AGRICULTURAL ECONOMICS

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Cornhusker Economics

Three Profit Fundamentals of Agricultural Production

Market Report	Year Ago	4 Wks Ago	2-14-20
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.	*	124.00	*
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	179.94	176.06	171.60
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	148.63	150.76	144.63
Choice Boxed Beef, 600-750 lb. Carcass.	216.68	212.58	207.52
Western Corn Belt Base Hog Price Carcass, Negotiated	48.59	*	*
Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean.	62.81	74.36	62.20
Slaughter Lambs, wooled and shorn, 135-165 lb. National.	130.04	151.54	158.94
National Carcass Lamb Cutout FOB.	378.36	421.11	423.74
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	4.32	4.44	4.20
Corn, No. 2, Yellow **Columbus**, bu.	3.52	3.76	3.68
Soybeans, No. 1, Yellow **Columbus,** bu.	8.04	8.60	8.36
Grain Sorghum, No.2, Yellow Dorchester, cwt.	5.63	6.05	5.86
Oats, No. 2, Heavy Minneapolis, Mn, bu.	3.17	3.48	3.36
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	*	*	*
Alfalfa, Large Rounds, Good Platte Valley, ton.	105.00	107.50	105.00
Grass Hay, Large Rounds, Good Nebraska, ton.	*	95.00	103.00
Dried Distillers Grains, 10% Moisture Nebraska Average.	142.50	158.50	144.83
Wet Distillers Grains, 65-70% Moisture Nebraska Average.	52.50	50.00	50.67

*** No Market**

There is nothing magical or mythical about making a profit. Each ranch/farm business has unique challenges and complexities. This fact makes it easy for operators to become overwhelmed or distracted from the fundamental factors that drive profitability. Each decision made in the farm or ranch business has an impact on profitability through one of three fundamental paths—cost, revenue and their common link productivity. As a result of being involved in the University of Nebraska Testing Ag Performance Solutions (UNL-TAPS) competition in North Platte for the last several years, I have observed some very striking factors that have helped teams (farm competitors) be more profitable. While some teams have barely made positive returns, others have netted hundreds of dollars per acre (TAPS.unl.edu, 2017 Banquet Report, page 11 or 2018 Banquet Report page 20). It is important to remember that each farm/team was on equal ground and had the same resources, the same ground with the same land costs, the same water system, the same equipment, and the same weather and market opportunities. But yet their profit outcomes were each quite different.

Simplistically, profit is the leftover revenue from crop/livestock sales after covering all costs. The following discussion is in relation to the three fundamental paths to profitability as listed above. For purposes of this discussion, we will refer to each of these fundamental paths as a strategy.

Strategy 1: Cutting Costs (cost focused)

This strategy relies on cutting costs while trying to maintain productivity or inversely increasing productivity while holding the line on costs. This approach includes the reduction of any costs, fixed or variable (direct) costs. Since TAPS is a single-season event,

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many of the costs are fixed . which would not be true for real-world ranches and farms. TAPS is reflective of the real world in that during any single season farmers would be hard pressed to change some of their costs, i.e. land costs, depreciation expenses and so on. However, if you think in terms of many seasons or an extended time period, all costs may be altered and are variable. Therefore, cutting costs is both a seasonal and multi-seasonal objective. Benchmarks can be very useful tools in the process of evaluating and cutting the right costs. However, the benchmarks must be relevant to the operation being evaluated. Ultimately cost reductions should be focused on a per-unit production basis, not a per-acre basis. Using the productivity measure is the key to evaluating which costs are worthwhile and those that are not (see the September 25, 2019, Cornhusker Economics article https://agecon.unl.edu/cornhusker-economics/2019/difference-between-max-profit-max-production). To illustrate the point, two side-by side-acres with the same cost of production/acre ($758/acre) with different yields (225 bu/ac and 250 bu/ac) would have production costs of $3.37/bu and $2.70/bu, respectively. Cutting costs by forgoing an input would save the value of the forgone input. But if that missing input reduces yield resulting in a revenue loss greater than the realized savings, it would not be a wise choice, since more would be lost than gained. Conversely, buying an input might appear to increase overall costs, but if it reduces costs per unit it would be a wise choice. The key is to use inputs that return more value than what they cost. Another way to view cost savings is how to get as much *bang for your buck* as you can. One such case would be the application of a needed herbicide where the generic version is much less expensive to apply per acre than the branded product. This assumes both herbicides would have similar performance. However, this can get complicated when the generic brand is less effective leading to further questions such as *how much less effective*. The use of any input cost is related to its impact on the whole system of production, which can make the choice complex and requires some real thought and calculation. For more information, refer to sources such as the January 17, 2017, *Crop Watch* article "Using Herbicide Prices and Efficacy Ratings to Select for Top Value," by Robert Klein https://cropwatch.unl.edu/2017/using-herbicide-prices-efficacy-ratings-select-top-value . Decisions like these while time consuming can make a difference and can be worth the time spent to make good choices.

Strategy 2: Increasing per-unit revenue value (marketing focused)

This strategy is about seeking better prices and developing skills and knowledge as well as hiring expertise and finding tools that could lead to increased revenue. Crop and livestock products are generally classified as commodities, thus producers are *price takers*. *Price takers* are sellers who have little or no ability to change prices by their individual actions. It is nearly impossible for a producer to go to a grain elevator or to a livestock auction and demand more than the current market value. This may be why some producers resort to value-adding. It is important to remember that the prospect of gaining a premium price must exceed the added cost of creating the added value, otherwise profit may be lost not gained. Added value does not change the fact that the producer, for example a rancher, is still a *price taker* and cannot negotiate more than the market price of pre-conditioned calves.

Agricultural market volatility is driven by unexpected events while typical markets are expected to be seasonally and cyclically driven. These factors provide opportunities for market participants to capture favorable price points. There is a wide range of available marketing tools to take advantage of current market conditions and mitigate price risk, i.e. hedge to arrive, forward contracting, futures and options, basis contracts, etc. For grain sellers, some of these are available through their local cooperative. In this regard, storable commodities do have the added bonus of being stored and retained for later sale. However, storage is not in and of itself a good or bad marketing tactic and must be used judiciously to be effective. Effective marketing strategies require focus and the development of skills just like good productivity requires the development of understanding and practice. To become better at marketing requires observation and understanding of markets and tools to capture better prices by doing the needed actions at the right time. The TAPS end-of-season surveys have shown that more than 70% of producer participants found they needed to be ready to sell during any season and that pre-harvest sales could have contributed to increased profits. Furthermore, they found that the key to winning the competition was not getting the highest price of the season but getting acceptable prices when they became available.

Strategy 3: Increasing productivity (production focused)

This strategy, as mentioned in the introduction, is tied closely to both cost reduction and revenue increases. This is probably the most widely considered strategy. Many agronomists and ag service and technology companies focus on increasing productivity as a sales point for their product or service. Often agronomists focus on yield goals and develop recommendations accordingly. However, as illustrated in the cost-cutting strategy, productivity is a two-edged profit sword. Changes in productivity must be done judiciously with consideration for its effects on both cost and revenue simultaneously. Productivity also has an impact on the needed

size and scale (number of acres and/or livestock numbers) of an operation to fulfill the necessary income requirements of the individual producer. A highly productive operation with low per-unit costs will require fewer acres or livestock numbers to achieve the desired level of income compared to a lower-producing/higher-cost operation. Without enough volume and given the fixed resource base, total income goals may remain unrealized. Therefore, productivity not only affects per unit profit but also total profit. Like all profit strategies, productivity requires careful thought and attention. Again, consider the information in the September 25, 2019, Cornhusker Economics article "The Difference between Maximum Profit and Maximum Production." A change in practice or the purchase of a productivity-increasing input such as genetics, seed if you're a farmer or bulls if you're a beef cattle producer, should be measurable and return at least as much as it costs to implement. In some instances, these changes may involve an extended period of time over multiple seasons.

Up to this point, we have only discussed the farm as it is without any changes to what is being produced. These three fundamental factors also are true when making a change in enterprise mix, for example, changing the crop mix or retaining ownership of weaned calves. Notably, there may be other opportunities to increase price or reduce risk, for instance by contracting or growing specialty crops such as human-consumption soybeans, white corn, seed corn, organic corn or soybeans, emus, hemp, hogs, or chickens, etc. However, with each new enterprise comes changes in cost, productivity and revenue. Before making any such changes, it is wise to be extremely careful in determining their impact on your life, family and farm business. To be redundant, care must be taken to consider the cost, productivity and revenue changes at the same time.

Some may feel profit is not the most important objective, but without it none of the other objectives are likely to be possible. Each of the three fundamental profit approaches has value, but those individuals who combine all three are the ones who will achieve the best results. Balance in cutting costs, increasing market price and finding that sweet spot in productivity will be most profitable. Weakness in any one area is a drag on profitability. Improvement in any one area will increase profitability. Ag production isn't just one thing it is many things and those who synergistically combine business and production will be those who have above average profit results. If someone has low per-unit costs, receives a high average price, and has top productivity, that is a win-win-win situation.

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