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A Division of the Canadian Cattlemen's Association

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## Cycle Indicators & Heifer Retention

Alberta 550 lb calf prices averaged \$148/cwt in the first quarter, \$36/cwt higher than 2010. This is the highest first quarter average since 2001. Fed cattle prices have averaged \$23/cwt higher than 2010 in Q1 and cow prices have averaged \$20/cwt higher. With cattle prices moving up, renewed optimism has many asking if the Canadian cattle industry will enter an expansion phase in 2011.

The intent of this fact sheet is to provide producers with an overview of beef cow inventories, cow marketings, heifer retention, cow-calf profitability, and feedlot margins. A detailed explanation of each of these updated cycle indicators is provided in Chapter Two of the "Trends, Cycles and Seasonality in the Cattle Cycle" book, which is available online at [www.canfax.ca](http://www.canfax.ca). Discussion will focus on where we are in the cattle cycle, the value of a heifer (if investing), and the general economic environment in the coming year.

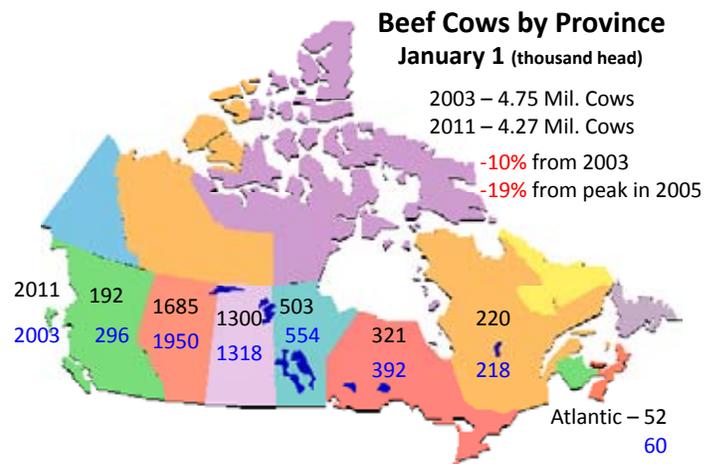
### CANADIAN BEEF COW INVENTORIES

The January 1<sup>st</sup> 2011 inventory numbers from Statistics Canada showed that the Canadian cattle herd declined by 3.4% or 445,000 head to 12.46 million head. It is important to note that there were a number of revisions to historical Statistics Canada data, which makes the year over year percent changes misleading. Therefore we will compare to historic inventory levels.

Total beef cow inventories on Jan. 1, 2011 were down 2.7% or 118,000 head to 4.27 million head to be the lowest since 1995, with declines in all provinces. This was despite significantly improved pasture conditions this summer, with cow marketings being encouraged by strong cow prices. While producers continue to liquidate the herd, it is occurring at a slower rate than prior years. Beef cows in British Columbia were down 2.5% to 192,000 head, the smallest on record (series started in 1976). Alberta beef cow numbers declined 2.6% to 1.68 million head, the smallest since 1994. Saskatchewan beef cow numbers were down 1.5% to 1.3 million head, the smallest since 2002. Manitoba saw the largest decline in beef cow numbers, down 6% to 503,000 head the smallest since 1996. Ontario beef cows were down 3.6% to 321,000 head, which is the smallest on record. Quebec beef cow numbers at 220,000 head are down 2.2% and back at 2003 levels.

The national distribution of beef cow inventories has shifted over the last decade. Alberta's beef cow herd represents 39% of the

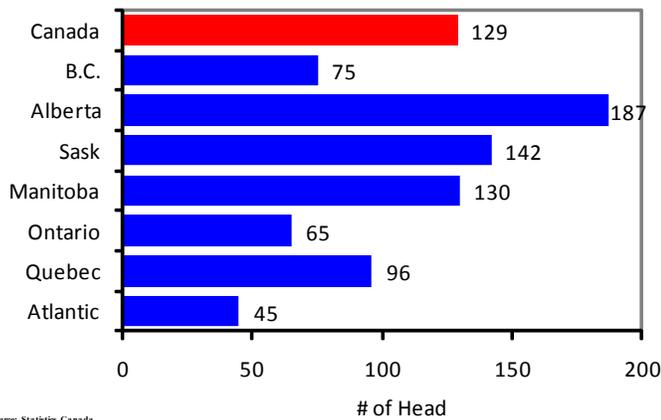
national herd now compared to 43% ten years ago, this is followed by Saskatchewan whose share is up from 25.2% in 2001 to 30.4%, Manitoba with 11.8% of the national beef herd up slightly from 11.4% in 2001, Ontario with 7.5% is down from 8.3%, Quebec with 5% is up from 4.4%, and B.C. with 4.5% is down from 6%. These shifts in where beef cow inventories are located across the country have been driven by feed availability and feed costs. Areas that have experienced multiple years of drought or flooding have seen the largest declines compared to the national average.



There is cautious optimism in the industry. Higher feeder prices and tighter supplies have producers considering stabilizing the herd. However, there are concerns that higher prices may not result in improved profitability in 2011, as rising commodity and input prices pose the risk of offsetting revenue gains. As such any expansion is expected to be at a slower rate than what has been seen historically.

Large numbers of producers have exited the industry. The number of beef farms has decreased 17% since 2003 from 98,615 operations to 81,600 in 2011. Expansion of existing operations and entry of new producers will depend upon equity positions, access to feed supplies, and confidence in sustained profitability within the industry moving forward.

**Average # of Head per Beef Farm  
Jan 1, 2011**



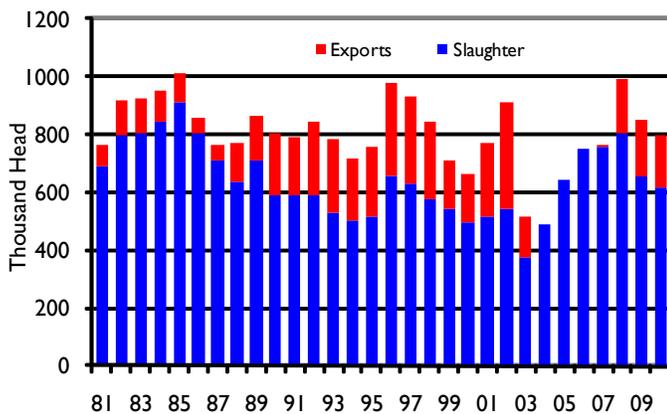
Source: Statistics Canada

It is anticipated that expansion will predominately be in the form of growth within existing herds, with average herd size increasing. The average herd size in Canada grew from 93 head to 133 head between 1996 and 2007 but has since declined to 129 head in 2011.

## BEEF COW MARKETINGS

Domestic cow slaughter throughout the first half of 2010 was steady with 2009, but was down 10% in the second half of the year as higher calf prices saw producers considering maintaining their herd instead of contracting further. Cow marketings (slaughter plus exports) were down 7% in 2010 at 798,000 head, with domestic slaughter down 6% and live exports to the US down 8%. Total marketings were just 3% higher than the 20 year average of 778,000 head, which would imply a steady herd if heifer retention was also at the historic average.

**Canadian Slaughter Cow Marketings**

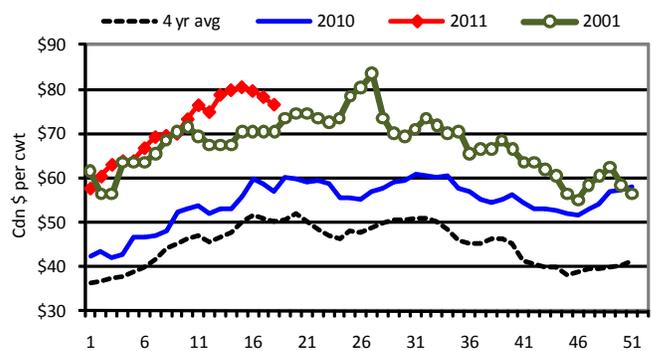


Source: CBGA, AAFC, Statistics Canada

Canadian cow marketings have remained strong as a result of high cow prices, which reached a high of \$60/cwt live last summer and saw an annual average of \$54.50/cwt. Cow prices have started 2011 \$15-20/cwt higher than 2010 and are following the

trend established in 2001 when the annual average was \$64/cwt, with a summer peak just over \$80/cwt. Higher prices are encouraging producers to bring older culls to town. However the question remains are they replacing those older cows with new genetics?

**Alberta Weekly D1,2 Cow Price**



Source: Canfax

In addition, to strong domestic cow prices encouraging marketings, cow exports to the US were encouraged by a narrowing of the price spread between Canada and the US. The price spread went from \$10/cwt in February to \$1.50/cwt in December. US demand for Canadian cows has been supported by smaller non-NAFTA beef imports and strong trim demand in light of conservative consumer spending.

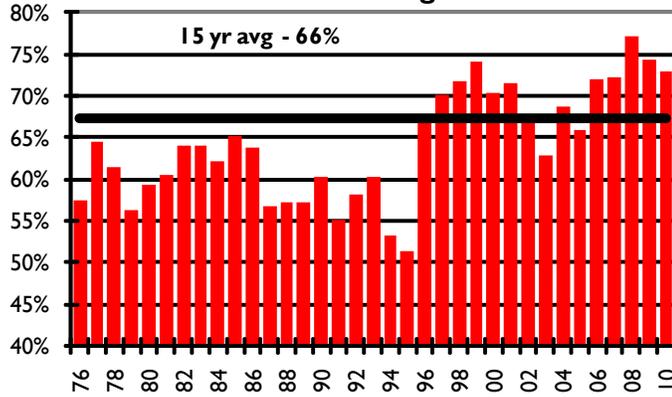
The beef cow culling rate was down in 2010 at 11.8% but was still above the long term average of 10%. Smaller cow marketings in 2011 could easily put beef culling rates under the 10% mark. In the first quarter of 2011 cow slaughter is down 15% and cow exports are down 39%, with total cow marketings 21% below 2010 levels and 19% below the 20 year average. This trend is more prevalent in the west where cow slaughter is down 21.4%, compared to the eastern where cow slaughter is up 2%.

It is important to note that a reduction in cow marketings alone does not imply herd stabilization or expansion. It is only half the story. Understanding the number of heifers being retained as replacements is important for determining if breeding inventories are increasing or decreasing. A herd cannot expand with small cow marketings if heifer retention is smaller.

## HEIFER SLAUGHTER RATIO

A 55% reduction in feeder exports in 2009 saw larger overall fed supplies in 2010. Consequently heifer marketings for domestic slaughter and exports were up 5% in 2010. The heifer to steer slaughter ratio dropped from 0.74 in 2009 to 0.72 in 2010. This is still well above the 15 year average of 66% indicating most producers were not retaining heifers in 2010. The ratio has continued to fall from the high of 0.77 reached in 2008, which points towards a slower reduction.

## Canadian Heifer Slaughter Ratio

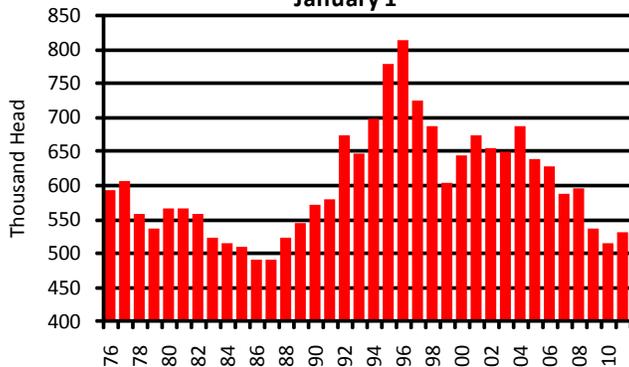


Source: AAFC, CBGA, CanFax, Stats Canada

Large heifer slaughter over the last two years means that there will be limited supplies of heifers to breed. In the first quarter of 2011, heifer slaughter is down a modest 4.4%, with western heifer slaughter down 8% and eastern heifer slaughter up 12.3%.

The January 1st Statistics Canada Inventory report showed that beef heifers retained for breeding were up a modest 3% (15,000 head) at 532,000 head. While this is a small positive indication that producers are beginning to look at small inventory levels and improved prices, current bred heifer inventories are the lowest in 20 years. Consequently bred heifer numbers will have to increase substantially, in conjunction with reduced cow marketings, before any increase in cow inventories becomes a reality.

## Canadian Beef Heifers (Breeding) January 1

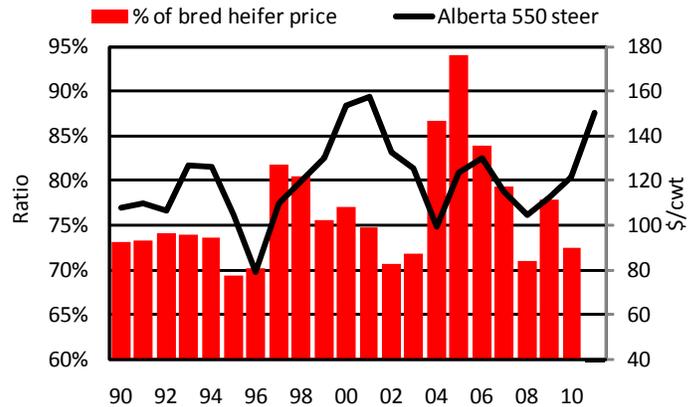


Source: Statistics Canada

Bred heifer prices are another indicator of what is happening with heifer retention. Bred heifer prices are strongly correlated with 550 lb steer calf prices, with 89% of the change in 550 lb steer price explaining changes in bred heifer prices. The Alberta 550 lb steer price as a percentage of bred heifer prices has ranged from a low of 69% in 1995 to a high of 94% in 2005; averaging 76.4% over the long term. In 2010 this ratio was 72.5%. Assuming this relationship stays in 2011 if 550 lb steers average \$150/cwt (they are currently averaging \$148/cwt) this implies a bred heifer price

of \$1138/head. February bred heifer prices were quoted as high as \$1450/head implying a ratio of 57% if calf prices are \$150/cwt. This would be well below the current low seen for this ratio and implies producers are expecting calf prices to be higher yet. Strong heifer prices will attract more heifers into breeding programs and away from fed beef production in the coming year.

## Alberta 550 lb steer calf:bred heifer ratio



Source: CanFax

There is still the option that heifers currently being backgrounded will be bred this summer. It is important to note that in light of current tight supplies, any increase in heifer replacements that reduces fed cattle supplies and beef production over the short term will provide further strength to cattle prices.

## PROFITABILITY

Expansion of the national beef herd is not driven by higher prices but **by profitability in the cow-calf sector**. Despite higher calf prices in 2010, rising feed and input costs, a par Canadian dollar and increased market volatility all play a role in determining if producers are going to expand their herds. Decisions are made for each operation on what price is needed to offset the risks associated with the market and how optimistic they are about future prices.

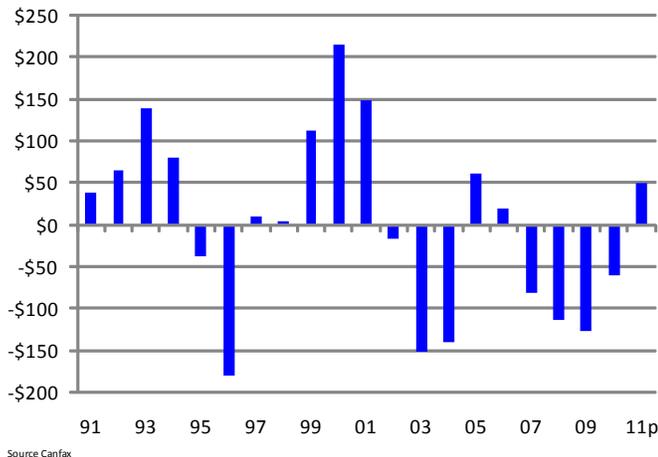
Based on hay prices last fall and estimated summer grass, the cost of production (COP) for a calf weaned in the fall of 2011 is down approximately 3-4% from 2010. This is due to cheaper feed being available this winter compared to the drought year of 2009 that resulted in higher winter feeding costs and breakevens on calves<sup>1</sup>. At the same time prices for calves are expected to remain strong with smaller calf crops in North America and a tighter supply of grass cattle coming forward. This is expected to improve cow-calf margins; potentially putting them in the black. The question is will this be enough?

Many producers are looking to recover lost equity. Over the last eight years the average cow has lost \$70 per year for a total of

<sup>1</sup> Costs considered included winter feed, summer pasture, labor, maintenance, depreciation, and herd replacements.

\$560 per cow. This is compared to the 1990s when cows brought an average return of \$50 per year. Furthermore, while a producer may be willing to take on the financial risk of expanding their herd, depending on their credit situation, their bank may not be too supportive and credit availability may be a limiting factor to herd expansion in the current cycle. It is also important to note that an aging producer profile will impact decision making processes. Older producers will not only be considering profitability and recovering equity; but what is a comfortable herd size, work load or risk level.

**Alberta Cow/Calf Returns**



Cow-calf returns are projected to be \$50/cow in 2011, which when looking historically are low compared to previous expansion cycles. Cow-calf returns in 1998 and 1999 were estimated at \$112-215/cow, while returns in 1992 and 1993 were estimated at \$80-139/cow. The 550 lb calf price will have to average above \$137/cwt this fall to exceed \$50/cow return and push expansion into high gear.

It should be noted that the above discussion is based on a static model, and producers who have changed their management or operation size, may be faring better than the chart suggests.

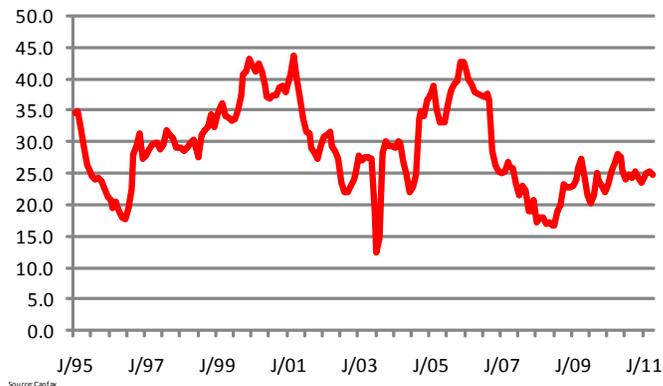
**Cattle to Feed Ratio** - The Alberta Fed steer to Lethbridge Barley ratio is a proxy for industry profitability and overall health; providing an indication of feedlot margins. This ratio does not necessarily decrease when feed costs increase. This was apparent in the fall of 2010 when live cattle futures increased proportionately with feed



grain prices, allowing feeder cattle prices to increase despite higher costs of gain. When the cattle to feed ratio is high for a sustained period it indicates fed cattle prices are relatively

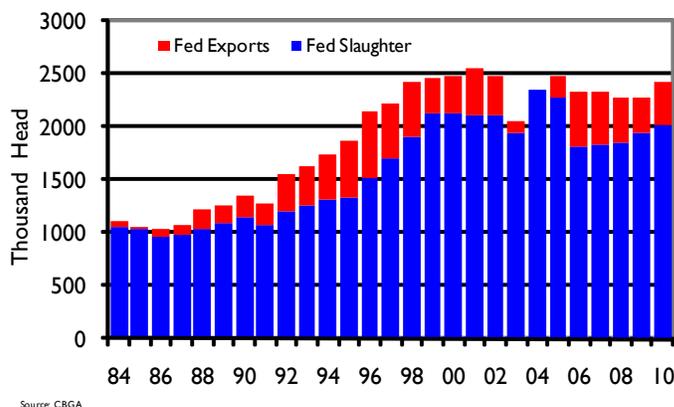
high compared to feeding costs and encourages the industry to expand. When the ratio is low it indicates small feeding margins that pressure feeder cattle prices lower and can lead to herd contraction.

**Alberta Fed Steer to Barley Ratio**

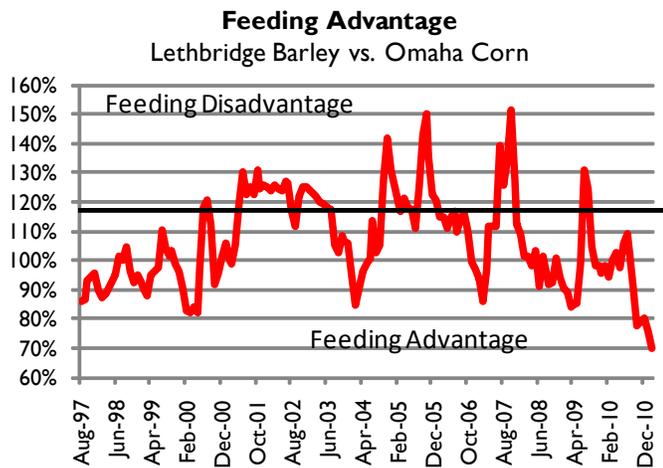


This ratio improved from a low of 16.8 in the summer of 2008 to average 25.2 in 2010 with lower barley prices. A high was seen in April 2010 at 28.1. Since then it has fallen to 24.9 in February 2011. It should be noted that annual averages above 30 from 1998 to 2001 were not enough to encourage expansion, as Canadian fed slaughter was steady and Alberta fed cattle marketings were also relatively flat throughout that time period. This ratio will have to move higher in order to encourage expansion in the feedlot industry.

**Annual Alberta Fed Marketings**



Feedlot profitability in 2010, based on the Canfax Trends program, were good with 10 out of 12 months showing positive returns on steer calves placed and sold on the cash market. Note 2010 was not a good year for risk management (hedging on the futures market) with cash prices moving higher margin was lost on hedged cattle which were locked in at lower prices. As a result feedlots which hedged their 2010 at the time cattle were placed brought a positive return in only 6 months.



Moving into 2011 improved feed prices are not only a positive but a necessity to maintain positive margins. Cost of production has increased with rising global feed grain prices and feeder cattle prices moving up in light of shorter supplies. Feed grain prices have been moving steadily higher since last spring. Lethbridge barley prices at \$198/tonne in March 2011 were 32% higher than last March. Omaha corn averaged \$274/tonne, up 83%. The strong increase in corn prices has given Canada a cost of gain advantage starting last September, with barley prices 9% lower than corn. This spread has widened to 28% in March. You have to go back to the late 1990s to see a similar cost of gain advantage in Canada's favor. Looking over the last decade these times of feeding advantages have been relatively short lived. However with global demand for corn requiring a record US corn crop this coming year, the tightest ending stocks to use ratio since 1995/96, and rising oil prices increasing margins for ethanol producers this trend may well be around for awhile. This will encourage feeder cattle to stay in Canada or even come north.

Despite a feeding advantage for the feedlot sector, profitability is what will determine what the sector bids for feeder cattle and ultimately provide the price signal to cow-calf producers to expand or not. The Canfax Trends program is estimating feedlot profits for feeders placed in April to be negative for all weights except shortkeep steers. Negative returns will pressure feeder prices lower in the coming months unless feed cattle prices improve from the current live cattle futures price.

## THE CATTLE CYCLE

A typical cattle cycle runs ten to twelve years in length as the industry responds to market signals. However when market signals are mixed, highly uncertain or when outside forces such as trade barriers or drought occur the cattle cycle may be delayed or even reversed for a period of time. In addition the cattle cycle focuses on producers supply responses to changes in price, but consumer demand also influences prices and industry's response to market

signals. Therefore in years when the cycle is not apparent, it is not that it is not in play but that outside forces are temporarily limiting or having a larger influence on producer decisions; particularly changing consumer demand.

**What have previous turning points in the cattle cycle shown us?** The cycle of the **1970s** was driven by soaring domestic demand with increasing per capita disposable income. The cycle of the **1980s** was stagnated with the recession and high interest rates in the first half of the decade resulting in a slow sell off of the national herd. A jump in calf prices in the fourth quarter of **1987** (up 16%) kicked off a decade of expansion driven by a low Canadian dollar and growing beef and live cattle exports. This growth phase lasted until 1996. Despite calf prices increasing 31% from Q4 1996 to Q4 1999 inventories declined. Growth did not resume until **2000** after prices had increased another 10%. So what prevented growth from 1996 to 1999? Feed grain prices increased 42% in 1995 and over the next five years averaged 46% higher than the previous five years.

Therefore it took four years for calf prices to increase enough in order to offset higher feed grain prices and encourage further expansion of the national herd.



**So where are we in the Cattle cycle?** Similar to the 1990s feed grain prices have averaged 21% higher in the last five years compared to the first five years of this decade. At the same time Q4 calf prices have been 10% lower. In the fourth quarter of 2010 calf prices at \$110/cwt were only 4% higher than the 2000-05 average. This implies that calf prices last fall were not high enough to offset the increase in feed costs seen over the last ten years. Not to mention a par Canadian dollar compared to \$0.67 in 2000 and crude oil at US\$100/barrel versus US\$27/barrel in 2000. In order to adjust for feed grain prices alone would require calf prices this coming fall to be 15% higher at around \$130/cwt. In the first quarter of 2011 550 lb steer prices have averaged \$148/cwt in Alberta. So while liquidation has slowed prices would need to hold steady at current levels this fall to send a strong enough signal to producers to expand.

The last cattle cycle ran from 1996 to 2005 (peak to peak) with four years of liquidation from 1996 to 1999 followed by six years of expansion from 2000 to 2005. The current cattle cycle is estimated to run from 2005 to 2015, with five years of liquidation between 2005 and 2010 followed by one year of consolidation and/or stabilization of the cow herd in 2011 before entering four years of expansion. Therefore a heifer having her first calf in 2011 will have calves through the highest price years of the current cattle cycle.

When producers are making decisions around retention and purchasing to expand their herds ultimately their question is how long will current prices and profit opportunities be sustained? While many production and market factors are out of the individual producers control and not necessarily predictable (i.e. drought, market access, exchange rate), certain trends can be watched and provide a strong indication of long-term industry supply/demand dynamics. Ultimately tighter supplies, with stable or growing demand, will trigger a price level where producers deem it profitable to expand despite higher costs. At the same time this price level is hard to predict and highly dependent on the interplay between all market dynamics.

## ECONOMIC FACTORS / MARKET OUTLOOK

While reduced supplies in North America are currently supporting beef and cattle prices, the ultimate determinant of improved prices over the long term is domestic and global consumer demand. The North American consumer is still cautious, as unemployment at 7.7% in Canada and 8.8% in the US is still historically high. However for those who have job security and have been able to increase savings over the last two years, increased spending is apparent.

An important indicator of consumer demand is boxed beef prices and prices of middle meats in particular. The Rib and Loin may only represent 30% of carcass volumes, but account for 50% of the value of a carcass. In March rib primal prices have averaged 4% above year ago levels at \$260/cwt, while the loin primal averaged 11% below year ago at \$242.50/cwt.

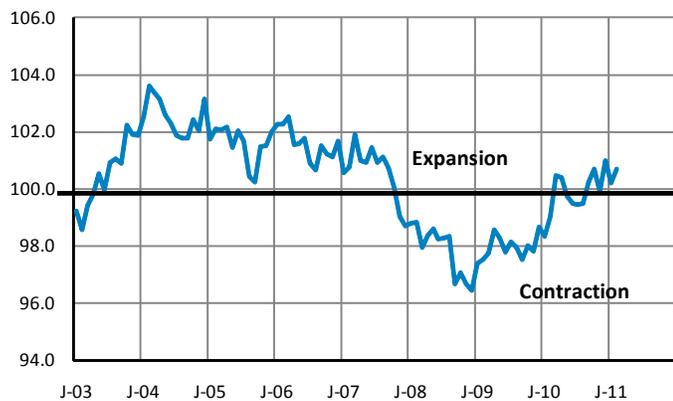
can be said for Canada.

**International demand** is recovering; beef exports were up 8% in 2010 to be 4% above 2008 levels. Global economic recovery has been stronger in emerging economies with growing disposable incomes. This will support exports of protein and result in shifts regarding where beef is exported globally in the coming years. Tightening supplies of competing meats, particularly pork, is also helping the beef export situation.

Because Canada exports around 50% of beef and live cattle production growth in international markets is an important factor in driving fed cattle values. Growth from these markets result in higher competition and prices for all cuts of beef and not just those items not traditionally eaten outside of North America. Expectations are for exports to increase over the next five years as a result of expanded market access and demand growth in countries with rising disposable incomes.

**Smaller Canadian beef production** – large cow slaughter over the last several years has offset smaller fed supplies to some extent since 2005. With cow slaughter down 17% in Q1, the impact of smaller fed supplies on beef production is becoming more apparent. Fed cattle production, which is the primary driver of overall beef supplies, was down 10% between 2005 and 2009. The increase in fed production seen in 2010 was a onetime event caused by a 55% reduction in feeder exports in 2009. This will not reoccur in 2011, with tighter supplies leading smaller slaughter and beef supplies and the impact of a smaller calf crop beginning to be clearly represented in market signals.

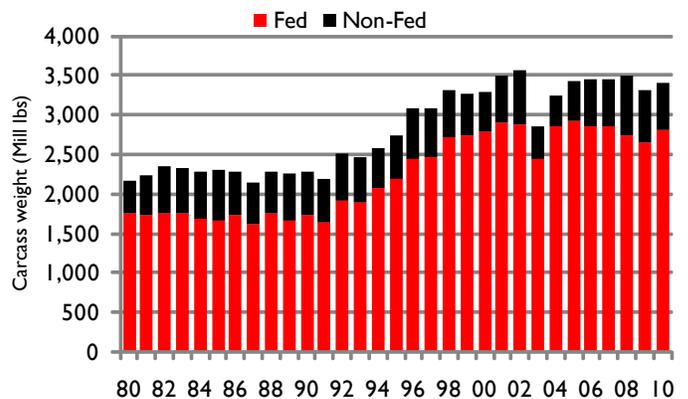
NRA RESTAURANT PERFORMANCE INDEX



Source: National Restaurant Association

Foodservice is an important driver of value for beef; a large demand driver in particular for middle meats. The National Restaurant Association's Restaurant Performance Index is a monthly composite index that monitors the health of the industry. In February 2011 the index stood at 100.7 up 0.4% from January. This also represents the fifth time in the last six months that the index has been over 100, which signifies expansion in the industry. Bottom line: more people are eating out in the US and the same

Canadian Beef Production



Source: Canfax Research

**Global cattle inventories** are also shrinking, having fallen 3% from the peak in 2004 to 2011. Meanwhile global beef consumption is projected to grow over the next 10 years with consumption in China projected to increase by 686,000 tonnes, consumption in the Middle East and North Africa (MENA) projected to increase by 600,000 tonnes and the U.S. by 505,000 tonnes.

Expansions in beef production are not expected to occur in the

same locations as consumption growth. As consumption outpaces production, China and MENA will both require larger beef imports. The EU is also expected to continue to see beef production decline, resulting in the need for increased beef imports over time.

In Canada domestic demand growth is expected to be limited, with a mature market that has seen relatively stable beef consumption over the last 20 years at around 960,000 tonnes (carcass weight). Consequently cattle price support will be dependent upon improving global demand combined with tight global supplies for beef and meat in general.

Due to the time lag in the beef cattle production cycle, reduced domestic and global beef supplies will be evident over the next several years. As countries start to expand their herds it will be 2-3 years before increased production is realized. Any expansions that take place will be limited by higher costs and fluctuating exchange rates, which ultimately influence the returns producers receive.

### VALUE OF A HEIFER

The discussion above has centered on historical indicators and average cost and profit modeling. While current supply dynamics and price responses are providing clear signals for industry participants to consider expansion, the decision to do so will be highly dependent on the individual operators own situation. Individual producers will not only factor in prices and costs, but labor and feed availability, age, risk tolerance, and other factors will also play a role.

If you've decided you expected prices over the long term will support increased production and are looking to expand your herd the question becomes how much should I pay for a bred heifer?

What a producer is willing to pay for heifer is determined by her Net Present Value (NPV). The Net Present Value is the sum of future cash flows (incomes less expenses) in present value dollars, calculated as follows:

$$NPV = \sum R_t / (1+i)^t$$

where:  $t$  is the year in the future;

$i$  is the discount rate; and

$R_t$  is the net cash flow (income less expenses) for the year  $t$ .

Factors impacting her net present value include the size of calf weaned, reproductive lifespan, maintenance costs (assuming a 95% weaning rate), and salvage value. For the purposes of this discussion it is estimated that a heifer will produce a 550 lb calf every fall for the next 10 years. This same heifer will bring a \$700 salvage value when sold and will use a 5% discount rate to calculate the present value of future cash flows.

### Maintenance Costs

Having a good understanding of what it takes your operation to maintain a cow for a year is important when buying heifers. Maintenance costs include: breeding stock replacement, veterinary and medicine, repair and maintenance, depreciation, insurance, custom work, utilities, office expenses, interest cost and all other yardage costs. These costs should be calculated at market value – for example, home grown feed should be valued at the cash market price and current labour rates. In this case we assume an average Alberta farm of 190 cows. This will not be representative of all herds, with operation size and management style easily creating a difference in maintenance costs of over \$100/cow.

If annual maintenance costs are \$600 and calf prices are expected to average \$135/cwt using a 5% interest rate the net present value of a heifer is \$1530. But increasing those maintenance costs to \$650/year brings this down to \$1144. Table 1 shows the difference in the net present value of a heifer producing a 550 lb calf valued at \$135/cwt with various maintenance levels.

Table 1. Varying Maintenance Costs

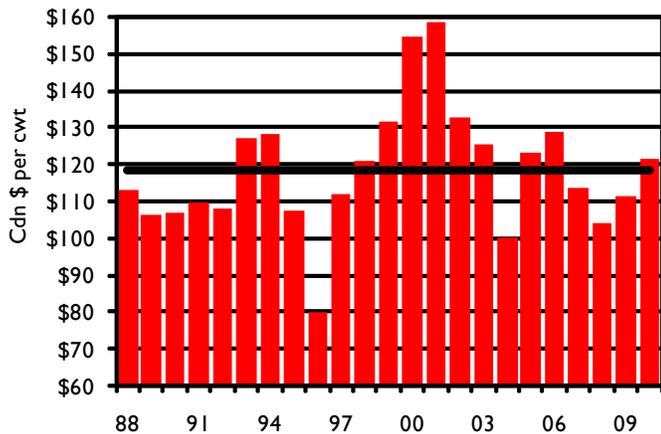
Maintenance Cost	Calf Price	Bred Heifer Price
\$550	\$135/cwt	\$1916/head
\$600	\$135/cwt	\$1530/head
\$650	\$135/cwt	\$1144/head
\$700	\$135/cwt	\$758/head

### Expected Calf Value

Once production costs are known for the operation, the value one is willing to pay for a heifer comes down to what one expects calf prices to be over the productive life of that cow. In the 1980s calf prices averaged 69% higher than in the 1970s. They were 20% higher in 1990s and only 12% higher in the last decade. An average price of \$135/cwt in the coming decade would only be 7% higher than the last. Given increased production costs, it is not inconceivable to expect calf prices to average 15-20% higher at \$145-150/cwt. However it should be noted that Alberta 550 lb steer prices have averaged \$118.50/cwt over the last 20 years, with only 2000 and 2001 being significant exceptions above that at \$155-159/cwt.



**Alberta 5-600 Feeder Steer Price**



Source: CanFax

Assuming a maintenance cost of \$600/cow - if calf prices are expected to stay at the long term average of \$118/cwt then her net present value is \$808. However, if calf prices are expected to average \$135/cwt over the next 10 years then her net present value is \$1530. Table 2 shows bred heifer prices with varying calf prices.

**Table 2. Varying Calf Value**

Maintenance Cost	Calf Price	Bred Heifer Price
\$600	\$120/cwt	\$893/head
\$600	\$125/cwt	\$1105/head
\$600	\$135/cwt	\$1530/head
\$600	\$145/cwt	\$1955/head

Bred Heifer prices in the first quarter of 2011 have been around \$1400/head implying an expected calf price of \$132/cwt on 550 weight calves. Producers who expect calf prices to average higher than \$132/cwt over the next decade will be interested in the present heifer market, as this gives them a one year head start over retaining heifer calves within the herd to allow for expansion. But for those who expect calf prices to average at or below \$132/cwt they may want to consider the costs of raising heifers and the opportunity cost of being a year later in expanding their herd when supplies have tightened further.

**Buying or Growing Replacement Heifers?**

When the NPV is greater than the current market value for heifers there is opportunity in the market to buy heifers below your willingness to pay and therefore make money. This really comes down the question - can you produce a replacement heifer for less than the current market value? If so, there is not only incentive to raise your own replacements but also an opportunity to sell replacements. So, what does it cost to raise a heifer?

**Table 3. Cost of Raising Bred Heifers**

Opportunity Cost for Heifer Calf	\$655
Feed Costs: Winter	\$216
Summer	\$120
Other variable expenses <sup>2</sup>	\$49
Interest @ 5% over 10 months	\$18
Fixed Expenses <sup>3</sup>	\$35
Total Expenses incurred	\$1093
<b>Net Cost for bred heifer</b>	<b>\$1214</b>
<i>Adjusted by 90% for death loss &amp; lost value on opens<sup>4</sup></i>	

If a 550 lb heifer calf was retained last November (valued at \$119/cwt or \$655/head), winter feeding costs are estimated at \$1.20/day for six months and summer pasture at \$1/day for four months. The bred heifer's value ten months later in September for the fall bred heifer market is \$1214/head compared to \$1400/head for bought heifers, leaving a \$186 margin. Individual producers will need to consider what they deem to be an appropriate margin for the additional work of raising heifers for sale.

Raising heifers usually pays when entering an expansion phase and demand is strong, but rarely pays during a liquidation phase when bred heifer prices are depressed.

**CONCLUSION**

The Canadian beef industry is entering into another expansion phase. How large and rapid that expansion will be, is yet to be determined. It will be dependent upon numerous factors including the strength of the international market for beef and producer profitability. The decision to expand will vary with each individual operation as they consider financial, resource, and other constraints.

There are currently opportunities in the marketplace to buy heifers for those who expect calf prices to average \$132/cwt on 550 weight calves over the next ten years. Due to the cyclical nature of the cattle cycle, created by the biological lag from when heifers are bred and when the first calf goes to slaughter, producer decisions of when to increase bred heifer numbers are important for meeting future beef demand.



<sup>2</sup> Variable expenses include veterinary, medicine, repairs, and utilities.  
<sup>3</sup> Breeding expenses (bull estimated at \$30-40/head).  
<sup>4</sup> Death loss of 1% assumed. Open (25%) and culled (5%) heifers still have value in the slaughter market but are discounted.