

# Challenges and Opportunities for Beef Feedlots in North Dakota

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## Introduction

North Dakota is known as a beef cow/calf state, with nearly a million cows scattered across much of the state. The feeding industry is not well developed in North Dakota so the question has often been asked, what is the potential for this segment of the beef industry? In one three-year study conducted at the Carrington Research Extension Center in the early 1990s, 130 head of North Dakota feeder cattle were gathered up each fall from cooperating producers and fed to finishing weight at the Carrington Center or at commercial feedyards in Kansas or Nebraska. Cattle in the southern yards gained faster on diets with steam-flaked corn and added fat. Cattle finished at Carrington were less efficient but the cost of gain was \$.046 less per pound. This paper is a discussion of the positive and negative aspects of the resources, geography, markets, attitudes, education, research and other factors that may affect the development and success of beef feedlots in North Dakota.

## Background

Farmers and ranchers have diversified their crop base in the past 40 years from primarily wheat and barley to include soybeans, corn, sunflower, canola, dry beans, field peas, potatoes, sugarbeets, and other crops. All of these crops have potential to be used as feed or produce feed products after processing. Several crop processing operations have developed across the state, producing up to 3 million tons of co-product feeds per year.

Most operating feedyards in North Dakota are associated with crop production enterprises to capture value from home-raised feeder cattle, feeds (grains and forages), utilize manure as fertilizer, and keep employees busy throughout the year. Cropping systems that include deliberate feed production increase the options for crop rotations.

Farmer-feeders may be able to expand their livestock enterprises without significant attention. However, developing new, stand alone, larger-scale livestock enterprises (beef feeding, dairy, or swine) may draw attention and criticism from those competing for land, urban folks who think their country homes should not be exposed to odors and noises of farming, and even animal rights activists who oppose any livestock enterprise. Community support is essential to successful development in these scenarios. Many rural communities in North Dakota would welcome the development of new or expanding livestock enterprises.

## Resources for Beef Feedlot Operations

### *Feed*

The single greatest expense for feedlot operators, after the purchase of the cattle, is feed. There is a smörgasboard of feeds available in North Dakota. Grains grown and available in North Dakota include corn, barley, field peas, feed-grade wheat, and oats. Regarding corn, high-moisture grain, earlage, or silage may be the harvest and storage method of necessity in some years. Several co-products are available in volume from many different processing plants throughout the state. These co-products vary in moisture, protein, fiber, energy, and mineral content. The list of co-products includes wheat middlings, barley malt sprouts, distillers grains with solubles, corn gluten feed, sugarbeet pulp, canola meal, sunflower meal, soybean meal, linseed meal, crambe meal, potato waste, dry bean splits, barley hulls, soybean hulls, pea hulls, oat hulls, and screenings of all kinds. Procurement of co-products needs to be planned ahead of time, in some cases many months to insure feeds are available at a agreed-upon price.

Off-quality commodities such as sunflower seeds, canola, and other crops can be fed with some limitations. Opportunity purchases of feed products such as sprouted wheat or heat-damaged corn can lower feed costs but should be fed with care and diluted in the rations.

NDSU has published several circulars and research papers on the nutritional value and recommended uses of many of these feeds. Commodity groups and processing plants also have information on their respective feed ingredients.

Grains and forages are typically much less expensive in North Dakota than other regions of the country. Corn grain averages \$.50 to \$.75 per bushel lower in cash price at Carrington than in the High Plains feeding areas. Forage prices reported in North Dakota are often half the price of forages in other regions of the nation. Co-products tend to be priced closer to other regions of the country, but shipping increases the cost to livestock producers in the west or south.

### *Feeder Cattle*

North Dakota feeder cattle are in demand at commercial feedlots in the High Plains. Steers often have more marbling and grade higher than the national average of about 55 to 60% USDA Choice, with steers from some herds consistently grading 95% Choice. British-influence crossbred cattle account for a very high percentage of North Dakota feeder cattle. A major concern in developing a year-round supply of market beef is the high percentage of spring-born calves with subsequent high volume sales of weaned calves in October and November. However, more cow/calf producers are backgrounding their steers into January. Summer grazing of yearlings is still practiced with heavy feeders available in the fall for short feeding to market weight. Cull heifers are sold in late winter.

Co-mingling feeder cattle from smaller herds in the state is not a good management practice as disease exposure and resistance vary with ranch environment and vaccination programs. A thorough preventive maintenance vaccination and health care program is advised following Beef Quality Assurance guidelines.

### *Infrastructure*

Virtually all the infrastructure needs for feedlot operations are available in North Dakota. Water, roads, and electricity are fundamental to developing feeding enterprises and readily available throughout the state. Some areas of the state may be challenged to provide immediate veterinary services. There are adequate trucking firms, feed suppliers, farm equipment dealers including specialized feed processing, mixing and delivery equipment, livestock auction barns, and contractors for construction of feedyards. Professional engineers are available for designing facilities and contractors for construction. Some of the larger feedyards use the services of professional nutritionists and feed companies may provide information to feeders on ration formulation and feedyard management.

Some lending agencies are more familiar and supportive of livestock enterprises than others. Feedyards should provide a solid business plan with documented information to their lenders.

There are a number of supporting organizations for feedyard development and operations throughout the state. These include many rural communities with economic development programs, North Dakota Department of Health for permit information, North Dakota Department of Commerce for zoning information, North Dakota Stockmen's Association environmental program and Feeder Council, and North Dakota State University with animal science and nutrient management research and extension programs.

### *Weather*

The idea of "winter" seems to be challenging and limits some from recognizing the opportunity for feeding cattle in North Dakota. Certainly, there are challenges to operating a feedyard in the cold, wind, and snow. Planning and preparation with appropriate facilities and equipment are important to managing winter weather. Shelterbelts for catching snow, feed storage and access, water fountains, and snow removal all affect winter operations. A detailed analysis would be useful to assess the effects

of feeding animals in the cold vs. warmer but potentially wet and muddy conditions farther south. British-crossbred cattle adapt to cold to some degree even though cold temperatures increase maintenance energy requirements. Winter weather can be mitigated by providing wind protection and in some cases bedding animals. Dry, bedded pens have been proven to improve gains and efficiency with a net advantage to bedding reported as high as \$80 per head from improved performance and increased carcass grade and value. Bedding animals also sequesters up to three times more nitrogen in the manure, increasing the fertilizer value by creating an optimum carbon-nitrogen ratio. The logistics of bedding can be challenging in large feedyards. Some yards box scrape pens on a regular basis to provide snow-free dirt pads for animals.

### *Land*

Land costs in North Dakota are lower than virtually any state in the nation. Site selection for a livestock enterprise needs to consider water source and water table proximity, wind direction, proximity to towns or neighbors, durability of roads, rainfall, soil type, slope, feed sources, land to spread manure, and employee access. Information to assist in site selection is available from the North Dakota Stockmen's Association environmental program director or from NDSU nutrient management specialists.

### *Market Opportunities*

A number of auction markets operate throughout North Dakota where feeder cattle are offered for sale. The supply of feeder cattle is highly variable during the year based on marketing spring-born calves at weaning in the fall and into mid-winter. Spring and summer market volume is low.

Terminal markets for fed cattle include large commercial packing houses (Tyson, Cargill, etc.), local butcher shops, and some auction markets. New terminal markets have been attempted in North Dakota and some international business entities are working on plans for a new packing plant at this writing. The large commercial packing houses are located several hundred miles to the south, requiring significant expense to ship fat cattle to market.

### *Labor*

People raised in North Dakota generally have a good work ethic. Some are gifted with husbandry skills and instinctively know how to "read" cattle and provide appropriate feed, management, and care for optimum performance. Labor for feedlot operations, including pen riders, truck drivers, maintenance people, and cattle processing crews can sometimes be challenging.

### *Challenges*

In some areas, crop producers do not have appropriate appreciation for the value of manure as a fertilizer. It is important to capture income from every aspect of livestock production that has real value. This point is evidence that North Dakota has lost some of its livestock "culture" or appreciation for the intergration of crops and livestock production. Although many young people have expressed interest in developing livestock enterprises, besides simply being interested in livestock production, the acceptance of risk and the annual cycle of the farm business must be accepted and managed. Knowing how to manage commodity price risk through market positions, futures, options and other instruments can increase the odds of approved credit lines from lenders, although some lending agencies are not livestock savvy or have had less than positive experiences with some livestock enterprises. New or expanding livestock producers need a good business plan that identifies all the positive aspects of an enterprise and accounts for all the challenges and risks in a business-like manner.

### **Summary**

All of the resources for feeding cattle in North Dakota are present. People with the passion, business skills, and resources can succeed in this enterprise as there are a number of successful commercial feedyards in North Dakota that serve as examples. The owners, managers, and operators of these yards have been open and instructive in describing their operations. There are a number of education programs to help new and existing livestock producers gain knowledge and more carefully define their

enterprises. These include site visits by North Dakota Stockmen's Association environmental programs director, North Dakota Stockmen's Association feedlot intern programs, NDSU Feedlot Schools and producer feeder calf finishing projects, North Dakota Farm Business Management Program records analysis, NRCS and North Dakota Stockmen's Association facilities grant programs, assistance from the North Dakota Department of Agriculture and the North Dakota Department of Commerce, local economic development organizations, and individual assistance from a wide variety of people in the industry.

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