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## **REDUCING HARVESTING COSTS USING WINDROW GRAZING**

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Dr. Robert Taylor, of Colorado State University, at the 1995 NCA meeting stated, "...after the current cycle 30% of today's beef producers will not be in business." A colleague, Paul Gehno, now with the King Ranch in Florida, once stated, "the industry that emerges from this down phase will be leaner, smaller and more competitive." Another quote, of which I am afraid I do not have the author states, "in times of change, learners inherit the earth while the learned find themselves beautifully equipped to work in a world that no longer exists."

We live in a world of change to which the livestock industry is certainly not immune. The next few years will be critical as far as determining those of us that will remain in the beef business for the future. As stated in the last quote, if we are not willing to learn, to change, or to adapt, we will be left behind while the rest of the beef industry moves forward. There are presently a number of areas that are critical to the survival of the beef industry, let alone our own survival. They are food safety, health & nutrition, palatability, consistency, value or cost, and convenience. All of these determine the demand for beef and we, as producers, have a major influence on all but convenience. Through our selection of breeding animals and management practices we affect the first five factors while the latter factor, convenience, is somewhat out of our hands. Of these, the most significant, and the area which we can have the most influence on, is the cost of producing a pound of beef.

The 1998 summary of cow-calf operations gathered by Cattle-fax, Table 1, depicts four areas in which a 10% change significantly affects the return per cow. They are 1) weaned calf crop, 2) weaning weight, 3) price received and 4) cost of feed. Weaning percentage is the most significant because unless we have something to sell, the remaining costs are meaningless. The second and third factors, weaning weight and price received, are interrelated to each other. Numerous individuals have suggested that we have no influence on the price we receive. I would contend that we have a big influence on the price by the type of cattle we raise, our management practices, as well as how we market them. This, is another subject for another time. I would like to make note here that the weaning weight of calves heavily influences the fourth factor, that being the cost of feed.

Speaking of weaning weight, I believe that there has been way too much emphasis placed on the weight of calves at weaning. I am not sure but what this has been driven by the bragging rights at the coffee shop. How many times, if ever, have you heard someone declare that he has weaned a pound of calf for \$.40 or \$.60 or \$1.00. These would certainly be more significant figures to use as a measurement of how we are doing. As one examines the costs assembled in the Cattle-fax summary, I would suggest that many of the fixed overhead costs are actual costs of supplemental feeding, and therefore should be taken into account as one looks at his feeding program. Gregg Simonds, previous manager of Deseret Land & Livestock and another colleague, found in surveying more than one hundred Northwest ranches that their feed costs

Table 1. 1998 Cow-Calf Operation

Budget Assumptions:			
Calf Crop	90%	Average Weights:	
Death Loss:		Steers	525 lbs
Calves	4%	Heifers	475 lbs
Cows	2%	Cows	1025 lbs
Calves Weaned	86%	Average Price:	
Replacement Heifers	15%	Steer	\$76.37/cwt
Cull Cows	15%	Heifer	\$69.87/cwt
Operating Loan Interest*	8.3%	Calves	\$73.96/cwt
Annual Lease Rate	\$98/cow	Cows	\$29.94/cwt

\*75% Debt on 1/2 Operating Costs

Costs Per Cow Unit Budget:				
	<u>Cash Cost</u>	<u>% of Total</u>	<u>Total Cost</u>	<u>% of Total</u>
Feed:				
Pasture	\$98.00	30%	\$98.00	21%
Other Feed and Supplement	<u>83.00</u>	<u>25%</u>	<u>83.00</u>	<u>18%</u>
Total Feed	\$181.00	55%	\$181.00	39%
Other Operating:				
Labor	\$35.00	10%	\$35.00	7%
Vet/Supplies/Other	63.10	19%	78.10	16%
Operating Interest	<u>8.69</u>	<u>3%</u>	<u>11.58</u>	<u>3%</u>
Total Other Operating	\$106.79	31%	\$114.68	26%
Fixed Overhead:				
Mach/Bldg/Fence	\$7.00	2%	\$32.00	7%
Livestock	39.00	12%	77.00	16%
Management	<u>0.00</u>	<u>0%</u>	<u>55.00</u>	<u>12%</u>
Total Overhead	\$46.00	14%	\$164.00	35%
Total Cost/Cow	<u>\$333.79</u>	<u>100%</u>	<u>\$469.68</u>	<u>100%</u>
Calf Breakeven (\$/cwt)	\$80.21		\$116.55	
Average Price	\$73.96		\$73.96	
Profit (Loss) \$/cwt	\$(6.25)		\$(42.59)	
Profit (Loss)/Cow	\$(21.88)		\$(149.06)	

Impact: 10% Change in Key Factors			
<u>Factor</u>	<u>Change</u>	<u>Decrease in Breakeven Price</u>	<u>Increase in Return</u>
		(\$/cwt)	(\$/cow)
Total Feed Cost	-10%	\$4.10	\$18.30
Weaned Calf Crop	+10%	\$7.07	\$31.51
Weaning Weight	+10%	\$5.95	\$26.53
Calf Price	+10%	\$0.00	\$26.53
Interest Cost	-10%	\$0.19	\$0.87
Cull Cow Weight	+10%	\$1.03	\$4.60
Cull Cow Price	+10%	\$1.03	\$4.60
All Combined	10%	\$19.38	\$112.85
**Projected			

ranges from 55 to 80 % of their total costs. These figures are no different than surveys have shown in Alberta. This being the case there is plenty of opportunity for us in the industry to cut costs and therefore gain a higher return.

None of us can manage what we don't or are not willing to measure. We may know where we would like to be or need to be, but to make plans to get there is next to impossible if we don't know where we are at present. Does one hop on a covered wagon or is a jet plane not fast enough for where we need to be. There are too many flying blind and I am afraid they may be the 30% which Dr. Taylor made mention of that will not be in business. It has been stated that only 10% of producers know their costs. Some measurements are fairly simple, for example; feed on hand at the beginning of the season verses feed on hand at the end of feeding is easy to calculate. It does not need to be complicated.

One means of cutting costs on Deseret Ranches has been the instigation of windrow grazing. Before I get into the details of this I feel it necessary for you to understand our environment and our management practices.

Deseret Ranches of Alberta can be found by continuing 130 miles North of Great Falls on Interstate 15 and entering Alberta through Sweetgrass, Montana. The 100,000 acres of rolling hills are located on the Milk River Ridge with the Southern boundary six miles from the United States border. This ridge is in the foothill country with the Rocky Mountains forty miles to the West. The ranch elevation ranges from the 3500 foot level up to 4300. This elevation causes some real differences in weather conditions and is subject to extremes of temperature and precipitation in both summer and winter. Temperatures up to 100 degrees F in the summer and -40 F in the winter are common with total precipitation ranging from 14 to 21 inches within the ranch. One of the outstanding features of our weather here is the Chinook winds, which can, and do, temper the severe winter climate with sudden increases in temperature of 60 to 70 degrees F any time during the winter months, thus clearing some of the snow for grazing. This Chinook effect plays an important role in allowing us to extend our grazing through the fall and winter months.

Our operation consists of 6000 head of mother cows from which all of the heifers are retained. Surplus heifers are bred for resale. Between 500 and 600 head of the cows are in our seedstock herd and are AI'd to produce our own bulls as well as supply our Montana ranch. Presently we are breeding up to a composite herd which is 50% Black Angus, 25% Hereford and 25% Gelbvieh. All bulls and heifers are retained and tested on the ranch under ranch conditions, the most important factor being that they are adapted to the environment they must survive in.

The ranch consists of native grasses -- tall or rough fescue on the higher elevations and short prairie grasses on the lower. Numerous acres of improved early-season grasses are adjacent to and part of our calving area. Sufficient native grass is reserved from the previous year to begin calving on, during the last two weeks of April. Improved pastures thus allow us to stay off of the native range until it has a good start. Here on the native range we will stay through the summer and into the fall. Calves from our first calf heifers will be weaned by the middle of September with the remainder weaned by the middle of October. Steer calves go into a custom feedlot for backgrounding, while the heifers are retained on the ranch often going into

lush fields of oat re-growth. Cows will continue on native grasses until snow or extreme cold makes grazing difficult at which time they can be turned into oat windrowed fields. As the weather conditions improve, generally within a week or so, they are pushed back onto the native range, thus reserving the windrows for similar extreme conditions.

One of Deseret's key areas of management is the weaning of calves off the cows early enough to allow time for the cows to pick up in body condition. We can't afford to have a cow go into the winter in poor condition and then try to bring her condition score up with supplemental feeding. Having her at a body condition score of 5 or even a 6, going into winter gives her an edge in surviving some of the harsh weather ahead as well as making it possible to retain condition enough to calve on native range the end of April with no supplementation.

With this all behind us I guess it is time to get into the nitty gritty of our windrow grazing. May I mention here that one may not be able to adapt this kind of grazing fully in their own operation but there is a good chance there is something that one can pick up on and adapt to their own circumstances. Hopefully you will not be like one producer that attended a seminar sponsored by our Winnecook ranch in Montana wherein Dr. Don Adams from the University of Nebraska was making a presentation on cutting costs. This individual was heard to say; "I don't know why in the hell I'm here. They are not talking about anything I am doing." I believe the object of this symposium is to try to learn from others. Hopefully I can give you some food for thought.

We first got started into windrow or swath grazing, one fall by leaving some hay in the swath. This particular field had received numerous rains and we felt it was not worth baling and hauling in. During that winter we went through our cow herd sorting off some of thinner cows and placing them into this windrowed hay field. As they picked up in condition we pulled them out and placed others in to do the same. Though this was not top quality feed it was still sufficient to bring their condition score up. By spring we had this field cleaned-up with very little waste realized. The next year winter came early and caught us with our harvest incomplete. A field of barley laying in windrows strategically located to our buildings had not been harvested. It was rather a tough winter with snow and ice accumulations of from twelve to eighteen inches deep. When we turned the cows into this windrowed barley field they had no trouble finding it and as they cleaned it up they left it looking like long lines of troughs in the ice and snow.

From these two incidents we learned the following: Firstly that it took relatively no labor or equipment to feed the cows – open the gate and it was completed. Secondly that they did well even on what we thought was lesser quality feed, and lastly, that they cleaned it up leaving little-to-no waste. From here we started inquiring and found others that had some of the same experiences resulting in the same conclusions. We started experimenting, using oats as the grain and have ended up at the present time seeding more than 4000 acres of oats per year for this purpose.

We have taken hay and grain fields around the main buildings where we have easy access and sufficient water, seeding them to oats between the first and middle of June. Using custom operators, our costs for having it worked and seeded in the spring, laid in a windrow in the fall,

including seed, fertilizer and chemical runs between fifty and sixty dollars per acre. This will vary depending on fertilizer requirements as we are seeing an increase in soil nutrients each year, since we are harvesting the crop and the manure remains scattered over the field. We are dealing with dryland and therefore the yields can vary from year to year. Our yields have been as high as three ton per acre. Our average would be about two ton and at sixty dollars per acre cash output would amount to thirty dollars per ton or fifteen cents per pound of feed. If I were to put a rental fee on the land it would bring the cost up to two and one-quarter cents per pound. This is feed in the field ready to be consumed. The easiest way to look at costs is to look at the savings. Whether we swath and leave it, or bale, haul, store and feed it, the value of the feed should be the same. Our savings here, since we do it all with custom operators and have tracked our cost of feeding are listed in Table 2.

Table 2

<u>Windrowed Cost per Ton</u>		<u>Baled, Stored &amp; Fed Cost per Ton</u>	
Swathing	\$7.50	Swath, baled & stacked	\$35.00
Fencing & Labor	\$1.50	Feeding of bales (including labor)	\$10.00
	<u>\$9.00</u>		<u>\$45.00</u>
Savings As Fed		\$36.00 / Ton	
		Or	
		\$.018 / lb.	

As one can see there are significant savings by leaving it in the windrow and allowing livestock to do the harvesting. At a cow feeding rate of 30#, the savings would be \$.55 per animal per day while a calf eating 12# would save \$.216 per day. These are significant savings.

I am sure that this brings to mind a number of questions such as loss of nutrients, fencing requirements and loss or waste of feed. Let's examine each of these areas and determine how significant they are:

#### Loss of Nutrients

As one considers leaving swaths to endure the elements for four to six months it seems logical that the nutrients could be somewhat depleted by then. Let us remember that feed stored in a stackyard, is not without loss of some nutrients. As we have examined the nutrient level at the time of swathing, we have found the protein range to be from 11% to 17% while the D.E. has ranged from 1.16 to 1.36 Mcal/lb. Numerous samples have been taken at Deseret throughout the winter and as long as it has not been disturbed since swathing, only the top of the swath is affected by weathering and there is very little, to no change, in nutrition from the fall to spring. May I make mention here that the crop is swathed as it is just starting to fill the kernels. In swathing at this stage the whole plant is relatively uniform and it somewhat eliminates selective grazing and leaving less nutritious feed till last.

## Fencing

The only way to eliminate the loss of nutrition in the swath is to limit the access to that which can be cleaned up in a short period of time. This can be accomplished by using electric fencing. Moving the fence every day would be the ideal but not too realistic. We have gone from the extreme of no limitation for the season, to allowing enough for one week of feeding at a time. We have found that when they are first turned into new windrows, particularly when there is little to no snow on the ground, they will go through selectively feeding, turning every windrow. Our best utilization of feed is when they have to work through the snow to get to it. Limiting access requires them to clean up before it deteriorates and a week or two of exposure, in the winter months, seems to limit this loss. To make the movement of fence line easier we have gone to using what they call aviation cable. It is a galvanized, 1/16 inch, cable, which is very easy to roll up and unroll with no kinks and thus little to no breakage. At the beginning, flagging is used on the line to make it more visible as it is attached to fiberglass step-in posts, steel "T" posts, and even re-bar with insulators. We have had some instances through the winter where we have had to use a second cable to act as the ground, since snow and ice can actually act as an insulator. Moving these lines takes very little time and labor compared to feeding.

## Loss or Waste of Feed

Another area of real concern is the possible loss or waste of feed. Turning a herd of cows into a windrowed field is not something we have been used to doing. We have always been concerned with the damage that a herd, getting into a field, can do. Thus, it takes a real paradigm shift to open the first gate. It is easier to minimize waste when they have to work through the snow to get to it, this being the condition under which I first let a herd into swaths. The last ones in could hardly get through the gate as they immediately lined up as if it was a trough. Again the trick is to allow access to a limited supply and making them clean it up before moving the fence. At times we have moved cows with lesser nutrition requirements in behind calves to assist in cleaning up a field. If we are grazing calves we will, as the feed deteriorates, supplement them with good quality alfalfa hay thus supplying their protein requirements and forcing them to clean up the field. I have seen many feed tubs, mangers and feed grounds wherein much more has been wasted than by windrow grazing. Studies have been made wherein up to 30% loss has been recorded from baling, hauling, losses in the yard, and feeding of baled hay. Losses can be controlled and minimized.

## Future of Windrow Grazing at Deseret

One of the areas we will be looking at very closely the next few years is determining whether there is an improved variety of grass or grasses that we can utilize for swath grazing. We realize that we may have to graze it lightly in the spring to enable us to deter swathing until later in the summer or early fall. The trick is dealing with the moisture conditions whether we seed grass or oats. We will also try seeding oats a little earlier to utilize better moisture conditions and therefore heavier yields. Having to swath a little earlier does not seem to really cause that much deterioration to the swath and if we can eliminate the need to plant a crop each year additional savings would be realized.

## Summary

There are substantial savings that can be recognized through swath grazing. Cost of wintering can be greatly reduced with the main savings coming from less equipment needed and a substantial cut in manpower. I would suggest that if you have a mind to try this, take a few acres, and try it on a small scale to determine how it might work for you. I hope that I may have given you some food for thought which you might be able to adapt to your own operation and that you may be found amongst those willing to change and thus survive the down phasing of the industry.