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MANAGING FORAGE RESOURCES FOR BIGGER PROFITS

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Introduction

Our ranch is known as Pharo Cattle Company and is located eight miles north of Cheyenne Wells, which is on the central high plains of Eastern Colorado. This is short-grass country with very limited and unpredictable rainfall. We have a commercial cow herd, as well as a registered cow herd. Our seedstock program consists of Red Angus, Black Angus, Tarentaise, and Composites. Our Composite cattle are 50% Tarentaise, 30% Red or Black Angus and 20% Hereford.

Since our ranch provides our only source of income, our ranching practices must be both sustainable and profitable. Recently I've heard a lot of people use the catch phrase "sustainable agriculture". I'm not sure I know exactly what that means, but I do know that it must begin with a profit because agriculture that is not profitable is not sustainable!

To be profitable in the cow/calf business lately hasn't been easy. It's been estimated that only 10 to 15% of cow/calf producers made a profit in 1996. 1997 and 1998 were about the same. That's not very encouraging, but I've been fortunate enough to know several ranchers who belong to this 10 to 15%. These are ranchers who are always profitable. What makes it possible for some ranchers to be profitable while most are losing money? That's what I'd like to discuss in these proceedings.

In agriculture we have very little control over the markets and the prices we receive for our products. That has proven to be very frustrating. The only two things we do have much control over are our production and our expenses. I've noticed that successful people focus their time and energy on the things they can control, rather than on the things they cannot control.

Most farmers and ranchers try to increase their profits by increasing their production, but we can increase our profits just as easily by reducing and controlling our expenses -- maybe easier. What happens when we increase our production? Almost every increase in production comes with a cost. It is never free. You can't get something for nothing. When we increase our weaning weights, for example, we will almost always increase our expenses as well. Often a production increase will have a negative effect on our net profit.

Every farm or ranch is either "production driven" or "profit driven". Management decisions are either based on increasing production or on increasing profits. Unfortunately, too many farms and ranches are production driven. We've been programmed to think in terms of bushels/acre or pounds/calf, instead of in terms of profit/acre or profit/cow, and we all enjoy the bragging rights that are created by high production yields.

Some production driven decisions will actually decrease profits, while some profit driven decisions will decrease production. Production and profit are not the same thing! We mail out a bi-monthly newsletter to cow/calf producers. In our January 1999 issue we had an article entitled Big Calf Syndrome. This is not some ailment that affects big calves. This is an ailment that affects ranchers who believe they must produce big calves in order to be profitable. Big calves aren't always profitable. In fact, some of the most profitable ranchers that I know of are producing calves that weigh less than 400 pounds at weaning.

Profitable ranchers have one thing in common. Without exception, they are striving to make the most efficient use of the forage resources on their ranch. I'm not talking about adding anything new to the ranch. I'm talking about fully utilizing what the ranch is already producing. Making the most efficient use of your available forage resources requires, at least, these three things:

1) **Management Intensive Grazing** - properly managed and controlled rotational grazing system.

2) **Matching Production Cycle to Forage Resources** - calving and weaning in sync with Mother Nature.

3) **Matching Cow Size and Type to Forage Resources** - producing cows that can survive on what the ranch produces with little, or no, inputs.

Management Intensive Grazing

After piping some water and building some cross-fences, we started a rotational grazing system in the summer of 1994. Simply put, this involves putting most of our cattle together in one large herd and rotating them through a series of smaller pastures called paddocks. This mimics the way that large herds of bison once grazed the prairies of North America. As these large herds migrated they would graze and trample nearly every grass plant in their path, but these plants would not be grazed again for several months, possibly not for one or two years. This allowed sufficient time for rest and regrowth, which kept the prairies very healthy and productive.

Reasons for Implementing a Rotational Grazing System

1) **Increase Grass Production by Providing More Time for Rest and Growth**. Without adequate rest, new growth will continually be eaten and re-eaten, which will eventually harm and even kill the grass plant. With traditional grazing, some plants are severely over grazed while others are not grazed at all.

2) **Increase Amount of Grass Stockpiled for Winter Grazing**. This decreases the amount of feed that must be fed, which decreases my expenses and increases my profits.

3) **Provide Opportunity for Higher Production Grasses to get Re-established**. In just five years we've already seen some evidence of this taking place. Without proper rest, some types of grasses cannot survive the pressures of grazing. Often the most preferred grasses will be grazed out and replaced with inferior grasses.

4) **Increase Herd Size and Total Beef Production**. This grazing system has allowed us to run more cattle on the same acres for a longer period of time. Does that sound too good to be true? What makes it possible for the same land to support more animals for a longer period of time? It's the rest periods! The rest periods are the key to the success of any grazing system.

Our grazing system currently consists of sixteen paddocks. The basic rule of thumb is to rotate, or move, cattle fast when the grass is growing fast and slow when the grass is growing slow. Cattle must be moved before they have the opportunity to graze any plants for the second time. In a typical year each paddock is grazed twice for a total of eight to ten days during the growing season and grazed once for ten to twelve days during the winter months. Notice that in our system every acre of grass is grazed only 20 days each year and rested 345 days. That's what makes this system work.

Matching Production Cycle to Forage Resources

Now we are going to go one step further. Simply put, this involves matching what my cow needs to what my ranch produces. For the most part, native grass is my available forage resource.

The dotted line in the graphs shown in Tables 1 and 2 represents a typical forage curve for my ranch. Forage availability and nutritional value is extremely low until new growth begins in the spring. Then it peaks immediately and begins a gradual decline into the fall. The solid line shown in Table 1 represents the nutritional requirements of a 1000 pound cow that calves in February and has her calf weaned in October. Her requirements increase greatly at calving and decrease at weaning.

Notice the large area in late winter and early spring where the cow's nutritional needs are not being met by my forage resources. This represents a huge feed bill. Someone has to make up this difference. I've finally concluded that I cannot afford to feed a cow everything she needs to raise a calf and breed back before the grass starts to green up. Have you ever wondered why the wild animals don't have their babies in February and March? For them, it's a matter of survival.

Table 2 demonstrates what happens if we calve in late April and May, instead of in February. There is a big difference in the amount of supplemental feed required by cows that calve later. This can easily save up to $100 per cow! Could that be the difference between a profit and a loss for some ranches? Why not let Mother Nature feed your cows when their nutritional needs are the greatest? Remember, it's not nice - or profitable - to fool Mother Nature.

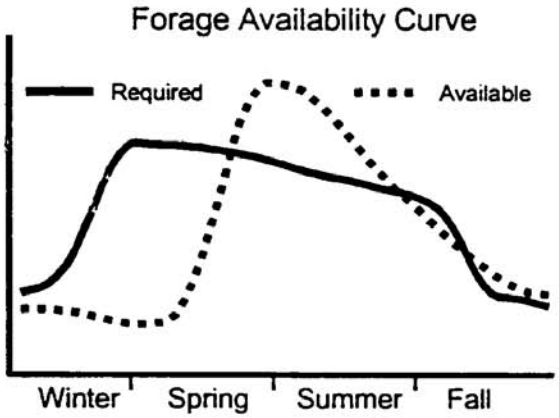

Table 1: Calve in Feb. -- Wean in Oct.

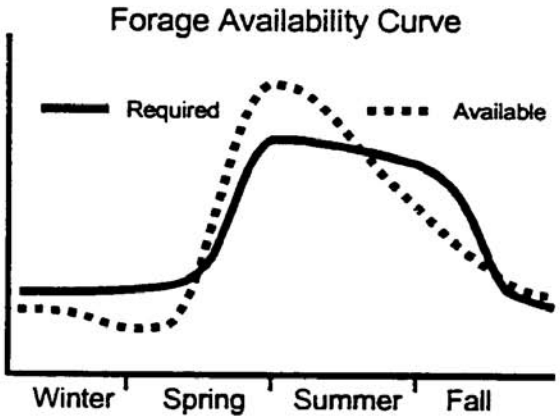

Table 2: Calve in April / May -- Wean in Oct

The only problem with this situation is just prior to weaning. We're expecting that cow to continue raising her calf without adequate feed resources. There is no law that says we cannot wean our calves at 4 or 5 months instead of the traditional 6 to 8 months. When the forage resources on my ranch can no longer meet the nutritional requirements of a lactating cow it is time to wean calves. I have seen years when calves should have been weaned in August. If I have to do some supplemental feeding, it's much more cost effective to put my feed dollars directly into the calf, instead of trying to run them through his mother first. When we invest feed dollars in a cow we seldom, if ever, receive a return on our investment.

Research from Montana indicates that for every 1 pound a calf gains, late season, on native range, the cow can lose 2 pounds. That's not a good trade-off! In fact, that's a trade-off that I simply can not afford to make. Notice that after weaning a cow's nutritional needs can usually be met by my existing fall grass.

Much potential profit is being lost because most producers are not calving and weaning in sync with Nature. I know of producers that are saving thousands of dollars after making this simple change. One ranch in particular went from calving in March to calving in May. They start calving May 15th. In the process they have reduced their feed expenses by a whopping 75%! That's a huge savings! It's been quite a while since they fed their last bale of hay. You might also be interested to know that they have over 90% of their calves born in the first 21 days of the calving season, and that is without feeding any hay. There was absolutely no way they could have accomplished this when they calved in March.

The time has come for ranchers to realize that calving and weaning dates are not set in stone. They can, and should, be adjusted to match your available forage resources.

Matching Cow Size and Type to Forage Resources

I've noticed that for some people this can be a very sensitive subject. What does it really

mean? Simply put, we need cows that can survive on what our ranch produces. We don't want cows that require more than our ranch can produce. Very few ranches have cows that can survive strictly on what the ranch produces. At one time they probably did, but they don't any more. So what happened? Everyone became "production driven".

We were told by the experts that in order to compete and survive we had to increase our production. When we increased our weaning and yearling weights we changed the size and type of our momma cows. We increased our production, but we also increased our cost of production. Even though our cows are capable of producing bigger calves they may no longer be profitable. It doesn't matter how big a calf is if he is not profitable. Before we go any farther I'd like to review some basic facts.

1) **At least 65% of annual cow cost is feed expense.** Feed and pasture is, by far, my biggest expense. Therefore, I can probably increase my profits simply by reducing my feed expenses.

2) **70% of the feed a cow consumes is strictly for maintenance**. Only 30% goes toward production. I get paid for production, not for maintenance. Therefore, 70% of my feed expense has absolutely no economic return.

3) **Bigger cows eat more than smaller cows**. That's a "no-brainer" but there are some who will still try to argue this point. Larger cows simply require more feed for maintenance. High milking cows also require more feed for maintenance, even when they are not lactating.

4) **There appears to be a direct, straight-line correlation between cow size and cost of production**. According to data obtained by SPA (Standardized Production Analysis) cattlemen with the largest cows had the highest cost of production, as well as the lowest profit. Their cows literally ate their profits!

These facts give us an idea of which direction we need to go, but it's still not going to be easy. So far I haven't found a magic bull that I can use to get the job done, so how can we match cow size and type to our available forage resources? Basically this involves three things. We must...

- **Require our cattle to live within their means**. They must survive on what our ranch produces with minimum, or no, inputs.

- **Produce or buy cattle that fit our environment**. If we continue to use the wrong type of bulls, we will never produce the right type of cows.

- **Cull and sell all animals that do not fit our environment**. We will never make any improvement if we don't get rid of the cows that require more than our ranch can produce.

Not all cows are created equal. Some cows are much more efficient and much more

profitable than others. So, how do we identify our most efficient cows? What we really need to do is identiiy our least efficient cows and get rid of them. Let me tell you what we have done for the past fifteen years. We didn't do it all at once, but over the years we made a conscious effort to gradually reduce our feed and feed expenses. This caused our hard-keeping, less efficient cows to come up open or late-bred in the fall. These are the cows that do not fit my environment. They require more than my ranch produces and they must be sold!

Which is better, a 90% pregnancy rate or a 98% pregnancy rate? That's a trick question. It depends on what it costs to achieve a 98% pregnancy rate. In our herd, if we get over 90% we figure that we either understocked our grass or overfed our cows. In order to make some real genetic improvement some cows need to fall out of the program. We like to force at least 10% out each year. The pregnancy exam is the final test that our cows must pass. If every cow passed the pregnancy test, what can we assume? The test wasn't tough enough - some cows must fail.

Most ranchers make the mistake of feeding their entire herd enough to keep their poorest doing cows in production. They don't want any of their cows to fail the test. I cannot afford to keep and feed cows that are not profitable. After putting this kind of pressure on our cows for several years I've come to some definite conclusions. Allow me to share some of them with you.

1) **Unless I have an unlimited amomt of extremely cheap feed, I can not afford to feed and maintain cows that weigh over 1200 pounds**. Even if feed is extremely cheap, I would rather run a higher number of smaller cows on the same forage resources. If a ranch can support 100 cows that weigh 1300 pounds, it should be able to support 120 cows that weigh 1000 pounds. That's 20% more cows! Those 120 smaller cows will always outproduce the 100 larger cows.

2) **Fertility is my most important economic trait.** Most producers believe that growth is the most important. It's not. Growth is important, but not nearly as important as fertility which is closely followed by calf survivability. Profit always begins with a live calf. It doesn't matter how much growth potential a calf has if he is born dead.

3) **Breed is not nearly as important as "Biological Type"**. However, it is extremely hard to find cattle with the right biological type within some breeds. Allow me to describe the biological type that seems to fit my available forage resources. This is the type of cow that always seems to pass the test. I want you to realize that I did not set out to select for this type of cow, but rather this is the type of cow that can survive in our program. Now that we know what works we have started selecting for this type of cow.

    a) **Easy-fleshing Ability**. This is the cow's ability to maintain good body condition, with minimum feed. This is quickly becoming one of the most important traits that we select for because hard-keeping cows will eventually fail to breed back in our program.

    b) **Frame Score of 4.0 to 5.5**. This is a smaller cow than many producers are used to. Most of the cows that I have seen in Colorado and neighboring states are a

frame 5 to 6.5 with a few 7's and 8's. There are some really big cows out there. Smaller, more moderate-sized cows are able to produce more beef per acre. Notice I didn't say smaller cows can produce bigger calves, because they can't. I said they can produce more pounds per acre.

c) **Mature Cow Weight of 1000 to 1150 pounds**. We must be careful that we don't have a bunch of 1000 pound cows that are tall, thin, and hard-keeping. They need to be easy-fleshing and in good condition. We individually weigh our cows and give them a body condition score every year at weaning. We have done this for 13 years. Our cows average 1060 pounds in a condition score of 5 to 6.

d) **Volume and Capacity**. I need a cow with lots of volume and capacity because she needs to be able to efficiently convert low quality forages into milk and meat. Slab-sided, pencil-gutted cows don't do well on our ranch. They just can't survive on forages alone. They may look good in the show ring, but that's about all.

There are always exceptions, but for the most part this describes the type of cow that will match my forage resources and continue to be profitable year after year. In fact, I believe this is the type of cow that will match the forage resources on most ranches. Most cows are profitable five out of ten years. That's not good enough. If we are going to survive in this business, we need cows that are profitable every year - ten out of ten years.

I want a cow that can support the ranch, instead of being supported by the ranch! If I have to feed much hay or supplemental feed to a cow, then the ranch is actually supporting that cow. Who is working for who? That cow needs to be working for me.

Conclusion

In closing, I'd like you to consider these two questions. *Is your ranch as profitable as you would like it to be? If not, are you making the most efficient use of the available forage resources on your ranch?* I would also like to encourage you to consider these three management concepts:

1) **Management Intensive Grazing**

2) **Matching your Production Cycle to your Forage Resources**

3) **Matching Cow Size and Type to your Forage Resources**

NOTE: If you would like to receive the *Pharo Cattle Company* newsletter, call Kit and Deanna Pharo at 1-800-311-0995. There is no charge for this publication.