore barley prices are decoupled from corn prices as long as barley prices are below corn. When corn prices are lower and corn DDGs start coming into western Canada, reduced demand for barley softens prices. Currently barley prices are $205/tonne ($4.46/bu) implying a cost of gain at 92¢/lb.

Placing Calves vs. Yearlings

Over the last two years we have seen feedlots fill up primarily on calves in the fall with only mild interest in the yearling run. There has been good reason for this trend with the feedlots ability to hedge a profit or even breakeven prices on yearlings severely limited, while the live cattle futures provided opportunities on calves being placed later in the year. Over the summer we saw a switch take place with opportunities on the board to hedge heavier 750 lb yearlings at a profit. The futures board, as a price discovery mechanism, is supposed to provide an indication of future supplies. However not all movement is predictable or even explainable. Optimism from stronger beef exports out of the US on a weak dollar can lead to more optimism changing the market psychology for the entire summer. Explaining the change is not as important as being aware of it and how it impacts you as a producer.

Feedlot Breakevens

The futures market currently has a $2.80/cwt premium for June at $122.80/cwt compared to February at $120.00/cwt. Yearlings placed on feed in September are expected to be finished in February at US$120.10, with a par dollar and $9 basis, have a projected price of $111/cwt or $1,498.50/head with a 1350 lb finish weight. Given a cost of gain at 90¢/lb this puts the feedlots breakeven price for 850 lb yearlings at $123/cwt. If the cost of gain increases to 95¢/lb - the breakeven price on yearlings declines to $120.40/cwt.

Projected Price ($/head)	$1,498.50
Less Cost of Gain (500 lbs @ 90¢)	$450.00
Breakeven on Yearling	$1,048.50

In contrast, calves placed in October and expected to be finished in June at US$122.80 with a par dollar and $10 basis puts the projected price at $112.80/cwt ($1,522.80/head). This results in a breakeven price for 550 lb calves at $146/cwt. If the cost of gain increases to 95¢/lb - the breakeven price declines to $138.70/cwt.

Projected Price ($/head)	$1,522.80
Less Cost of Gain (800 lbs @ 90¢)	$720.00
Breakeven on a Calf	$802.80

What a feedlot places will be based on whether yearlings or calves can be procured at less than the breakeven price. A feedlot with a lower cost of gain has an edge as they can bid more for cattle. Last fall a lower cost of gain in Canada combined with higher prices resulted in US feeders coming north for finishing and filling some of that excess capacity. There is potential of that happening again this fall. A spike in corn prices would pressure feeder prices lower in the US making them affordable for Canadian feedlots and reducing the overhead allocated to each animal.

CONCLUSION

The fall run is full of production decisions – to retain heifers as calves or buy bred heifers, cull more or less cows, expand, contract or have a stable herd size. Each of these decisions must consider the current market environment, feed costs, as well as future prospects.

There are many reasons to cull or not cull a particular cow. But having a good idea of what it would cost you to winter her, or feed her into a better condition and the typical market at that point, further down the road can be helpful when making that decision.

When selling calves or feeders a producer should consider what the market would value their cattle at based on the live cattle futures, dollar, basis and cost of gain to see if what is being bid is competitive. While every feedlots cost structure, and risk management strategy is going to be slightly different this exercise provides an indication of where fundamentals say the market should be at.