

Managing Reduced Forage Production at Bieber Red Angus Ranch

Craig Bieber

Introduction

Drought management is a term that gets tossed around every time we get a few months behind on precipitation in the northern Great Plains. Sometimes the panic is warranted, often times it is not. The reason I am opening with this statement is because there is a genuine difference between managing a ranch through a drought and managing a ranch through a low forage production year. To be more specific, a drought is defined as 'a prolonged period of abnormally low rainfall; and a shortage of water resulting from this.' In range management, the prolonged period of low rainfall necessary to constitute a true drought is generally considered about 75% of average for 12 continuous months. Speaking in broad generalities, in the last 300 years, the northern Great Plains has experienced a drought every 20 years or so and the average duration of drought has been about 6 years. However, until the 75% of average for 12 consecutive months is reached, the phenomenon in range-speak is referred to as a 'dry-spell'; and I don't need to tell you that dry-spells are fairly common in our country. From a ranching perspective, the primary issue with relatively frequent dry-spells is low forage production both in terms of grazing and harvested roughages. Additionally, there are causes of low forage production aside from dry weather such as fire and at least in my area, too much water flooding out pastures and hayfields.

The significance of all of this is the importance, at least for what we are doing, to recognize that drought and low forage production years are not synonymous. They are in fact very different events and thus we manage them very differently. Today, I will be discussing our forage management strategies as it relates to being perpetually prepared to handle low forage production years. I am going to start by giving you an overview of our outfit and what we are doing, to provide some context as to how we deal with low forage situations like we have had this summer.

Bieber Red Angus Ranch

In our operation, we run 900 registered Red Angus Cows, and implant 450 embryos in cooperator cows each year - resulting in roughly 225 additional calves. We breed between 400 and 475 heifers every year as well. Other than herd bulls, the only additional inventory that we maintain through the growing season is approximately 150 bulls that sell as coming two year olds in the fall. In early 2010, we began increasing our use of estrus synchronization and AI breeding within our herd.

Description of our low forage production management philosophy

For the ranching community, dry weather is unlike any other natural disturbance or disaster. The National Hurricane Center gave the residents of Houston, TX almost 72 hours of lead-time before Hurricane Harvey made landfall between Houston and Corpus Christi and about the same amount of time for the Florida Keys to evacuate as Hurricane Irma approached. Here in the Plains, the National Weather Service on average, gives populated areas about a 15 minute

warning before a tornado strikes thanks to the invention of the Doppler Radar system. Conversely, there is no advance warning system for dry-spells or droughts. There is no National Drought Warning Center. You don't really know you are in for a drought until you are already in the midst of it. Furthermore, the damages from other types of natural disasters can be assessed within minutes or a few days at most. The full damage assessment of dry-spells and droughts can be months or even years following the actual event because you don't know when the event is actually over. A single rain event or even multiple rain events are not necessarily indicative of the end of a dry-weather event.

This description is the basis of our forage management philosophy. Since this type of natural event can neither be predicted nor forecasted with any accuracy, we feel that we must be in a perpetual state of preparedness for low forage production years. Our maintained cattle inventory is not unlike other producers. However, due to the nature of the seedstock business, we feel that we are less flexible than the average commercial cow outfit in that we aren't able to quickly rebuild our level of quality genetics in sufficient volume. Thus, liquidating cattle to address grazing and/or feed roughage shortages is really a last ditch effort rather than a key component of our mitigation strategy. Additionally, we need to maintain these cattle inventory levels to maintain our marketing program and cash flow requirements each year. Therefore, for us, it is much more cost effective to maintain a level of preparedness for low forage production years rather than simply react to them.

In order to achieve a consistent level of readiness from year to year, we have implemented a four step approach to buffering the effects of low forage production years. This approach includes 1) preventative measures to maintain high range condition every year, 2) maintaining a very limited but tightly managed inventory of roughages, 3) diversifying the sources of both grazing and fed forages in terms of type of forage and geographical location of forage, and 4) continually assessing the cost/benefit of the previous three factors.

How we manage grazing

The trunk of our strategy is to maintain high quality range conditions every year as a buffer against years when total grazing days may be well below average. This sounds simple and straight-forward, but the reality is that it takes a very focused and relentless effort in terms of planning, diversifying grazing assets, assessing actual real-time results, and making the right adjustments to meet our end of year range condition goals from year to year. Obviously, our primary goal is to graze the cowherd as long as possible without sacrificing range condition or cow body condition score. To do this, we have created 10 breeding groups to generate increased flexibility in the ability to move cattle around through different grazing rotations in different geographic locations throughout the summer and early fall. The afore-mentioned grazing systems were created to incorporate several different types of grazing assets that include our own ranch land, a portfolio of leased privately-owned properties in different locations, Nature Conservancy properties, properties managed by the US Fish & Wildlife Service, and properties managed by SD Game, Fish, & Parks. In operating these grazing systems, our management goals are melded with the management goals of the property operators to create a scheme that has

consistently increased the resiliency of the land to better withstand dry conditions and recover rapidly from any damage incurred.

To truly understand the level of management required to facilitate and maintain these types of grazing asset portfolios, one cannot underestimate the time and concerted effort it takes to cultivate and maintain the relationships necessary to preserve access to the different grazing assets on a year to year basis. Simultaneously, we need to be continuously cultivating new relationships to gain access to new grazing assets that will replace the ones that are inevitably lost over time. Additionally, one must be continually evaluating the 'drought value' of acquired leased or purchased grazing assets. By this I mean, asking the question of how much does a particular piece of additional grazing property contribute to or detract from the survivability of my operation in the face of a dry period, an outright drought, a fire, a flood, etc. It is always tempting to jump on lease or purchase opportunities that are close to the home place. However, if the weather turns on you, what is the value from having more grazing ground that is suffering from low forage production? Would more value be gained from seeking out opportunities to diversify location? I can't answer those questions for you, but that is what I ask myself whenever the possibility of a new lease or purchase of a grazing asset presents itself.

Another key component we look at is the type of grazing that the asset affords our management system. A substantial portion of our fall and early winter grazing resources comes from leased crop aftermath and post-cereal grain seeded cover crops. We also lease out all of our owned tillable ground and the individual that leases our ground allows us to graze the crop aftermath and cover crops. Again, grazing crop residue and cover crops is not anything new, but please recognize that within each grazing type arrangement is a conscious decision to diversify both the time of the year the grazing type affords and the geographical location in relationship to our own ranch.

As a final illustration of diversification, let's look at the dry-spell many of us experienced this last spring and summer. At the most critical hour in mid-July, only 45% of our total grazing resources were under threat of producing below average yields. Are there disadvantages of being spread out geographically? Of course there are - it is not very convenient, it can take more time, it can use more material resources, and so on. In the long run however, I have no doubt that this strategy has saved us from having to liquidate the quality genetics we have spent years developing.

You might be wondering if these same mitigation strategies apply to a commercial cow outfit and I don't see how they wouldn't. The application of these principles applies to any range livestock outfit. It may not look exactly like what we are doing, but some variation of these principles can be applied by anyone in any situation to improve their readiness.

How we manage winter roughage

On the topic of how we manage our winter roughage resources, we use the same principles as we use for managing grazing resources. There are a couple of nuances that deviate slightly from the principles outlined previously. First, through the years of raising and harvesting all of our own forage, we realized it would be more practical and economical for us to use a custom forage

harvesting outfit rather than continue updating equipment and hiring more help. We made this decision so that we could focus our labor resources on our increased estrus synchronization and AI breeding program. We started by first working with a custom baler and later moving to both custom cutting and baling. Of course there certainly are challenges associated with any custom service arrangement, but in our particular situation, the reduction in capital invested in machinery and labor has at a minimum been a wash.

Secondly, in addition to crop residue and cover crop grazing, we also started purchasing a portion of our roughage and have consequently developed a network of individuals that provide us with poor quality roughage ranging from cornstalks and corn stover to straw and grass hay. We have found poor quality roughages to be much more cost effective to mix with distiller's grains or other by-products to make cow rations. We tend to keep a lot of this type of roughage in our inventory, since some years extended fall corn stalks become available at reduced prices due to the increased time to harvest.

Lastly, we always have a cost/benefit analysis running. We consider our roughage inventory and therefore we are not afraid to substitute alternatives in a year that is short of forage. As an example, this year when many people decided to pay \$100+ a ton for poor quality forage, we decided that modified distiller's grains and corn were a better value than acquiring additional low quality roughage. Because of this decision, we will be substituting on an energy basis a portion of what would normally be fed as roughage. To illustrate this point, we used our same cow ration with additional purchased roughage to calculate our cost of about \$2 per head per day. By substituting some corn on an energy basis, we will lower our cost to about \$1.85 per head per day. Now, \$0.15 per head doesn't sound like much, but on 900 cows over 120 days, that's about \$18,000 in savings.

Other tools we have incorporated

As I mentioned earlier, in 2010 we began increasing our estrus synchronization and AI breeding program. We soon realized that if we were going to continue towards AI breeding the entire herd through the use of synchronization, we were going to have to increase our ability to calve at a high rate no matter the weather. Initially, we made some calving barn additions, but found that change to be insufficient to manage our new strategy. After looking into options, one of the ideas that peaked our interest was the Hoop Beef System. We researched this idea and identified several ways, including reducing calving loss and labor, that this sort of system might be a benefit to our operation. It also gave us another option for forage management. We had always been concerned about where to hold cattle in the spring to give our range time to grow during the early season. We realized with a confinement feeding system we would be able to hold cattle in longer, and give a large percentage of the range time to grow.

In the spring of 2014, we started construction of two hoop barns measuring 50' by 480'. We finished them just in time to calve in 2015. As the early calving season finished, we decided that breeding our heifers in this system may be a way to get further benefits. We used the barns to help us synchronize and breed around 375 heifers before they went to grass in late May. Our confinement system was then empty through September of 2015 when we decided to wean the

calves in the system. We experienced one of the best calf health records we had ever had through the early weaning period, proving to us that if we were faced with a lack of forage, we could early wean calves with a very high rate of success.

Even though the initial intent of the hoop barns was to serve as a calving facility, the possibility of using the buildings as a mitigation tool during years of low forage production were obvious. We feel that if we experienced a significant decrease in forage quantity during the growing season, then we would be able to put 40 to 60 percent of the cattle in the confinement system to reduce the added expense of trucking and rented grazing assets in an area where forage was adequate. We have not yet had to make the decision to actually utilize the facilities for this purpose as our previously described management strategies have been sufficient to ride through any major dry spells thus far. However, we do consider the use of these barns as a real asset to our mitigation program.