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OUR JOURNEY THROUGH RISK MANAGEMENT IN THE 21ST CENTURY

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To start off, I want to share a little bit about our business, and what has lead us to utilize the risk management tools that we use. Our business, Kirkpatrick Cattle Company was founded in 2013 by my wife Jamie, and myself. We currently operate entirely on leased land, running a cow/calf, stocker/yearling and backgrounding enterprise. We lease ranches, cornstalks, cover crops and have also put cattle out in custom backgrounding yards. We were getting started in this business just as the cattle market really got wild and cattle were worth a lot. We were borrowing a large amount of money, so we had to know where every dollar was going in each enterprise. It made us realize that we needed to utilize some form of risk management to protect the bank's money as well as our investment.

Starting out, we knew absolutely nothing about the futures, basis, hedging, etc. I had been through Ag Marketing Class and simulated futures trading in that class but struggled to connect what we learned in that class to the real world of business in the cattle industry. We were involved with more marketing classes as time went on, I followed the cattle futures and asked questions of anyone who would help us that had some experience with the futures market. We started out using Put Options to protect our breakeven as I was scared of margin calls. In the uptrending market we had the first couple of years, it allowed us opportunity to profit really well. We started to get nervous about the prices and amount of money we were investing in cattle after a couple of years so decided to start hedging. This worked really well for us as we were mostly right, until we were wrong. Then we learned some expensive lessons. The hardest question I have ever had to ask my wife, was when she was in the hospital bed the day after giving birth to our twins, for a $40,000 margin call check that needed to be at the broker's office across town that day. These experiences have allowed us to learn a tremendous amount in a short time period, and I will share some of our experiences that hopefully will benefit you in your risk management decisions.

First, lets talk basis. What is basis? Basis is the difference between your local cash price and the futures price (cash – futures). I really struggled to understand basis at first, but it is actually very simple. As an example, I will use a market report from our local sale barn, Fort Pierre Livestock, Fort Pierre, South Dakota from 10-18-19. You can find your local sale barn reports or any report in any state on https://www.cattlerange.com/cattle-auction-reports-results/ or https://www.ams.usda.gov/market-news/feeder-and-replacement-cattle-auctions. On 10-18-19, 417 lb steers averaged $182 per cwt cash price at Ft. Pierre. October Feeder Cattle Futures (https://www.cmegroup.com/trading/agricultural/livestock/feeder-cattle.html) on 10-18-19 closed at $143.50 per cwt. So if we subtract the futures price of $143.50 from

the local cash price of $182, we get a positive $38.50 basis for a 417 lb steer. Another good website to estimate your local basis is beefbasis.com. On a 425 lb steer the same day at the same auction, beefbasis.com estimated a $48.56 basis. Though this example is about $10 higher than the actual basis, over the years this tool gives a pretty accurate estimate. One piece of advice I would give would be to always estimate your basis to be worse than you actually expect it to end up. This way you have a built in cushion for times when basis fluctuates against you.

Next I would like to give two different real world examples that we look at when we are determining what risk management tool to utilize. The first example is our Yearling Enterprise, utilizing a 'Hedge' or selling futures contracts to protect profits.

- If we purchase a 450lb steer calf on November 1st, 2019 in Fort Pierre, SD for $750
- It will cost us $475 to run that steer from November 1 to September 15th, 2020
- Our total cost into that steer will be $1225
- September 2020 Feeder Cattle Futures as of October 20, 2019 were trading at $145
- We estimate the basis to be $-2 for a 915lb steer on September 15th, 2020
- We would expect our cash selling price to be $143 (cash price = futures – basis)
- Our total dollars received would be $1308, or a Net Profit of $83/hd, or a 6.77% ROI

If we are looking for $100/hd profit, we would need a cash price of $145 or to sell September 2020 Feeder Cattle Futures at $147 as a hedge. This would be a 8.16% ROI. This method of risk management locks in $100/hd profit, but does not leave open any upside potential, being subject to margin call.

In the next example, we will use the same enterprise, but utilizing a Put Option to protect our breakeven:

- If we purchase a 450lb steer calf on November 1st, 2019 in Fort Pierre, SD for $750
- It will cost us $475 to run that steer from November 1 to September 15th, 2020
- Our total cost into that steer will be $1225
- Breakeven on this steer is: $1225/915=$134/cwt
- Using the same $-2 basis, we would need to purchase a $136 September 2020 Feeder Cattle Put Option
- Cost of a $136 Put Option as of October 20th, 2019 is $2125.
- $2125/55hd of steers (50,000lb contract/915lbs=55hd), Cost of Put Option is $39/hd

Using a Put Option to protect your breakeven locks in a floor price, leaving the top side open for you to capture any upward price movement. The downfall to Put Options can be the price you pay for them. Ways to cheapen up this form of risk management are selling a Call or selling a Put at a different strike price, but you are subject to market risk if the

futures head in that direction. For the sake of time, I will not go into detail on these alternatives.

The last example I want to share with you is how we utilize risk management in our Cow/Calf Enterprise. Details of our cow/calf enterprise are as follows: (May/June calving, all leased land, purchased feed, cows 50% paid off.)

- Breakeven per Cow/calf unit is $860
- In April 2019 we projected Calf sales & Cull Cow sales to be approximately $967/hd with a $156 Put Option.
- We figured this would give us a profit of $107/hd, which we could live with
- With the fall 2019 Feeder Cattle Futures at $160+, we calculated a $156 Put Option at $2100 to lock in $100/hd profit
- Fast forward to October 2019, we are projecting sales to be approximately $877/hd, with our $156 Put Option being worth $5900 or $59/hd
- This would give us a profit of $76/hd vs. $17/hd without the Put Option protection
- Basis has changed from our projection in April, but we still gained $59/hd that we otherwise would not have received
- This is no homerun but we will be in business next year

So to start wrapping things up, Making the Decision, which form of risk management is the best? The short answer is, It Depends! In our cow/calf enterprise, the $156 Put Option did not give us the profit we projected, however, in the grand scheme of things, making $76/hd vs. $17/hd gives us wiggle room for unexpected events such as higher death loss, higher % open cows, lighter calves or unexpected expenses. In your operation, the decision to use a Futures Contract or Options might depend on what your objective is, how risk tolerant you are, or how much money is on the table for you to capture with either tool. Questions to ask yourself might be if there is a time to limit losses or also if there is a time to take profits. Another piece of advice I have is to find an experienced commodity broker, get to know them, allow them to learn about you and your business, and utilize them as a team member to help you make the best decisions possible.

One more real world example, which I will define more as a real world wreck, happened to us in late winter/spring of 2017. We had just endured the largest cattle market decline we had experienced in our career, but had stayed profitable through that time due to our risk management decisions. We had a track record of homeruns, and we were up to bat again, trying to keep the 'Streak' alive. We had calves purchased to run as yearlings, September Feeder Cattle Futures were trading at $125-127. We were scared of the market going back down (Mistake #1, allowing emotion to take over sound business decision making.) Our broker was also saying, 'It's going lower!' (Mistake #2, listening to someone who did not understand our financial situation, as well as not having a fully developed relationship so we were on the same page.) We hedged at that level, only to have the futures rally to $163. (Remember that $40,000 margin call check I had to ask my wife for?!) This hurt, financially and emotionally. To top it off, we droughted out that summer. Instead of having 950lb yearlings we were talking about shipping early and having 850lb yearlings. We

were overhedged (Lesson #3) and paying margin calls on contracts we had sold that we no longer had the weight to cover. We learned that our Risk Management Policy needs to go hand in hand with our Drought Policy. We also learned not to get sucked into the hype, emotion and noise that is out there in the cattle market world, but to focus our decision making strictly on our numbers, profit objectives and goals.

Another quick tool I use to help take the emotion out of our risk management decision making is the Wall Street Cheat Sheet. You can find it by going to google.com and searching for 'Wall Street Cheat Sheet.' This chart shows all the emotions that go on during a market cycle. If you put a feeder cattle futures bar chart dating from 1995 to 2019 next to it, the feeder cattle chart follows the same pattern almost to a T. I look at the cheat sheet on a regular basis to estimate where we are in the cycle and what emotions are taking place at that time. This helps me to put my emotions aside, look at the market from a 10,000 ft. perspective and make a sound risk management decision.