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CORNHUSKER ECONOMICS

A Good Drought Plan May Save Your Ranch and Improve Your Bottomline

If you are a beef cattle producer that depends on rain fed pasture then you know how costly a severe drought can be. Whatever actions are taken to mitigate drought, there is always an associated cost whether it be physical or psychological. From an economic perspective, drought mitigation is managed from two main objectives – demand management and/or supply management. Demand management options include decreasing the demand for feed, such as selling livestock, weaning calves early and moving them to a dry lot or sale and/or reducing the grazing time in pastures. Supply management includes options that increase the supply of forage and/or water, which includes well creation, trucking water to livestock, renting additional pasture area, grazing alternative forages such as crop residue and trucking livestock further distances. With rare exception, all of these options incur cost either by increasing expenses or decreasing future revenues. While it may not be possible to avoid costs as the result of drought, it is possible to prepare and limit them. The more prepared you are the more options you will have to mitigate drought conditions, hopefully leading to smaller impacts on you, your family and your livelihood. In addition to being prepared with alternative mitigation strategies, timeliness in implementing those plans is critical in having a successful drought plan. The fact is, drought is going to occur naturally and is a part of doing business. Make it a part of your overall business plan and something that is used with your annual management strategy.

Risks Associated With a Drought

The two kinds of risks generally associated with a drought are production and market risk. Production risk naturally emanates from droughts' limiting effects on forage production and availability, which directly limits the total productivity and capacity of the operation. Increased market risk is realized when those affected by drought act in unison, and dump animals on the market in an untimely

Market Report	Yr Ago	4 Wks Ago	1/21/11
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.	\$ *	\$102.38	\$106.00
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	114.12	141.87	146.00
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	98.60	119.25	126.30
Choice Boxed Beef, 600-750 lb. Carcass.	144.95	159.50	172.52
Western Corn Belt Base Hog Price Carcass, Negotiated.	66.10	67.66	74.05
Feeder Pigs, National Direct 50 lbs, FOB.	*	*	*
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean.	77.01	77.50	85.52
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct.	*	*	159.50
National Carcass Lamb Cutout, FOB.	239.49	353.23	344.95
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W. Imperial, bu.	3.90	6.85	7.41
Corn, No. 2, Yellow Omaha, bu.	3.41	5.93	6.28
Soybeans, No. 1, Yellow Omaha, bu.	9.29	13.43	13.50
Grain Sorghum, No. 2, Yellow Dorchester, cwt.	5.45	9.73	10.54
Oats, No. 2, Heavy Minneapolis, MN, bu.	2.33	3.99	3.86
<u>Feed</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	135.00	140.00	140.00
Alfalfa, Large Rounds, Good Platte Valley, ton.	87.50	70.00	88.00
Grass Hay, Large Rounds, Premium Nebraska, ton.	*	*	*
Dried Distillers Grains, 10% Moisture, Nebraska Average.	107.50	182.00	195.00
Wet Distillers Grains, 65-70% Moisture, Nebraska Average.	38.75	62.00	66.00
*No Market			



manner. To mitigate as much of this risk as possible, producers should have a plan that addresses both these risks. Such a plan will not only specify all the options of demand and supply management strategies, but may include some type of insurance product where available.

A viable plan needs to have several characteristics. These characteristics include being able to identify key decision or trigger points. A series of smaller decisions is more practical and manageable than singular large choices. These smaller decisions can be associated with successive trigger points. For example, if a forecast indicates a high probability of drought during the coming spring, feed such as hay may be conserved or expanded using feed alternatives that may be available more cheaply. These triggers, or decision points need to correspond to measurable and identifiable events or conditions. Drought conditions occur over time, sometimes making it difficult to take immediate action. By having a plan in place, decisions can be made in a timely manner and in a less stressful way. The key factors to remember in building a plan is that all the options need to be carefully evaluated based on their cost of implementation and impact on the operation. In addition to the demand and supply management strategies, one generally thinks about insurance products and marketing that may be integrated and help mitigate risk.

Drought and Cattle Markets

Cattle and beef markets traditionally exhibit the phenomenon of seasonality and cyclical behavior (Figure 1 on last page). During such phenomena, market prices for cattle and beef fluctuate. When you combine such phenomenon with local conditions such as drought, the amount of risk may be further amplified. Proper drought management strategies increase the likelihood to exploit the market fluctuations and use them to alleviate heavy financial losses. For example, it is commonly observed that cull cow prices generally bottom out in late fall, say November. If this seasonal effect is preceded by prolonged drought in your area, you could expect that your local market may see a flood of cull cows, more than is normal for the season, further dampening local prices and making this a very poor time and place to sell cull cows. If however, you had culled heavily in the spring you could possibly have gotten better prices, thus conserving pasture and helping your financial position at the same time.

Understanding Your Business

Interestingly, the kind of cattle operation you have greatly affects the drought mitigation plan you will adopt and the amount of risk you ultimately face. For example, the drought mitigation measures that are adopted by a seed stock cow/calf operation are quite different than those of a stocker or yearling operation. The stocker operation is quite flexible in its ability to adjust animal numbers in the

form of back grounding calves, while the seed stock operation has limited choices in liquidating animals if it is to maintain farm reputation and genetic diversity.

Economists make two generalizations about business that may be helpful in building a sound business and drought plan. These two ideas represent the time horizon to plan and make changes in the business. In a short horizon or a short-run view, say three months or less, very little can be done to alter the type of operation you have. Whereas in a long-run view, numerous years, there isn't anything that can't be changed. These views correspond with the idea that in the short-run your business is what it is; in the long-run it is what you want it to be. One of the biggest steps in having a viable drought plan is to have a viable business plan. One of the first steps in developing this business plan is to make an analysis and/or assessment of your current operation. This would include an assessment of the business structure, physical attributes, biological capacities and the human and financial resources. One of the methods used to do this is known as a SWOT analysis. SWOT is an acronym for doing an analysis of strengths, weaknesses, opportunities and threats.

Based on the SWOT or some other analysis, you will be able to identify the potential choices which may be viable considering all your competencies and resource endowments. As part of this exercise a detailed financial analysis of each enterprise and the effects of drought should be considered. Financial analysis procedures such as a partial budgeting, including variability is helpful in this regard. Based on these analyses and/or others, you may decide to make changes in the way you operate your business to mitigate risk including drought, and to capture benefits from your identified strengths, limit impact of weaknesses and threats and to eventually reach your goals and objectives. If you have never done a SWOT analysis, materials and assistance on the analysis tool can be accessed online or through the extension service, or feel free to contact the authors of this article directly.

Financial Considerations

Without diminishing the importance of assessing other resource endowments, in managing drought events a careful assessment of your financial resources is critical. Accurate and timely information on financial health of your ranch operation to a great extent will determine the degree of flexibility you have in coping with drought events. Financial measures of liquidity and solvency of a business such as net cash flow, debt to asset ratio, net worth and change in net worth are helpful tools in determining financial health of your business. Good financial health increases your ability to recover from and bear more risk, which provides room to consider decisions which may result in higher profitability for your operation. For example, if you believe that a drought is in the process of

developing, you may choose to cull heavier in the spring to conserve grass and expense. This decision may or may not result in reduced income if the drought does not materialize. If your business is financially healthy, the cost of mitigating the risk would not critically affect the business.

Operation Diversity

The diversity of enterprises within an operation is another way to mitigate the threat of drought. Diversification in itself does not imply risk mitigation. It is important that the diverse enterprises within the business entity are independent from the central cause of the risk. For example, a ranch that is both a cow/calf operation and provides eco-tourism/hunting service, may both suffer under drought conditions, since each is dependent on range quality. However, given a ranch that has a cow/calf enterprise and a dude or vacation ranch setup may flourish in the vacation business despite drought. Having simultaneously more than one diverse enterprise on a ranch increases the portfolio of enterprises in the ranch and makes the ranch more resilient to the effects of drought, but also complicates the picture and increases the need for effective, disciplined management.

Table 1 (on next page) provides an example of how drought planning can lead to cost savings in a ranch operation. This plan is based on actions taken by Don Adams at the University of Nebraska's Gudmundsen Sandhills Laboratory during the drought condition in 2002.

Notice that this simple plan was implemented incrementally based on trigger events, i.e., forecasted drought, no rainfall by date of cattle turnout and so forth. This is the manager's best estimate of future events. This plan led to several changes in the way cattle are marketed from the ranch and has contributed to increased bottom-line results even in non-drought years.

Conclusion

Beef cattle enterprises are exposed to production and market risk. As explained above, these risks are amplified when combined with drought events. In order to mitigate the adverse impact of drought on your business, you need to have a sound and timely implemented business and drought plan. Before you formulate a drought management plan, you need to fully understand your business. SWOT

analysis is a useful tool to analyze strengths, weaknesses, opportunities and threats of your operation. Partial budgeting techniques can be used to carry out the detailed financial analysis of the specific activities to be included in your drought management plan. A sound drought management plan should be based on the financial, human, biological and physical resources and capacities and conditions of your operation. Diversity of enterprises within the operation may increase the resilience of your business to the drought events, it is therefore important to consider them when making up your business and drought plan.

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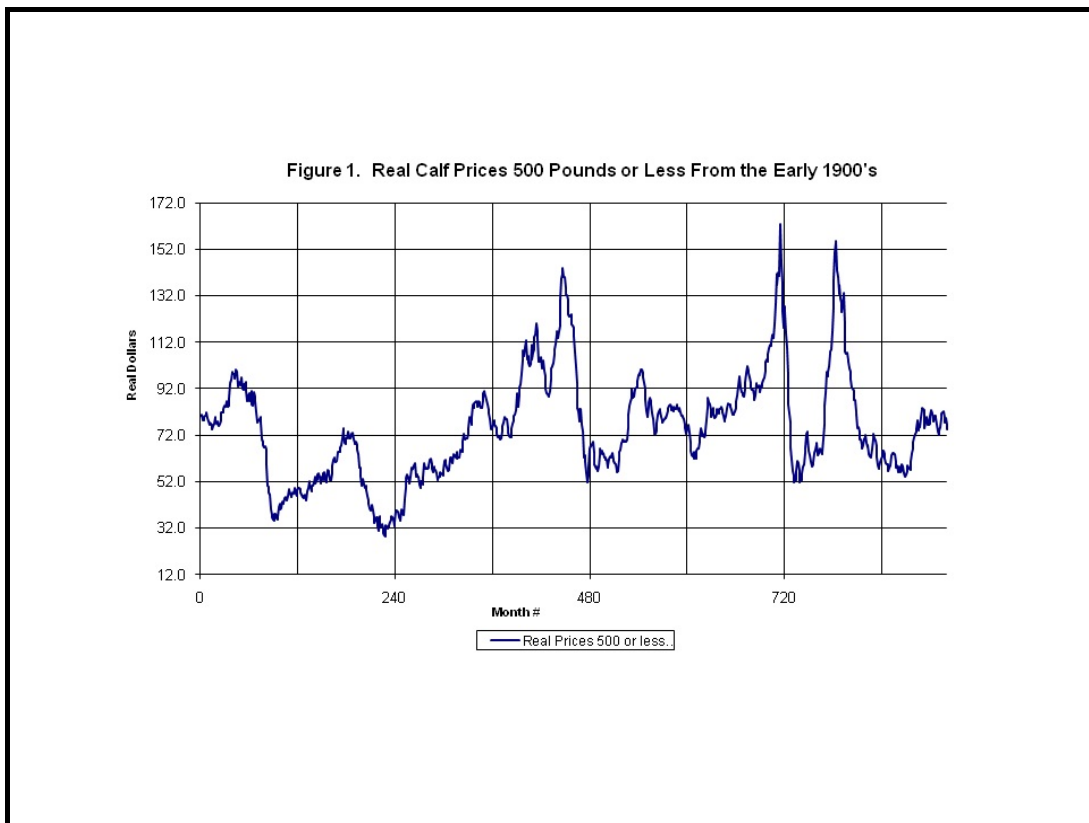


Table 1. Gudmundsen Sandhills Ranch Drought Management Strategy for 2002

	Action Taken During Drought	Feed saved measured in AUM's (Animal Unit Month's) for 1,000 lb. Cows	Cost Savings (@ \$25/aum 2002 prices)
1	Kept inventory current-15 cull cow sold as identified early in the spring	1.2 aum x 15 cows x 1 month = 18 aum	450
2	Identified 15 cows in May as culls and sold them as pairs in June instead of at weaning in October	1.5 aum x 15 cows x 5 months = 113 aum	2,825
3	Weaned 300 March born calves one month early in September	0.4 aum x 300 cows x 1 month = 120 aum	3,000
4	Surplus 30 heifer calves sold 3 weeks after weaning (2 months early)	0.4 aum x 30 cows x 3 months = 24 aum	600
5	30 cows reduction (5% herd reduction) from September through May	1.2 aum x 30 cows x 9 months = 324 aum	8,100
6	20 open cows sold in September (2 months early)	1.2 aum x 20 cows x 2 months = 48 aum	1,200
7	110 cows to corn stalks in early November to late February	1.2 aum x 110 cows x 3.5 months = 462 aum	11,550
8	25 pregnant June calving cows sold in January rather than in April as normal	1.2 aum x 25 cows x 2.5 months = 75 aum	1,875
9	Total Savings Attributed to Drought Management	1184 AUM	29,600

Source¹: Nebraska Ranch practicum 2009 presentation by Dr. Don Adams, WCREC.
Pasture rental rates for 2002 provided by Dr. Jerry Volesky, WCREC.

¹ The authors would like to thank Dr. Don Adams for his role in making this article possible.