Grass and Beef – Some New Thoughts for an Old Concept

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At the Dickinson Research Extension Center field day last year, several years of work was highlighted regarding the changes the Center has made. The change continues and is reflected in today's program. The initial question was 'Is the cattle industry really changing?' The answer was yes, but fully acknowledging cattle are very well utilized in many current systems of production.

As the Center continues this move or change, each point within the production system needs to be evaluated and pondered. At present, although not repeating from last year, we have found out Center summered yearling steers can gain on grass, the Center's cows can reproduce on late summer grass and May calving is good. Those are positive steps and strong indicators that as the Center changes, the change is good change.

Two years of running yearling steers gain on grass

But there is still some pondering that needs to be done. The Dickinson Research Extension Center had three pens of yearling steers. One pen (A) was harvested when the steers were 18.1 months old. The next pen (B) was harvested when the steers were 21.4 months old and the last pen (C) was harvested when they were 22.1 months old.

The world of beef revolves around the steer because it is the principle product of a beef production system. The efficiency of a beef production system is perceived to be based on rapid growth with an early harvest.

Is that true? Having personally assumed that for years, considerable pondering is required to change things. As producers, what we learn and ultimately do is assumed to be correct, but times change and so does the world, and so I ponder and hope many others also ponder.

Let me repeat that the Dickinson REC had three pens of yearling steers. Pen A was harvested when the steers were 18.1 months old. Pen B was harvested when the steers were 21.4 months old and pen C was harvested when they were 22.1 months old.

In addition, the steers in pen A were on feed for 142 days, pen B for 66 days and pen C for 91 days. Having lived through a few decades of beef production with the driving force being efficiency and growth based on affordable energy inputs, none of the statistics for these pens are very impressive. In fact, the only limiting factor for growth was pelvic size because, no matter how much effort was put on growth, the calf still had to get out of the cow.

Pre-birth and subsequent growth still is highly correlated, although gestational length and some tweaking of growth genes have allowed for some change in the pre-birth and post-birth scenarios. However, the basic concept has not changed.

The other limiting factor to rapid growth was the limitations placed on carcass size at harvest. These limitations most certainly have varied with time and are somewhat correlated with beef supplies. That's because the larger beef numbers limit the need to push for heavier carcass weights. With today's beef supply numbers being down, there certainly is a logical acceptance of needing heavier carcasses.

So, what do I ponder? Well, efficiency still is paramount in any industry. The efficient use of resources should generate a positive outcome if there is a positive outcome available. Producers who are efficient should be more profitable. Steer feedlot pens that achieve high gains of 5 pounds or more per day are duly noted. Lower gains of less than 3 pounds would be assumed to be very inefficient.

In visiting with Doug Landblom, an animal scientist with the Dickinson REC, these steers were weaned and overwintered at less than a pound of gain per day. So what do I ponder? Well, that goes against everything I've learned. These steers, in retrospect, could gain 4.5-plus pounds per day in the feedlot, so logically they could have gained that earlier in life had they been sent as calf-feds to a feedlot following weaning. With those gains, the majority of those steers would have been harvested at 12 to 15 months of age. However, they were not sent. Instead, they were targeted for grass. And so I ponder.

The center is compiling more economic data. In visiting with Landblom, pen A of yearling steers that was sent to the feedlot prior to grass turnout and harvested at 18.1 months of age lost the center $298.05. Pen B of yearling steers that was sent to grass for summer grazing but brought in to graze higher-quality annual crops as the pastures dried down were harvested at 21.4 months and made the center a profit of $9.09. The yearling steers in pen C that were grazed all season and then sent to a feedlot in the fall and harvested at 22.1 months of age lost the center $30.10.

Even though the harvest price did not support a strong profit incentive back to the center, the center could not overlook the difference of $307.14 between the lowest negative profit pen (A) and the highest positive profit pen (B). And so I ponder.

The motivation for keeping the steers over winter on a low level of nutrition was low costs, but there also was a relatively inefficient gain. On a positive note, although small, the only profitable pen was pen B that was grazed on early summer grass followed by annual crops and then a short time in the feedlot.

There will be more later and more to ponder. However, keeping the steers longer did not result in a negative impact. If anything, particularly with the need to increase carcass weight as cattle numbers drop, more positive weight was added.

The Center's 2012 breeding in August

The Dickinson Research Extension Center changed calving dates, so the targeted bull turnout date is August 1. The Center's breeding has been successful and the transition from a March calving to May calving was good, but challenging. The early uneasiness of cows breeding in late summer seems to be set aside. The cows, they bred well.

Even as the cattle went through the chutes, the feeling was good. Interestingly, the cows seemed to be bred steadily until about midway through the second cycle and then tailed off quickly. One could say the cows were almost all bred by a cycle and a half. The point is that the cows bred well despite the later bull turnout, late summer heat and dry pastures.

In fact, based on the ultrasounds, the projected first 21-day calving percentages looked very good. Sixty-seven percent of the mature cows are projected to calve within the first 21 days of the calving season starting May 10. That way, two-thirds of the cows should be calved out on crested wheat. Twenty-four percent are projected to calve within the first three weeks of June.

What is very interesting, because the center would like to have all the calves worked by June 15, is that an additional 21 cows could be culled that are projected to calve after June 15. This would mean the center would have an estimated 45-day calving season.

In reviewing the spring of 2012, the center held more than 235 cows. Although the center has the capacity to graze a few more cows, with the pending forecasts of continued dry weather, there was no rush to increase cow numbers. Regardless, the center's May-through-June calving season was successful this past year. Of the 235 cows that were overwintered, seven did not calve. The other 228 cows weaned 218 calves.

An easier calving environment was not a question or concern when the center switched calving seasons. Rather, it was the ability of the cows to breed, particularly once the summer nutritional status began to decline and the temperatures began to climb.

Fortunately, based on the CHAPS benchmarks provided by the North Dakota Beef Cattle Improvement Association, the center continues to meet and exceed the typical values for the percentage of calves born the first 21 days, as well as the second 21 days. In reviewing the benchmarks, the percentage of mature cows that calved within 21 days was 63.4 percent. The center projected calving within the first 21 days next year at 66.8 percent.

The percentage of 2012 mature cows that calved within 42 days was 88.8 percent, and the center projected 2013 to be at 90.6 percent. Although the calendar still is being worked on to reschedule the various management activities that revolve around calving periods, the center is adjusting to a May-through-June calving season.

2013 May calving was even more successful then thought

If we were to gauge some of our current production against the standard benchmark data, reproduction is the trait that stands out. The CHAPS benchmark for the number of calves born within the first 21 days is 63.4 percent, while the number of calves born within 42 days from the start of the calving season is 88.8 percent.

Now that the second year's May calving is complete, 89.2 percent of the cows calved within the first 21 days of the calving season and 99.6 percent calved within 42 days from the start of the calving season.

The bulls were turned out on Aug. 1, 2012, and the start of the calving season was set at May 10, which was 283 days following the bull turnout. May 31 was considered the end of the first 21 days of the calving season and June 21 was considered the end of the first 42 days of the calving season.

The cows were expected to rebreed in a timely fashion. The conversion of the cows to the May calving program was accomplished by maintaining the current cows, while culling open or late cows. However, the data only suggests that historical culling patterns were maintained, so the timely calving dates were not a function of culling late-bred cows.

The point is that the cows bred quickly. That is a plus and certainly worth discussing. Again, 90 percent of the cows that calved conceived within 21 days of bull turnout. If that trend continues, that would be a very positive effect of later calving.

That trait alone should keep beef producers pondering later calving. The concern always will be about summer heat during breeding. Bull fertility is known to be impacted by high temperatures but, at least for this past year, the bulls got the cows bred. This year the bulls were turned out again on August 1.

The other significant piece of information that seems to reflect positively on calving later is the $300 spread in return to the producer. In preparation for the switch in calving time, the center, for the past two years, treated the March through April borne calves as grass cattle. The spread was in favor of those calves that were summered as yearlings and then moved to the feedlot in early fall.

Two good points as the center reflects on the change in calving date: There was an apparent positive impact on cow reproduction and bull breeding performance. Also, those calves held over for grass and annual crop grazing the following spring and summer before going to the feedlot in the fall brought home more dollars than if back-grounding them in the winter and going to the feedlot in the spring.

Keep in mind that there are lots of ways to play a piano. Most common pianos have 88 keys, so the assortment of music that can be heard is unlimited. Cattle production is no different. One can make good music and raise good beef by combining the various inputs that are available. What works for one producer may not always work for the next producer. However, both systems can work.

When the center switched to May calving, the resources were not available to evaluate and formulate a large study to measure the effects of different calving seasons. However, through good, sound benchmarks and thought, one does know what is working.

Although there are still questions as the Center ponders Grass and Beef

One thing that certainly is missed is those big calves coming across the scale at weaning. However, after a pinch and a little reality check, the calves are 60 days younger and that means at least 150 pounds of gain have yet to be put on. That will come because the calves settled in the yards well and were moved to standing corn.

As the Dickinson Research Extension Center moved to later calving, the Center compared keeping March- and April-born steers on grass versus sending the yearling steers to the feedlot in May. In other words, rather than haul the feed to the steers, the steers were left on grass for their second summer of life and then sent to the feedlot.

The reason was to prepare the ranch for a shift to May calving and exploring options on how to get some money back once the ranch shortchanged the calf-growing season by 60 days.

Even at an average daily gain of 2.5 pounds per day, the center was bracing for a negative impact on a weaning weight of 150 pounds. At $1.50 per pound, that amounts to $225 per calf in estimated reduced revenue.

Having said that, the center also is exploring options that involve less grain consumption. As the world changes and there is increased competition for grain, cattle may not be in a great position to bid grain away from other sources.

Obviously, these calves could be pushed for higher gains in the back-grounding lots and placed on the market throughout the spring as calves get ready for the feedlot. However, what happens when grain out prices itself relative to the price that consumers are willing to pay for beef?

Well, there is grass, but how does grass fit in, or does it fit? Well, the questions far outdistance the answers, and at least for the center, those answers need to be found. For instance, for the past two years, one-third of the steers were placed in the feedlot in early May following a winter feeding protocol of a modest 1 pound or less average daily gain.

The other two-thirds were wintered the same. However, one-third spent the summer on perennial grasses, while the other one-third switched from grass to annual summer crops the third week of August. They foraged on a pea-barley mix, followed by standing corn. The grass cattle were moved to the feedlot in mid-November.

The bottom line: Thanks to the additional weight, those steers that were kept at home and on forage brought home more revenue to cover costs than did those steers that where shipped in early May.

The best group of forage-based steers was the one that was allowed to graze on a field pea-barley mix and standing corn. The next best group was the steers that grazed on perennial forage all summer.

The bottom line was a $307-plus advantage for the mid-August grazing group that foraged on the pea-barley mix and corn and a $268 advantage for those calves grazing only on perennial grass.

Finally,

Is $300 worth discussing during coffee? Perhaps it was the weather, perhaps it was the industry or perhaps it simply was a need to search new paths because of the constant evolution of people and their desires, whatever the reason, the center changed.

The cattle industry could be considered a mature industry because the models for production are fairly well-known. However, the implementation of those production models is dependent on the producer. Each producer sorts through the various management and genetic options to select the best production model for the demands of his or her operation.

Was it the right decision for the Center? Cattle systems take years to implement and evaluate, but some early thoughts are starting to percolate. What system is good? Was the change the right one?

In the production world, the assumption is that the industry hovers around management practices that are doable and can make some money. No management scheme is perfect. However, on the average, the average of the group should be reflective of acceptable and doable values for the traits or management practices that are reviewed.

As the Center shifts to explore new cattle resources, the production data will need to be combined with fiscal data to fully evaluate any economic and financial opportunities the grass-based beef production model may offer over the current grain-based beef production systems. Efforts to not only understand new beef production systems but also to create added demand and value for beef products will pursued.