how-to HEDGE

SUPPLEMENT

One of the goals of Cows in Control is to assist cow/calf producers with understanding their options for securing prices of their livestock to protect themselves from potential downturns in the market. I have assembled this brief synopsis of the various methods to do so.

There can be a lot of complexities associated with each of the options, but this will give you an overview of the various methods.

As always, Cows in Control is designed to assist ranchers in navigating through these various options. Let's start with some key terminologies and then discuss the various options. --- *Ryan*

FIRST THINGS FIRST, DEFINITIONS

Before analyzing any hedging or pricing methods, one must understand some key definitions.

1. **Basis** – by definition it is "a basic fact, amount, standard, etc., used in making computations, reaching conclusions, or the like". In simple language, a 750 lb steer in Northern Alberta is going to be priced differently than the same steer in Lethbridge, or Chicago, Illinois – the home of the futures market. The cattle industry recognizes this and has established Chicago as the "base" location from which to originate a standard for prices.

   Keeping currency differences out of the discussion, we have to compare our cattle prices in Canada, specifically where we're located, to what prevailing prices for the exact same animal would be in Chicago when evaluating which hedging methods to use.

   Basis is affected by the following factors:

   - *Freight costs:* between you and your target market (generally Chicago when analyzing hedging methods, but it could be between Northern Alberta vs. Southern Alberta, Alberta vs. Saskatchewan, etc.)
   - *Border risk:* the perceived risk for buying Canadian cattle compared to American cattle, and more importantly potential export hurdles to get the cattle to market (think of BSE years as an example)
   - *Quality perception*: if Canadian cattle are *perceived* as superior or inferior to similar weight cattle in the United States, there will be a basis difference (think of the negative connotations towards Mexican cattle)
   - *Health risk:* BSE, blue tongue, or other health concerns that may put a discount on cattle coming from our country
   - *Supply and demand:* when supply is short in the US, our basis will "tighten"; meaning the above influences will be overruled by the strong need for cattle

Basis for 750 lb feeder steers historically ranges around 15 cents under US prices. Fat cattle are usually around 6-8 cents under. Through the past year our feeders have been 25-35 cents under US prices due to the MCOOL effect, but now the shortage of Canadian fat cattle has created a basis currently 10 cents more than US prices! There can be huge volatility in basis, so it needs to be considered in your hedging decisions.

2. **Currency** – cattle futures and options are priced in US dollars based out of Chicago. When using any hedge method, one must consider the value of our Canadian dollar against the value of the US dollar. For example a steer in the US worth $1700 would be worth $2125 in Canadian dollars with an 80 cent dollar, and only $1700 Canadian with a par dollar. That's $425 dollars difference in our steer prices due to a change in currency rates alone! That is huge and worth watching.

3. **Slide** – this is the difference in the price per pound of two animals of the same type but differing weights. For example, a 500 lb steer may be worth $3.30/lb, and a similar steer that weighs 600 lbs is worth $3.00/lb. This $0.30/lb difference is what we call "slide". WLPIP calf insurance assumes a 600 lb steer when setting its insurance levels. If you know you will wean a 500 lb steer, you will have to know how to use the slide to determine what actual price you are locking in for your 5 weight calf.

4. **Heifer to steer basis** – heifers generally trade at a discount to steers due to their reduced weight gain potential in the feedlot, generally smaller end weights, and added cost to avoid pregnancy in the feedlot. Currently heifer to steer basis ranges in the 20-30 cent discount range.

5. **"Cycles" versus "seasonality"** – a "cycle" is the fluctuation in the general cattle market based on such factors as overall beef demand, strength of the economy, global supply, and general herd building/contraction such as the "10 year cattle cycle". "Seasonality" is the traditional ebb and flow of cattle coming to market within a year based on common production practices. For example, most calves are born in late winter and spring, most calves are weaned in the fall, cull cows come to town in the fall with the weaned calves, grass cattle come to town in October, etc.

It is imperative to understand these definitions before addressing which hedging methods are best for pricing your cattle. We will explain further as we address each hedging method.

HEDGE METHOD #1: WLPIP

Agriculture Financial Services Corporation (AFSC) has developed an insurance program for cattle producers that is simple to use. It sets a minimum floor price for your calves, feeders or fat cattle; all the while not inhibiting your upside potential if the market continues to rise beyond the cost of the insurance.

The concept is simple:

- Step 1: determine what type of animal you wish to insure. This could be your upcoming calf crop, feeder cattle (750-950 lbs), fat cattle, or fat cattle basis.
- Step 2: pick a market end date. Determine when you want to sell. The insurance program dates allow you to claim on your insured price 4 weeks in advance of the target dates. For example, choosing a November 16 insurance date means you can claim anytime between Oct 16 and Nov 16th.
- Step 3: pick the price you want to insure at. Determine what premium you are willing to pay in order to lock in a floor price you are content with. Rather than looking at the cost of the premium, look instead at what floor price you are ultimately locking in (the insured price minus the cost of the premium) and assess that against a 10 or 20% movement in prices.

AFSC has a good amount of description of the program on their website. Cows in Control is willing to assist you with setting up an ideal insurance program. Remember: this is insurance, this is not locking in your sell price. You are paying to lock in a floor price, if the market rises, you still gain! The only way you lose the value of your premium is if the market stays flat. If the market rises, the increase in value of your livestock covers the cost of the premium. If the market falls, the program pays out to cover both your losses and your premium expense.

Positives:

- Insurance is priced in Canadian dollars, no basis risk or currency risk
- Easy to set up for any producer, no major eligibility hurdles: if you have cattle, you can insure
- No risk of losing more money than the initial insurance premium cost

Negatives:

- Often the prices you can insure are well behind cash market prices

WCPIP-Calf

Alberta Premium Table as of : 28-May-2015

Note: These premiums and coverage levels change on a daily basis.

Insured Index ($/cwt)	Premium ($/cwt) 16 weeks 21-Sep-2015	20 weeks 19-Oct-2015	24 weeks 16-Nov-2015	28 weeks 14-Dec-2015
284	2.86			
282	2.59			
280	2.29	3.60		
278	2.00	3.11		
276	1.75	2.69	3.70	
274	1.58	2.33	3.18	
272	1.44	2.04	2.75	
270	1.28	1.73	2.30	
268	1.07	1.48	1.97	
266	1.01	1.22	1.61	4.27
264	0.86	1.04	1.34	3.65
262	0.78	0.91	1.07	3.12
260	0.73	0.74	0.95	2.53
258	0.64	0.67	0.85	2.09
256	0.56	0.62	0.76	1.77
254			0.70	1.42
252			0.64	1.22
250				1.10
248				1.00
246				0.89
244				0.82
242				0.75

The date you expect to ship, can claim any time within 4 weeks prior to this date

The price level you lock in

The cost of the premium

HEDGE METHOD #2: FUTURES

This is the most risky method of hedging, but perhaps the truest form of protecting against overall market “cycle” movements. Futures are contracts you establish to forward price your livestock based on either “Feeder” cattle contracts (750-850 lb steer equivalent prices) or “Live” cattle contracts (finished cattle) priced as delivered FOB Chicago.

You can either “short” futures if you want to sell your cattle at a fixed price at a future date, or go “long” futures if you want to buy cattle in the future using today’s prices. Examples of this are if you wanted to protect your calf prices for the fall, you could short futures at today’s prices to protect against the market falling between now and when you sell. If you knew you wanted to buy cattle at a future date and were afraid prices might rise between now and the day you buy, you could go long futures to hedge your buy price.

- Feeder cattle contract – represents 50,000 lbs of a standard quality 750-850 lb steer delivered to Chicago.
- Live cattle contract – represents 40,000 lbs of a standard quality 1250-1350 lb finished steer delivered to Chicago.

You use futures contracts to hedge against overall “cycle” movements or shifts in North American cattle prices. A Canadian producer must evaluate the risk of currency movements, as the contracts are priced in US dollars. Basis is also a risk as Canadian cattle prices may move differently than US cattle prices. Lastly, you must factor in slide and heifer discounts if you are trying to hedge something other than a 750-850 lb steer or finished steer.

Here's an example:

- Let's say you expect to wean a hundred 550 lb calves in October. That is 55,000 lbs of calf weight you are trying to hedge.
- If October feeder futures (750-850 steers) were priced at $2.20/lb, first thing you would do is convert that to Canadian dollars (let's use $0.80 Cdn:USD). Divide $2.20 by $0.80 to get $2.75 Cdn equivalent price.
- Then we subtract basis, let's use a standard $0.15 basis. That equals $2.60 Canadian dollars per pound for a 750-850 lb steer.
- Lastly, let's use today's slide of $0.25/lb for each 100 lbs of weight difference (subtract $0.50/lb).
- The price you would be locking in your 550 lb steers for would be around $3.10/lb. Hopefully I didn't lose you in the math.

The risk with futures is that when the market moves against your position, you must come up with cash to account for the difference in the current price minus your hedged price within 3 days. This is called a "margin call". Though the increase or decrease in your price of cattle should offset your margin obligations, you must be prepared to put up cash to protect your position until the cattle are sold.

Commodity Futures Price Quotes For
Feeder Cattle (Globex) (CME)
(Price quotes for CME Feeder Cattle (Globex) delayed at least 10 minutes as per exchange requirements)
Also available: **pit Session Quotes**

Click for Chart	Current Session								Prior Day		Opt's
	Open	High	Low	Last	Time	Set	Chg	Vol	Set	Op Int	
Aug'15	225.000	225.025	221.575	222.300	18:09 Jun 18	221.925	-2.800	4947	224.725	26629	Call Put
Sep'15	222.700	222.700	219.925	220.700	18:09 Jun 18	220.275	-2.175	967	222.450	5260	Call Put
Oct'15	220.300	220.300	217.900	218.675	18:09 Jun 18	218.475	-1.825	871	220.300	6158	Call Put
Nov'15	218.000	218.050	216.275	217.025	18:09 Jun 18	216.850	-1.625	323	218.475	3661	Call Put
Jan'16	210.350	210.500	208.675	209.650	18:09 Jun 18	209.350	-1.450	115	210.800	2382	Call Put
Mar'16	207.125	207.425	206.175	206.250	18:09 Jun 18	206.175	-1.300	49	207.475	819	Call Put
Apr'16	207.075	207.075	206.350	206.350	18:10 Jun 18	207.075	-0.675	3	207.750	142	Call Put
May'16	205.650	206.000	205.650	206.000	18:09 Jun 18	205.650	-1.350	2	207.000	39	Call Put

Price in US dollars of a 750-850 lb steer in the US in October. http://www.tfc-charts.com/marketquotes/GF.html

Times indicate exchange local time.

The market dropped $0.01825/lb today. If you sold short at $220 yesterday, you have just made $912 per contract on your hedge today!

HEDGE METHOD #3: OPTIONS

Options behave more like insurance, and are determined using the cattle futures market. Like futures, you can protect against prices rising or falling, but there are no margin calls.

If you want to lock in a floor price or fear the market may fall, you would buy a “put” option – the right (but not the obligation) to sell at a certain price in the future. This is just like the WLPIP insurance program. You pick a price and pay the appropriate premium for that price (set daily by the Chicago Board of Trade) in order to establish a guaranteed price.

If you want to buy cattle in the future and are afraid of the market rising between now and when you buy the cattle, you would buy a “call” option. This is the right (but not the obligation) to buy at a certain price in the future. Similar to the put option, you pick a price and corresponding premium associated with that price to lock in your future purchase price.

To illustrate:

As a cow-calf producer, you anticipated the market to fall so you bought a put option to hedge your fall calf prices.

If the market rose instead, the option would expire worthless and you would lose only the cost of the premium you paid for the option (though most or all of that cost would be offset by the increased value of your calves).

If the market falls, you can “exercise” your option at any time and capture the difference in price between where you sold it at, and where the market settled at the time you decide to exercise – potentially putting cash in your jeans to cover any loss in the value of your cattle.

Example: to lock in 50,000 lbs of 750 lb steers in October at today’s futures price of $2.20/lb will cost around $0.06/lb (all in US dollars). You would buy one put option at $2.20 for $0.06/lb. Multiply $0.06 by 50,000 lbs per contract and that is $3,000 US to insure roughly 67 steers. If prices dropped 10% to $1.98/lb you would make $11,000 in options profits that only cost you $3,000 to buy.

[see table on following page]

The current price of October feeders

Options Expiration: 10/30/15
Days to Expiration: 129
Feeder Cattle Oct 2015: 222.125
Price Value of Option Point: $500

Feeder Cattle October 2015 Options
Select Month: Oct 2015
Latest Options: Monday, June 22

Strike	Open	High	Low	Current	Change	Volume	Time	Prem ($)
218.000C		8.125	8.125	8.125s	+1.650	0	06/22/15	4,062.50
218.000P		3.825	3.825	3.825s	-1.175	7	06/22/15	1,912.50
220.000C		6.875	6.875	6.875s	+1.500	115	06/22/15	3,437.50
220.000P	5.100	5.100	4.575	4.575s	-1.325	17	06/22/15	2,287.50
222.000C	**5.775**	**5.775**	**5.725**	**5.725s**	**+1.325**	**0**	**06/22/15**	**2,862.50**
222.000P		**5.425**	**5.425**	**5.425s**	**-1.500**	**0**	**06/22/15**	**2,712.50**
224.000C	**4.900**	**4.900**	**4.900**	**4.900**	**+0.175**	**3**	**08:32**	**2,450.00**
224.000P		**6.425**	**6.425**	**6.425s**	**-1.650**	**0**	**06/22/15**	**3,212.50**
226.000C	3.850	3.850	3.850	3.850	unch	45	08:07	1,925.00
226.000P		7.550	7.550	7.550s	-1.775	0	06/22/15	3,775.00
228.000C		3.075	3.075	3.075s	+0.875	0	06/22/15	1,537.50
228.000P		8.775	8.775	8.775s	-1.950	0	06/22/15	4,387.50
230.000C	2.500	2.500	2.500	2.500	+0.075	20	08:33	1,250.00

The put option prices you can lock in

The current trading prices for your put option

The cost of the put

Forward Contracting

Forward contracting is simply finding a buyer willing to enter into a contract with you to buy your cattle at a future date, at some price determined today. If you think prices may drop by the fall and you want to take advantage of today's high prices, you may seek a buyer willing to purchase your cattle today for fall delivery.

Many feedlots and packers are willing to forward contract to ensure their future supplies. Don't worry about their logic for doing so, they will often use futures or options strategies to hedge any movements in prices between now and delivery. Focus instead on maximizing what level you can pre-price at.

The benefits are that you can set your future sale prices using today's prices. The risks are that once you make a contract, you have to deliver! Never over-contract. Always account for death loss and other factors that could affect the number of cattle you may have at time of delivery. I recommend never forward contracting more than 80% of your current inventory.

Staging

If you don't trust financial instruments to hedge your cattle prices, you can stage cattle much the same way a farmer would store grain waiting for a better market. In the cattle business we do that by either scheduling the sale of our cattle to times of the year when prices are seasonally high, or by holding back the sale date of our livestock until market prices improve by backgrounding, taking cattle to pasture, or finishing.

Pre-formulated strategies to time cattle sales to seasonally high periods throughout the year is often a good strategy when coupled with a price hedging plan.

Holding cattle until markets improve is a marketing strategy, but is speculative rather than a hedge because you're betting on prices to improve. Often producers put more expense and time into cattle only to have the market fall further while waiting for better prices "just ahead". Careful not to get caught in this trap – as the old saying goes, "markets can remain illogical longer than you can remain solvent".

SUMMARY OF EFFECTS OF THE VARIOUS METHODS

	Overall Cattle Market		Canadian Dollar		Basis		Risk
	Rises	Falls	Rises	Falls	Narrows (good)	Widens (bad)	
WLPIP							
Your cattle prices	Up	Down	Down	Up	Up	Down	
Cash position	neutral	Up -- insurance pays the difference	neutral	neutral	neutral	neutral	Cost of premium
Net position	Capture gains minus cost of insurance	Your sales price is secured less the cost of insurance	Your sales price is secured less the cost of insurance	Capture gains minus cost of insurance	Capture gains minus cost of insurance	Your sales price is secured less the cost of insurance	
Short Futures *(selling at current futures prices)*							
Your cattle prices	Up	Down	Down	Up	Up	Down	
Cash position	Down -- margin call	Up -- futures profits	Down -- currency loss	Up -- currency gain	Neutral	Neutral	Margin call risk, currency risk, basis risk, cost of commissions
Net position	Neutral less commissions	Neutral less commissions	Down	Up	Up	Down	
Put Options *(the right but not the obligation to sell at a certain price at a future date)*							
Your cattle prices	Up	Down	Down	Up	Up	Down	
Cash position	Neutral	Up -- option value increases	Down -- currency loss	Up -- currency gain	Neutral	Neutral	Currency risk, basis risk, cost of option
Net Position	Capture gains less cost of option	Your sales price is secured less the cost of the put	Down	Up	Up	Down	
Forward Selling *(An actual contract to deliver your cattle in the future at an arranged price)*							
Yourcattle prices	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	
Cash position	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Inability to deliver, opportunity lost on rising market
Net position	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	
Staging (holding cattle)							
Your cattle prices	Up	Down	Down	Up	Up	Down	
Cash position	Down	Down	Up	Down	Neutral	Neutral	Market falls, currency risk, basis risk, production risk
Net position	Could be profit or loss depending on margins	Down	Could be profit or loss depending on margins	Could be profit or loss depending on margins	Up	Down	

I hope this has been informative. Please contact Cows in Control with any questions or to discuss any options for hedging your livestock. Please don't speculate on your sales prices, and don't let the small cost of hedging stop you from protecting against more significant potential losses. Pick a profit margin you are happy with attaining, and lock it in. This is the key to long term sustainability.

Take care,

Ryan Copithorne
Cows in Control Inc.