Using Technology to Increase Quality and Profitability

Troy Hadrick

My name is Troy Hadrick, a managing partner in Hadrick Enterprises from Faulkton, South Dakota. I am in partnership with two cousins on our diversified grain and cattle operation. Our generational transfer plan took place during 2011 and on January 1, 2012 we became the fourth generation to operate our family's place.

At that time, it gave me a great opportunity to re-examine all of our goals and management practices for our Angus based cow herd. Previously we operated in a pretty typical manner for our area. We would background our calves after weaning until February and then market those calves at a local sale barn. So the goal was to produce the most pounds possible by that point. However, the question I was asking was if this was the most profitable way to proceed? Essentially we were producing commodity cattle that would have to compete with all the other commodity cattle being produced in our region.

After spending a lot of time considering our options, I decided that I wanted to work towards producing high quality cattle that would command a premium in the market. I felt we had more opportunity to make our cattle more valuable than we did to reduce our expenses. In order to do this we were going to need to retain ownership on our calves, finish them out and sell them on a quality based grid to the packer.

Making that switch was going to require a lot of new business relationships. We were going to need to rethink our vaccination and implant strategies, find a feedlot, consider new hedging strategies, and decide on what grid we wanted to target. All of that took a lot of phone calls and time. But we tried to make our goals very clear to these new prospective partners and we were confident that we found the right fit.

So in the fall of 2012 we were excited to send our first set of calves to the feedlot in Kansas. However, the wide-spread drought that year caused extremely high corn prices and the breakeven on those calves was too high to justify retaining ownership. After all, we were speculating on their feedlot and grid performance because we didn't have any history on our own cattle.

That year did give us the chance to accomplish some other major goals though. We were able to artificially inseminate the entire cow herd for the first time. Prior to that we had only been AI'ing our replacement heifers. Switching to a whole herd program was going to allow us to produce many more calves that would fit our new target. It was also going to help immensely in our goal to shorten our calving season.

In the spring of 2013 we had our first crop of AI calves on the ground and we handled them according to the new plan. They were weaned in September and backgrounded at home until

we sent one load of the mostly AI calves to Irsik and Doll Feedyard in January of 2014. The remainder of the calves were marketed at the sale barn. I felt this reduced some of our risk in switching to our new marketing plan.

Those cattle were finished in June of 2014 and we finally had our first set of carcass data. They were harvested in Dodge City, KS through US Premium Beef. Most of these steers were out of a bull called GAR US Premium Beef and they went 89% Choice or better, 32% Certified Angus Beef, and no Primes. It was a good start for us but I quickly realized we had a long way to go. And I kept dwelling on the fact that it took 26 months to find out if our breeding decisions were going to move us in the right direction. In that time we had made two more breeding decisions so it reinforced for me the need to be extremely focused when making those decisions. That year was a great year to feed cattle for the first time because prices were really strong. So we made our cattle more valuable by retaining ownership.

In 2013 we switched to using a bull, GAR Progress, who was in the top 1% of the Angus breed for marbling. Along with that he met all of the other requirements we have for our sires. Those calves were born in the spring of 2014 and the plan was to do the same thing, we would retain ownership on the AI calves and send the rest to the sale barn. However, our plans changed when we were introduced to the Genemax Focus test from Zoetis. In an effort to better identify the cattle that would perform the best on the grid we took tissue samples on all of the steers and the data we got from that completely changed our marketing plan. It showed that the US Premium Beef calves scored an 86 out of a possible 99. That was pretty good and we knew from the prior year how those steer performed so it gave us a good base to judge the other sire groups. However, our GAR Progress calves scored an amazing 96. So it was pretty obvious that they would be even better than their contemporaries. That led to our decision to retain ownership on all of our calves that year.

Having that information to make our decision made me want that same information to make our replacement heifer decisions. We ended up using the Genemax Advantage test on all of our heifers that year as well. Not only does it show us which heifers are genotypically superior but maybe more importantly it finds the heifers that didn't have the genetics to accomplish our goals. That information has also allowed us to make better mating decisions for each individual.

The second set of carcass data came in the summer of 2015. Our GAR US Premium Beef calves did a little bit better than the prior year. They went 47% CAB, 95% Choice or better but we still didn't get any Primes. The GAR Progress steers, that scored 10 points higher on the Genemax Focus test, did as expected and performed much better. They went 23% Prime, 55% CAB and 100% Choice or better. With grid premiums all included, the GAR Progress steers brought back an extra $60 per head compared to the GAR US Premium Beef steers. This proved to us that the genomic testing could accurately find the superior cattle that would return us bigger premiums.

From that point we started using the Zoetis 50K and i50K tests for our cleanup bulls as well. We didn't want to think of our cleanup calves as a by-product that wasn't very good. Our herd would only ever be as good as the weakest link so we wanted to be sure that all of our cleanup bulls were helping us achieve our goals as well. We keep back several potential bull calves each year.

-13-

At spring turnout time we collect tissue samples on them and use the i50K test to produce the data. This allows us to see how well our breeding decisions worked just 11 months after we made them and prior to making the next years decisions. We feel this gives us an important firewall that prevents us from making a bad genetic decision for several years in a row. And on the positive side it shows us what worked really well and lets us multiply that effort the following year instead of having to wait and see.

Open heifers are often looked at as a "waste" product on many ranches as well. Because we have genomic data on these we can confidently market them through the grid as well. We AI our heifers at the end of May and only turn the cleanup bull out for 30 days. This lets us put some heavy reproductive pressure on our heifers but also lets us ultrasound them at the end of July, have the opens on feed in August and finished before the end of the year. Those cattle have provided us with a much nicer return than we had in the old system. The first year we did it they went 57% Prime, 74% CAB or better and 100% Choice. They gained 4.8 lbs/day and converted 5.15 on dry matter. While we'd prefer they all get bred, our plan B for the replacements heifers works pretty well too.

Our 2015 calf crop that was harvested in 2016 saw continued steady improvement in carcass quality and the premiums we receive. They graded 18% Prime, 62% CAB, and 97% choice or better. The other trend that really started to stand out for us at this point was the CAB or better category. On the grid we get a premium for every pound of CAB and Prime beef we can produce. If they only grade choice we have to exceed the packing plant average before we get a premium. With the goal of having every calf bring back a premium CAB and Prime is where we want to be. From 2014 through 2016 we went from 32% to 65% to over 80% CAB or better. And the premiums went right up with it. The price we received went up over $5/cwt during that same time when calculated on standardized grid.

As we add our 2017 data into the mix it's become very apparent that the Genemax testing we've used on our replacement heifers is having a big impact on our performance. When those daughters came online and their calves were included we saw another jump in the numbers. Our percentage of cattle grading Prime doubled this past year from 18% to 35% in 2017. This has made our grid premiums rise to $97 per head which is more than double from 2014.

We've been tracking all of the individual carcass traits these past four years as well. Our marbling score has increased nearly 200 points and was at 654 (High choice, Moderate 54) this year. Hot carcass weight has was pretty steady for the first three years at just under 900 pounds. This year it dropped to 849. Sometimes the market tells us to feed cattle longer, other times it tells us to harvest them earlier. In other words, market forces, rather than genetics, influence this number. Ribeye area is something that we haven't focused much since we started but has still shown steady growth from 13.03 in 2014 to 13.31 in 2017. Yield Grade has essentially been flat over the four years with a 3.1 average.

Some people will probably assume that we gave up feedlot performance to achieve better carcass traits. However the data shows we've stayed steady through the whole period. We typically have gains around 3.8 lbs/day and convert 5.8 on dry matter.

-14-

One of the challenges of comparing cattle from year to year is adjusting the return for differences in price and spread. To counter that I have a mock grid on a spreadsheet that I can plug all the data into and it will run the carcass data through to get a standardized value. In that system, the value of our cattle has increased over $7/cwt. But the increased returns aren't just theoretical. The average grid premium we have received has increased every year as well regardless of the choice-select spread or grid base price. In 2014 and 2015, it was $46 and $49 respectively. But in 2016 it jumped to $78 and in 2017 went to nearly $98. This has proven to us that the quality of our cattle will allow us to more easily ride out periods of low prices.

Conclusion:

When I made the decision to try building a high quality cow herd that would give us a higher return I figured it might take me 10 years to see the gains we've now made it just four. It shows how powerful the technologies we have available to us really are. It's also been a great example of the opportunities that producers can take advantage of. The market tells us every day what kind of beef it wants to buy. Almost always it's telling us to produce more cattle that grade CAB and Prime. We've just responded to those market signals and are being rewarded for it.