FEASIBILITY REPORT FOR NORTH CENTRAL CATTLE FEEDERS COOPERATIVE

Phase One

prepared for
North Central Cattle Feeders Cooperative
Minot Magic Fund, Inc.
ND Ag Products Utilization Commission
North Central Electric Cooperative
Bottineau EDC
Souris Basin Planning Council

Systems Research and Development, Ltd.

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Introduction

Because of an inability to obtain financing many cattlemen in North Dakota are forced to liquidate their calves following weaning. Also, some ranchers have feed resources which they are unable to utilize efficiently because of lending limits imposed by creditors. Many times, these limits are designed by the calendar year rather than the production cycle of the beef animal. Feeder calf cooperatives have been formed in Canadian provinces which improve the cattlemen's access to capital. The objectives of this report are as follows:

1) Analyze backgrounding operations currently operating in U.S. and Canada
   A) Current sources of feeder cattle
   B) Existing markets for feeder cattle
   C) Historical trends and 10 year price projections to estimate profitability

2) Analyze existing financial structures and lending requirements

3) Proposed cash flow with and without backgrounding to determine impact of backgrounding

4) Investigate if existence of Coop would increase access to capital

Canadian Feeder Calf Associations

Canadian Feeder Calf Association representatives in Manitoba, Saskatchewan, and Alberta were contacted to determine how the cooperatives worked in their provinces, the number and size of their cooperatives, the length of time they have been in operation, and the success of the Canadian program. In the discussion, the terms association and cooperative are used interchangeable, as all associations are incorporated cooperatives. Following is a summary of their answers.

Manitoba

Manitoba is in their first year for operating feeder calf associations. Currently, they have 4 operating cooperatives, with 7 more in various stages of incorporation. They expect 10-14 more to come into existence next year. In Manitoba, at least 15 members are required to form a cooperative. There is a $3 million maximum loan per cooperative. One existing association has 32 members while the others have 20-25 members in each. Loan limits begin at $25,000 the first year of feeding in the cooperative and grow to a $100,000 limit in the fifth year. To date, there have been no problems with operation of the cooperatives.

Alberta

Feeder calf associations have been operating in Alberta for more than 50 years. There 61 active associations with an average of 100 members and $4 million in activity annually. The largest has $12 million annual activity. The 25 percent provincial guarantee has not been used in over 10 years. The five percent farmer assurance fund is used about 10 percent of the time, but some larger cooperatives have not touched this fund for years. In Alberta, a farmer who has been an active feeder within the association for five years has a maximum credit limit of $100,000.

Each association is incorporated as a cooperative, and governed by a board of directors with a permanent supervisor and secretary. The only problems that have occurred in their feeder calf cooperatives is when there has been outright fraud or negligence on the part of the board or supervisor. The representative stressed the necessity of hiring a supervisor that has no vested interest in the cooperative such as a livestock dealer or sales barn operator.

Saskatchewan

The Saskatchewan feeder calf cooperatives are different from the other provinces. Legislation by the provincial legislature authorizes formation of production associations which include feeder calf associations. The provincial government extends a 25 percent line of credit to producers through the association. The associations act as a trustee on behalf of the members and borrows money from the bank. There are 105 active associations in

Saskatchewan, 80 percent of which are combination breeder and feeder associations (two associations in one). The remaining 20 percent are feeder calf associations. The associations have been running since 1984, have nearly $30 million out on loan, and have never had to touch the government guarantee. The five percent guarantee fund has been used less than ten times in the Saskatchewan feeder calf associations.

As in the other provinces, the amount of money extended to each feeder depends on the number of years of active membership in the association. In the feeder association, the limit starts at $25,000 and increases to $100,000 after five years of active feeding within the association. The breeder associations begin at $25,000 and have a $50,000 limit that is attained following five years active membership in the association. The breeder associations require a 10 percent assurance deposit, where their feeder association deposit is 5 percent of the loan value.

Feeder Cattle Sources

There are two main sources of feeder cattle to producers located in northern North Dakota. The first source is feeders raised within the area. The second source is cattle imported from Canada (Saskatchewan or Manitoba). There were an estimated 643 thousand feeder cattle produced in North Dakota during 1990 (Table 1). Of these, approximately 50 percent are sold outside the state at weaning (Petry, 1992). Along the northern tier of counties in North Dakota, approximately 132 thousand feeder cattle were produced in 1990. In-shipments from outside North Dakota amounted to 135 thousand head (North Dakota Agriculutural Statistics, 1991).

If 50 percent of calves, currently sold outside the state, are sold because of a lack of financing, then it seems plausible that an additional 167 thousand calves could be kept in the state to be backgrounded. At a projected price of $92.31/cwt in March, 1993, the additional backgrounded calves would generate an additional $230.78/steer in gross sales (assuming the backgrounded calf gains 250 pounds). The gross receipts sales multiplier for North Dakota is 4.49 (Coon, et al, 1989). This means each steer backgrounded within the state would generate an additional $1,036 in economic activity within the state of North Dakota.

Canadian exports into North Dakota represent another potential source of feeder cattle for North Dakota Producers. Although no statistics were found estimating the number of feeder calves exported from Canada into North Dakota, most beef animals from Canada into the U. S. are finished animals (Table 2).

TABLE 1. ESTIMATED NUMBER OF FEEDER CATTLE AVAILABLE TO BACKGROUND, JANUARY 1991

	Total cattle	Cows and heifers that have calved	Feeder Cattle[a]	Potential to Background[b]
Northcentral				
Benson	26,500	14,965	10,026	5,013
Bottineau	16,000	9,035	6,054	3,027
McHenry	66,000	37,271	24,971	12,486
Pierce	30,000	16,941	11,351	5,675
Rolette	21,500	12,141	8,135	4,067
Total	160,000	90,353	60,536	30,268
Northeast				
Cavalier	7,800	4,405	2,951	1,476
Grand Forks	8,000	4,518	3,027	1,513
Nelson	12,500	7,059	4,729	2,365
Pembina	8,500	4,800	3,216	1,608
Ramsey	7,500	4,235	2,838	1,419
Towner	7,500	4,235	2,838	1,419
Walsh	13,200	7,454	4,994	2,497
Total	65,000	36,706	24,593	12,296
Northwest				
Burke	11,000	6,212	4,162	2,081
Divide	12,000	7,624	5,108	2,554
Mountrail	28,000	18,918	12,675	6,337
Renville	8,000	3,953	2,648	1,324
Ward	40,000	24,847	16,648	8,324
Williams	26,000	14,682	9,837	4,919
Total	125,000	76,235	51,078	25,539
Eastcentral				
Barnes	24,000	13,271	8,891	4,446
Cass	22,000	12,424	8,324	4,162
Griggs	15,000	847s	568	284
Steele	6,000	3,388	2,270	1,135
Traill	3,000	1,694	1,135	568
Total	70,000	31,624	21,188	10,594

CONTINUED

TABLE 1. CONTINUED

	Total cattle	Cows and heifers that have calved	Feeder Cattle[a]	Potential to Background[b]
Central				
Eddy	20,000	11,294	7,567	3,784
Foster	19,000	10,729	7,189	3,594
Kidder	74,500	42,071	28,187	14,094
Sheridan	25,000	14,118	9,459	4,729
Stutsman	54,000	30,494	20,431	10,216
Wells	27,500	15,529	10,405	5,202
Total	220,000	124,235	83,238	41,619
Westcentral				
Dunn	77,000	43,482	29,133	14,567
McKenzie	75,000	42,353	28,376	14,188
McLean	40,000	22,588	15,134	7,567
Mercer	40,000	22,588	15,134	7,567
Oliver	28,000	15,812	10,594	5,297
Total	260,000	146,824	98,372	49,186
Statewide	1,700,000	960,000	643,200	321,600

SOURCE: North Dakota Agricultural Statistics Service, 1991.
[a]Feeder cattle inventory estimated as 67 percent of cows that have calved.
[b]Assuming 50 percent of all weaned calves are currently marketed outside the state.

TABLE 2. IN-SHIPMENTS OF FEEDER AND SLAUGHTER CATTLE FROM CANADA TO UNITED STATES, 1970-1990

Year	<200 Lbs.	200-699 Lbs.	>699 Lbs.
1970	123,458	17,122	30,367
1971	126,211	30,222	24,278
1972	130,770	69,637	27,443
1973	128,418	147,754	54,168
1974	74,138	17,787	19,341
1975	9,553	30,745	143,092
1976	115,045	70,104	263,007
1977	129,105	146,496	251,919
1978	142,525	79,068	203,163
1979	143,935	53,729	136,282
1980	131,498	54,570	148,489
1981	144,769	50,012	130,160
1982	158,231	97,307	223,275
1983	87,587	27,992	221,066
1984	77,700	17,687	254,999
1985	25,776	107,201	20,644
1986	17,837	20,024	193,415
1987	25,281	13,997	228,176
1988	32,431	37,007	442,592
1989	39,890	60,833	472,685
1990	42,553	158,368	653,547

SOURCE: Krause, 1992

Existing Markets

North Dakota livestock producers are fortunate to have access to excellent livestock marketing facilities throughout the state. Currently, 19 public markets operate on a weekly basis, with feeder cattle being their number one saleable receipt. Two markets operate in Bismarck-Mandan, Dickinson, and Minot; with one market operating in each of 13 other locations throughout the cattle raising regions in North Dakota. In addition, several markets located in adjoining states are also available (i.e. Sidney, Montana; Winger, Minnesota; Aberdeen, Faith, Lemmon, and Sisseton, South Dakota). There is also limited direct selling to buyers who represent feedlots, but this activity is usually more prevalent in areas with larger operations whose sole activity is cattle production.

Profitability

A complete cattle cycle with increases and decreases in cattle numbers lasts an average of 10 years. Peaks in cattle numbers occurred in 1890, 1904, 1918, 1934, 1945, 1955, 1965, 1975, and 1983. The last four out of five cycles have peaked in the middle of each decade (Hasbargen, et al., 1983).

While no two have been identical, past cattle cycles can be divided into three phases: expansion, liquidation, and transition. During the expansion phase, producers retain more replacement heifers and cull fewer cows than normal. As a result, cattle inventories increase while the number of slaughter animals decreases. Demand for beef is high, relative to supply, due to the decreased slaughter. As a result, prices are driven up, and returns to producers are high. An expansion phase lasts several years, then as supplies increase, prices begin to drop, first for slaughter then for feeder animals. These price decreases are usually substantial and result in large losses to some producers. Cow-calf producers now begin culling more heavily to reduce herd size. This marks the end of the expansion phase and the beginning of the liquidation phase (Craven and Hasbargen, 1984).

Cattle prices and producers' returns are low in the liquidation phase. Cattle inventory increases decline rapidly and are followed by a period of inventory reductions. Slaughter is high relative to cattle inventories. Large beef supplies, which keep prices depressed, stimulate producers to cull more heavily and retain fewer heifers. After several years, beef supplies decrease, prices recover, and the transition phase begins (Craven and Hasbargen, 1984).

The cattle industry returns to normal during the transition phase. Inventories stabilize, then increase at a normal pace. Slaughter relative to inventories is normal. Cattle prices and returns are average. Eventually, increases in demand for beef will exceed increases in supply and will drive prices up. This stimulates producers to increase herd size. Thus, the cycle is completed, and producers move again into the expansion phase (Craven and Hasbargen, 1984).

The existence of the cattle cycle is based on several characteristics of the beef industry. First is the profit motive, next the biological process of beef production, and finally the market place determines the price based on supply and demand at any one point in time. These factors make it desirable to look at the profitability of the beef industry over an extended period of time. This will allow for more realistic comparisons on the profitability of selling calves at weaning versus retaining ownership and marketing the calves as backgrounded cattle.

According to Ikerd (1979), the real key to understanding the cattle cycle is the cyclical nature of profits. Profits, more than anything else, spur expansion and liquidation within the cattle industry. This is especially true for cow-calf operators, who represent the starting point in the production process.

The first year of our study, 1958, was the first of several generally profitable years in the cattle industry. This period followed an unprofitable stretch of years that coincided with the peak in cattle numbers that occurred in 1955. By the early 1960s cattle inventories had been built up, driving prices down, and resulting in losses near the middle of that decade.

The cattle industry was generally profitable throughout the latter part of the 1960s and the 1970s. This made the industry attractive. Many operators expanded their enterprises, while others started new ones. The rapid expansion continued until cattle inventories peaked in 1975. The overabundant cattle supply resulted in sharp drops in prices and operators' profits throughout the mid-1970s. Cattle inventories were reduced by the end of the decade and prices rose. The profitability of the cattle industry at the end of the 1970s encouraged producers to expand their herds.

Cattle inventories increased steadily during the early 1980s. The cattle industry has been, for the most part, unprofitable during this period, especially for cow-calf operators. Higher feed prices in 1981, resulting from a drought in 1980, higher interest rates, as well as an abundant supply of substitutable meats, and a shift in consumer preferences away from red meat have all contributed to the losses experienced throughout the early 1980s. The cattle cycle is currently nearing the end of an expansion phase. As such prices will begin to decline in the next one to three years.

Profits in all segments of the cattle industry, like in all other agricultural enterprises, are contingent on production costs in addition to market prices, In this study budgets reflecting the costs of production for the traditional cow-calf and cow-calf backgrounding enterprises were constructed at 1992 price levels (Appendix A). Production coefficients used in developing the budgets are presented in Appendix B.

The production cost components were adjusted to reflect actual prices from 1958 to 1991 using indices of prices paid by farmers (Appendix C). Per cow production costs are divided by the hundredweights (cwt) of expected output to derive an estimate of a break even price that would cover all costs using this equation:

$$BE = (CC_t + WB_t)/EO$$

Where:

- BE = Break even price per cwt produced
- CC_t = Cow-calf production costs in year t
- WB_t = Winter feeding production costs in year t
  WBt=(.45 X steer winter production costs + .27 X heifer winter production costs)
- EO = Expected output per cow
  EO = (.45 X expected steer selling weight + .27 X expected heifer selling weight + revenue from cull cows and heifers)

The percentages used to adjust the steer and heifer production costs and expected

selling weights reflect the percentage of steers and heifers sold per cow in the herd. It was assumed that a 100 cow herd would sell 45 head of steers (half of the 90 percent calf crop) and 27 heifers (half of the 90 percent calf crop minus 18 percent retention rate). Production costs of winter feeding were included only when applicable. For example, if a calf was sold at weaning, then all production costs terms would equal zero except the cow-calf production costs.

The break-even price was subtracted from an adjusted market price to derive an estimate of profit per cwt. The adjusted market price was equal to 63 percent of the steer price [.45/(.45+.27)] plus 37 percent of the heifer price [.27/(.45+.27)], which reflects the combination of steers and heifers that are sold per cow (Appendix D). Profit per cwt was multiplied by the cwt of expected output per cow to yield an estimate of the profit per cow.

The profitability measured as dollars per cow of the various systems is presented in Table 3. The cow-calf operation was profitable in 18 of the 34 years evaluated. Returns averaged -$4.91/cow when calves were marketed at weaning over the period. Backgrounding was more profitable 22 years out of 34 and average profits were $6.48/head.

The potential benefits of backgrounding are presented in figures 1 through 6. Profit per cow in the traditional cow-calf operation in one year should be compared with profit per cow in the backgrounding alternative. Cow-calf producers could realize improved profitability by backgrounding the calves in most years.

The projected profitability of the traditional cow-calf and cow-calf backgrounding was forcasted based on FAPRI price projections for feeder calves and cull cows from 1992 to 2001. Backgrounding will be much more profitable than selling the calf at weaning from 1992 through 2001. Average profit for selling the calf at weaning is projected at -$40.83 per head while the average for backgrounding is $27.88 (Table 4)

TABLE 3. HISTORICAL PROFITABILITY OF TRADITIONAL COW-CALF (SELLING CALF AT WEANING) AND COW-CALF BACKGROUNDING, 1958-1991

Years	Profit Sell at weaning/cow	Profit Backgrounding/cow
1958	$35.12	$31.51
1959	$18.01	$14.60
1960	$12.50	$9.99
1961	$16.87	$13.31
1962	$19.82	$7.86
1963	$2.02	($5.86)
1964	($9.91)	($13.80)
1965	$4.76	1.03
1966	$8.09	($15.75)
1967	$9.02	($1.55)
1968	$14.77	$3.20
1969	$19.97	$14.47
1970	$27.72	$19.65
1971	$46.83	$5.60
1972	$77.50	$15.97
1973	$24.49	$35.06
1974	($78.56)	($52.06)
1975	($55.62)	($15.14)
1976	($40.56)	$20.19
1977	$3.76	($4.69)
1978	$74.31	$42.21
1979	$63.68	$86.36
1980	($15.05)	($53.68)
1981	($80.60)	($46.70)
1982	($59.58)	($2.48)
1983	($51.64)	$5.85
1984	($55.40)	$1.19
1985	($20.27)	$8.47
1986	($56.25)	($13.44)
1987	($0.94)	$36.32
1988	($32.51)	$16.72
1989	($55.99)	($12.96)
1990	($28.41)	$9.04
1991	($23.65)	$28.18
Average	($4.91)	$6.48

TABLE 4. PROJECTED PROFIT OF TRADITIONAL COW-CALF (SELLING CALF AT WEANING) AND COW-CALF BACKGROUNDING, 1992-2001

Years	Profit Sell at weaning/cow	Profit Backgrounding/cow
1992	($44.40)	$7.13
1993	($33.29)	$47.31
1994	($52.27)	($7.55)
1995	($61.71)	$ 3.96
1996	($59.07)	$16.28
1997	($47.94)	$36.24
1998	($41.29)	$33.87
1999	($28.15)	$52.29
2000	($16.00)	$59.54
2001	($24.17)	$29.68
Average	($40.83)	$27.88

A cash flow analysis was calculated to estimate the impact of backgrounding the 1992 calf crop. Backgrounding a calf for 150 days would increase revenue per cow from $372.91 to $575.02. Cash expenses required to background the cattle would be $54.38/head. This results in a return to feed, overhead and depreciation, and owner labor and management of $143.73/head (Table 5).

TABLE 5. CASH FLOW IMPACTS OF SELLING 1992 CALF AT WEANING VERSUS BACKGROUNING

$575.02	Total revenue per cow - backgrounding
$372.91	Total revenue per cow - selling at weaning
$54.38	Cash expenses for backgrounding per cow
$147.73	Net cash flow of backgrounding[a]

NOTE: Assumes October heifer price is $86.28/cwt, steer is $94.28 and March heifer price is $84.31/cwt, steer is $92.31/cwt.

[a]Net cash flow is return to feed, labor, overhead, and owner management

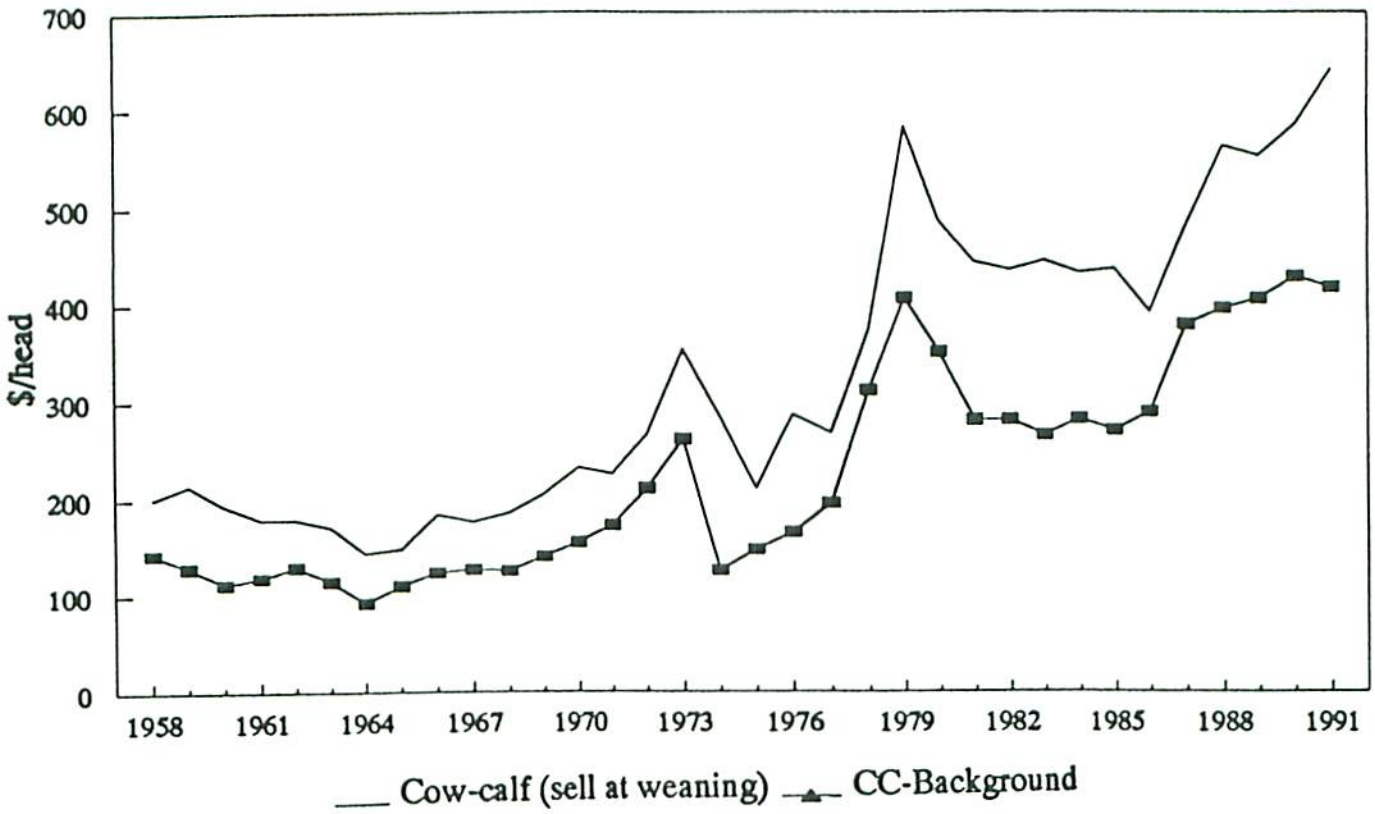

Figure 1. Total Revenue for 400 Pound Steer in Fall Versus 675 Pound Steer in Spring

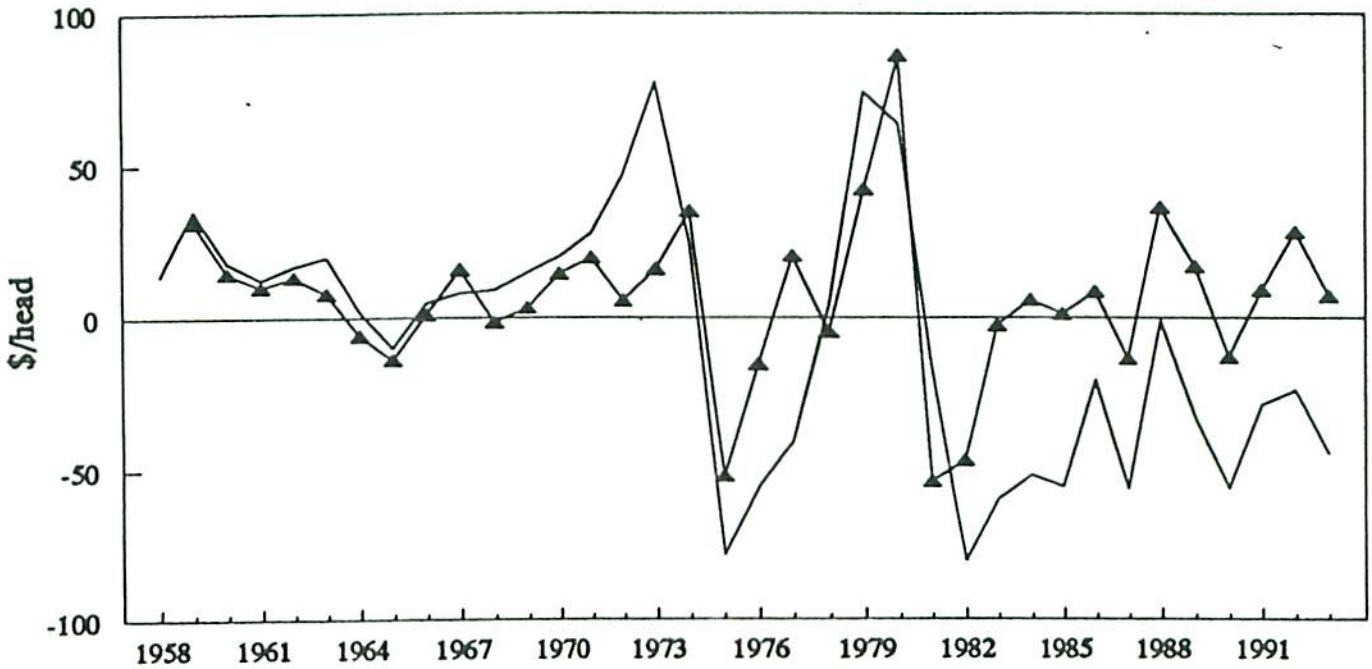

Figure 2. Historical Profitability of Backgrounding Versus Traditional Cow-calf, 1958-91

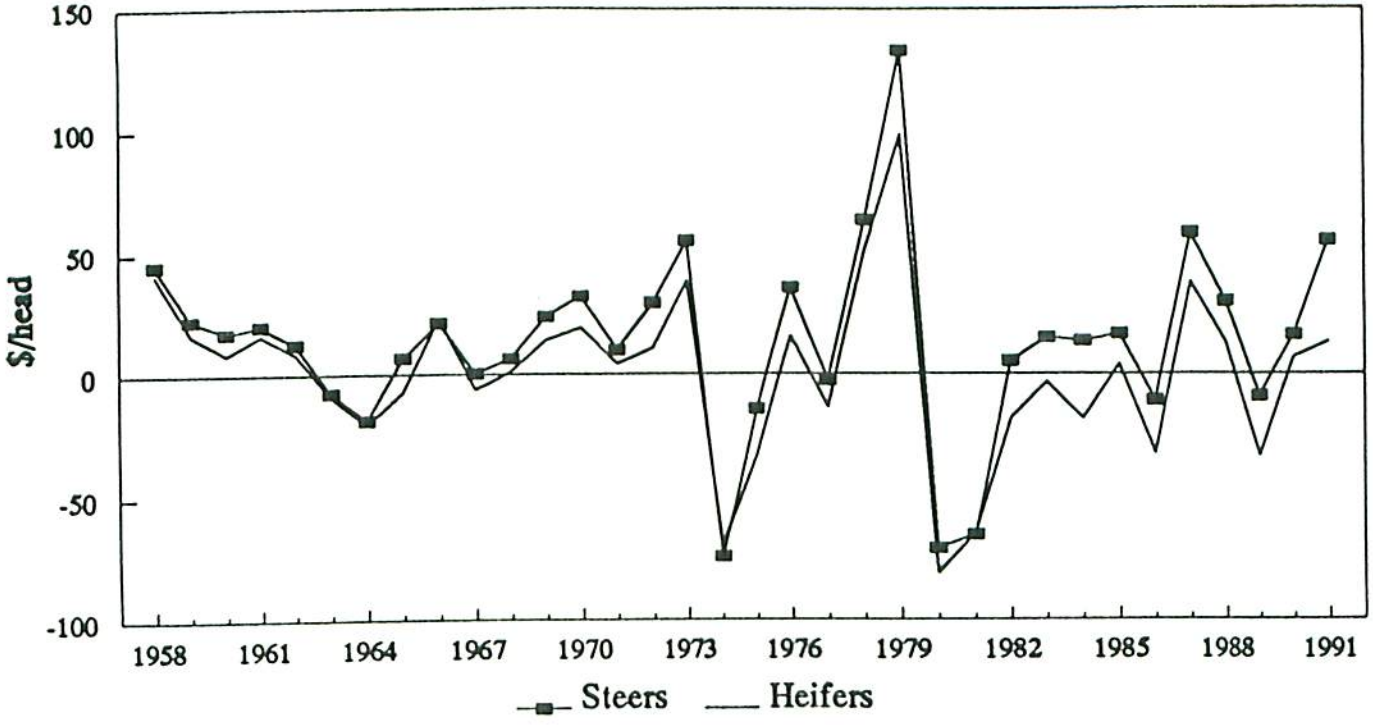

Figure 3. Profitability of Backgrounding Steers Versus Heifers, 1958-90

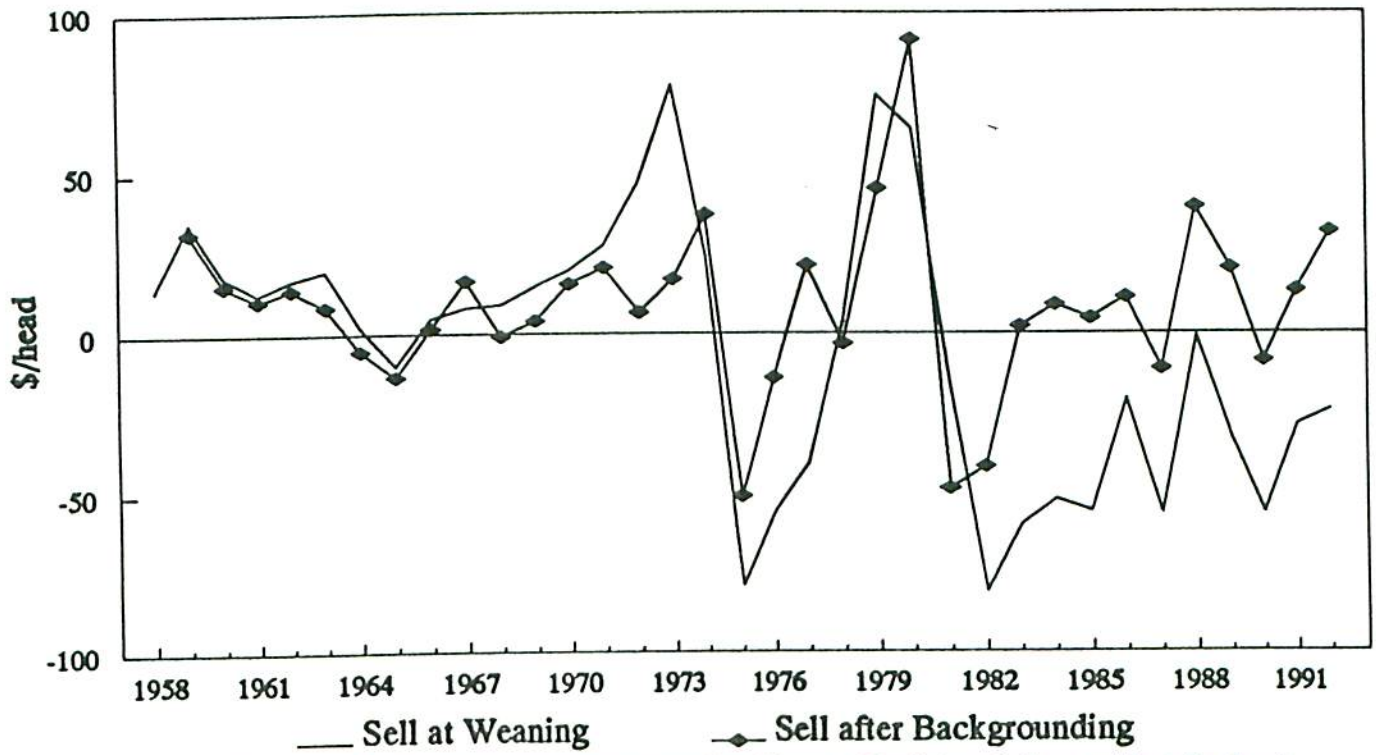

Figure 4. Historical Profitability of Backgrounding Versus Traditional Cow-calf at Bank of Cooperative Lending Rate, 1958-90

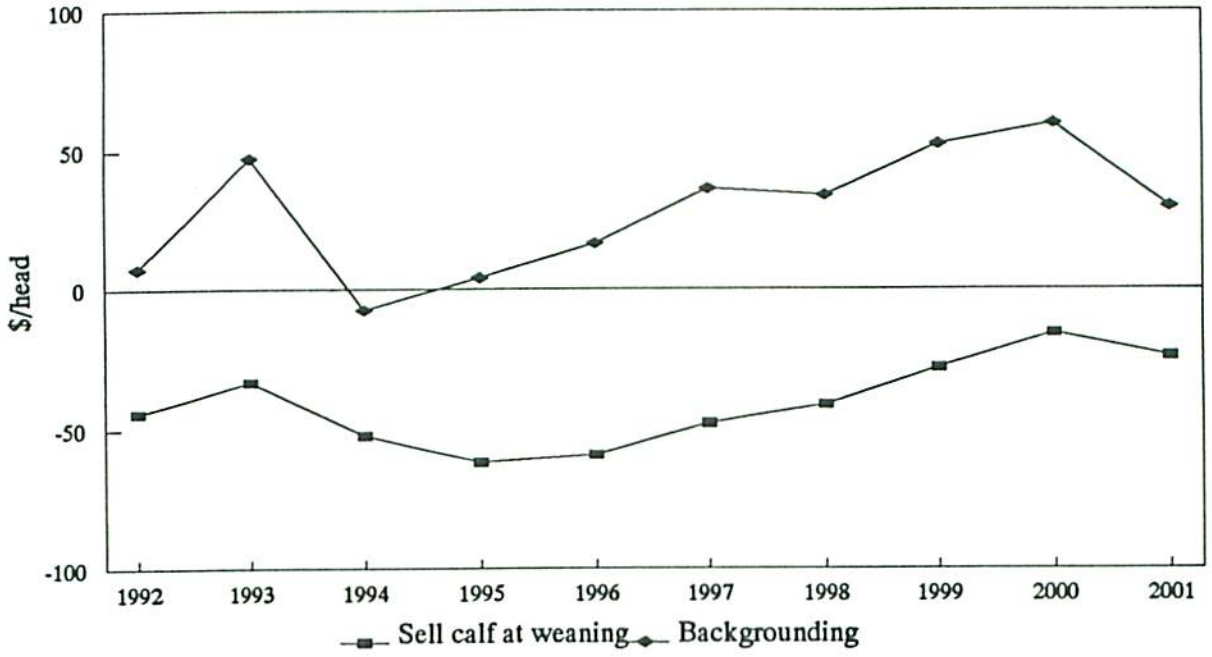

Figure 5. Projected Profitability of Backgrounding Versus Traditional Cow-calf, 1992-2001

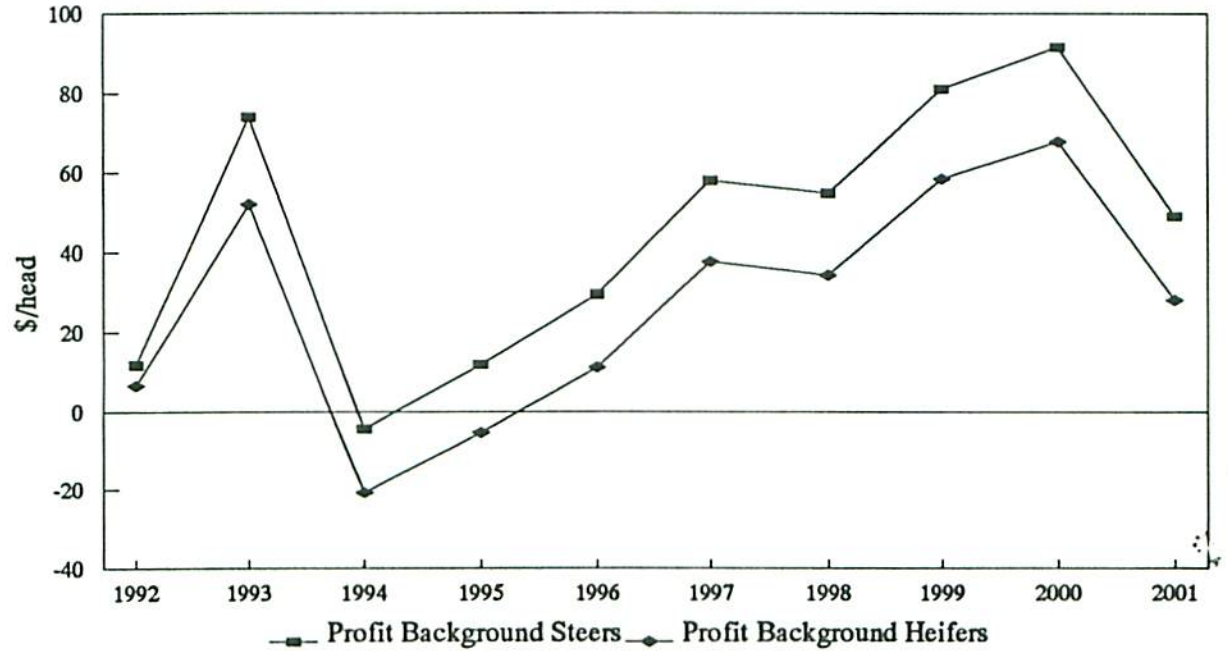

Figure 6. Projected Profitability of Backgrounding Steers and Heifers, 1992-2001

Analysis of Financial Institutions

Local banks, traditional lending agencies, and some less traditional lending agencies were contacted to get their opionions on creadit availability for a feeder calf cooperative association. The concept of a feeder calf cooperative was explained to them. Their reactions to the concept were positive in most cases, but all felt some form of a guarantee is required. In the Canadian program, each association borrows 100 percent of the loan from a provincial bank, the feeder provides a five percent assurance deposit, and the provincial government either through producer programs or provincial legislation, provides a 25 percent guarantee. The United States' banking system is similar to the Canadian banking system. U.S. federal and state governments guarantee loans when mandated through legislative action, as in Canada. No such guarantee program exists at this time for a feeder cooperative at the federal or North Dakota level. Loan guarantees for rural utility cooperatives are legislated at the federal level, while several state legislated guarantee programs are administered through the Bank of North Dakota. Rural electric, telephone, and water cooperatives fall under a federal mandate and the North Dakota Beginning Farmer program, Project Sheep, and Project Pigs are state legislated guarantee programs. Reactions, interest rates, equity requirements, and contact persons for each agency follow.

Local Banks

Minot banks, overall, were receptive to the feeder calf cooperative concept as a whole. Prospective interest rates ranged from 9.5 to 10.2 percent. Although they would be dealing with a cooperative, they said the strength of the cooperative lies in the financial strength of the members, and as such, they would require financial statements from all members. One bank, requires statements for three previous years. All indicated they would not accept any highly leveraged individuals. As with all of the lenders contacted, the banks would require a first mortgage on the feeder cattle. The lending limit for each bank was high enough to accommodate the feeder calf cooperative.

Farmers Home Administration

The Farmers Home Administration (FHA) works with local lenders thus, all rules of the local lender apply. FHA will guarantee up to 90 percent of a maximum $400,000 loan. They treat a cooperative, partnership, corporation, or individual borrower as a single entity. Therefore, the maximum loan which they will guarantee would not be sufficient for this project. The financial position of each feeder will be reviewed for loan approval. On an individual producer basis, since each feeder is reviewed for credit worthiness, there is no advantage to forming a cooperative.

Farm Credit Services

Farm Credit Services (FCS) is interested in working with a feeder calf cooperative. Farm Credit Services is a farmer-owned cooperative. Participants join to procure funds collectively from investors. A statutes require the borrower to purchase stock in the Federal Land Bank Association equal to at least 5 percent of the amount borrowed. FCS will work with each producer through a cooperative, and requires individual financial statements. Their interest rates are competitive with financial industry rates. When dealing with FCS, there appears to be no advantage in the cooperative formation.

Bank of North Dakota

The Bank of North Dakota does not guarantee loans unless mandated by legislative process. They cooperate with local banks to finance this type of venture usually on a 70/30 basis, local bank to Bank of ND. They offer a break in interest rate for cooperatives. Their short term loans are at 7 percent and long term loans are at 8 percent.

AG PACE

AG PACE, a program administered through the Bank of North Dakota, specializes in non-agricultural, on-farm businesses financed by the farmer. This program will also lend capital to non-traditional agribusinesses; however, it primarily was created to lend capital to directly increase rural employment.

North Dakota Future Fund

The North Dakota Future Fund is also a jobs creation program. Their loan limit is $300,000 or about $10-15,000 per job created. They do not usually fund production agriculture. Also, the Future Fund expenditure for the Minot area is nearly expended.

St. Paul Bank of Cooperatives

The St. Paul Bank of Cooperatives would consider a loan of 70-100 percent of necessary capital after reviewing profit/loss projections for the cooperative, financial position of cooperative, articles of incorporation, by-laws of the cooperative, and an explanation of the project. The Bank of Cooperatives would prefer a guarante by the state of North Dakota. However, if the cooperative is formed to raise capital, there may be problems obtaining the risk capital or guarantee. A cooperative has to have equity capital to begin. If someone would be willing to invest 25 percent of the necessary capital in the cooperative as preferred stock, the Bank of Cooperatives would be more likely to lend to this cooperative.

American Credit Indemnity Insurance

American Credit Indemnity, Lombard, Illinois, was contacted regarding loan guarantee insurance. This company insures accounts receivable, where one company selling to another insures the account receivable. When presented with the feeder cooperative concept, he indicated two things. One, his underwriters would be probably not be willing to underwrite this type of project because their underwriters are skeptical of farming projects. Second, he does not feel that this type of guarantee insurance, is what the banks are looking for.

Fin-Ag

Fin-Ag, a less traditional agricultural lending agency, was contacted for information on their lending program. They are a South Dakota corporation and a wholly owned subsidiary of Harvest States Cooperative of St. Paul, Minnesota. They are in business to develop and implement financing programs to satisfy the needs of patrons of Harvest States Cooperatives and at the same time generate business and margins for Harvest States, its operating divisions and affiliates.

Fin-Ag, whose current interest rate is approximately nine percent, is interested in cooperating in this project. They will work with the farmers through an incorporated cooperative structure. But, since the cooperative would not have the financial strength to guarantee the loans, they would make the loan to the feeder, through the cooperative, on an individual basis. They may loan 100 percent of the capital requirements provided certain qualifications are met. Fin-Ag requires an individual financial statement from each feeder, and will lend up to twice the net worth shown by the feeder. The feeder's feed supply and five percent feeder security deposit may be a sufficient equity contribution. The borrower must be of good character with no outstanding past due obligations. The feeder will also have to purchase some feed (supplement) from a Harvest States affiliated feed company. Fin-Ag would have a first mortgage on the cattle.

They like the cooperative concept with the five percent guarantee by the feeder and may be willing to negotiate the terms of a loan. With several years of positive results, Fin-Ag may be willing to lend directly with the cooperative in the future. Walt Wiseman, President of Fin-Ag, indicated would like to meet with the cooperative members to discuss their lending program.

North Dakota Association of Rural Electric Cooperatives

Rural electric cooperatives do not generally provide this type of loan guarantee for businesses. But, William Patrie, North Dakota Rural Electric Cooperatives, offered several suggestions for a feeder calf cooperative to provide their own guarantee or equity account. The feeder cooperative could sell preferred stock to raise the equity capital necessary to

reduce the risk that lenders may see over the five percent feeder provided assurance fund. This preferred stock may be sold to an individual or group of individuals, with the cooperative paying an annual interest dividend and purchasing the stock from the owners. A second option is where a local Rural Electric Cooperative would purchase the preferred stock, apply to REA through the zero interest loan program and receive the a loan at no interest. When the cooperative sells cattle, the cooperative would retain a percentage of sales to purchase the stock back from the REC. In this way, there is no interest dividend paid to the REC and the feeder calf cooperative would build its own equity account. After a 5-7 year repayment period, the feeder cooperative would have a very strong financial position from which to negotiate loans for future operation.

References

Coon, Randal C., F. Larry Leistritz, and Thor A. Hertsgaard. March 1989. North Dakota Economic Projection Model: Documentation and Users Guide, Version 2.0 Department of Agricultural Economics. Agricultural Experiment Station North Dakota State University, Fargo.

Craven, Robert H. and Paul R. Hasbargen. 1984. Production/Marketing Alternatives for Northern Minnesota Cow-Calf Producers. Item No. AD-SB-2208, Agricultural Experiment Station, University of Minnesota, St. Paul.

Economic Report of the President. 1992. Transmitted to the Congress February 1992 together with the Annual Report of the Council of Economic Advisers. United States Government Printing Office, Washington.

Food and Agricultural Policy Research Institute (FAPRI). Baseline 1992. Iowa State University and the University of Missouri-Columbia.

Hasbargen, Paul R.., Tommy Beale, John E. Ikerd, Douglas E. Murfield, and David C. Petritz. 1983. Cattle Cycles: How to Profit From Them. Miscellaneous Publication Number 1430, Extension Service, U.S. Department of Agriculture, Washington, D.C.

Ikerd, John E. April 1979. Integrated Risk Management for Beef Cattle Producers. Oklahoma State University, Agricultural Economics paper given at the Extension-Industry Long-Run Beef Outlook Seminar, Kansas City.

Krause, Kenneth R. June 1992. The Beef Cow-Calf Industry, 1964-87. United States Department of Agriculture, Economic Research Service, Rpt. No. 659,

North Dakota Agricultural Statistics Service. 1991. North Dakota Agricultural Statistics 1991. North Dakota State University, Fargo. United States Department of Agriculture, Washington DC.

Petry, Timothy A. August 10, 1992. Personal Communication. Associate Professor, Department of Agricultural Economics. North Dakota State University, Fargo.

United States Department of Agriculture. June 1992. Agricultural Prices: 1991 Summary. National Agricultural Statistics Service, Washington DC.

APPENDIX A
1992 COW-CALF AND COW-CALF BACKGROUNDING BUDGETS

TRADITIONAL COW-CALF AND COW-CALF BACKGROUNDING BUDGET, 1992

Traditional cow-calf

	Per cow
Feed expense	$148.20
Labor expense	44.73
Market expense	16.89
Operating expense	32.07
Operating interest	9.01
Livestock interest	51.55
Capital interest	7.50
Total expense	$309.95

Cow-calf backgrounding

	Per head
Feeder cost	$388.67
Feed expense	70.10
Labor expense	22.36
Operating expense	22.52
Marketing expense	11.26
Overhead expense	10.87
Interest on operating expense	2.36
Interest on feeders	15.97
Death loss	3.89
Total Adjusted Expenses	$575.65

APPENDIX B
PRODUCTION COEFFICIENTS FOR ECONOMIC ANALYSIS

COW-CALF SELLING AT WEANING AND BACKGROUNDING PRODUCTION COEFFICIENTS AND ASSUMPTIONS

Weaning weight-steer	425 pounds
Weaning weight-heifer	400 pounds
Cull heifer wt.	750 pounds
Cull cow wt.	1000 pounds
Cow replacement rate	16 percent
Cow death loss	1 percent
Heifer retention rate	18 percent
Calf crop	90 percent (45% steers + 45% heifers)
Cows per herd	100 head
Calf sold per cow	299.25 pounds

APPENDIX C
INDEXES OF PRICES, 1958-2001

FEED, LABOR PRODUCTION ITEM, LAND, MARKETING INDICES, AND INTEREST RATE USED TO DETERMINE PROFITABILITY OVER TIME, 1958-2001

Year	Feed Index	Labor Index	Production Item Index	Land Index	Marketing Index	Interest Rate
1958	0.37	0.20	0.30	0.30	0.26	3.83%
1959	0.37	0.21	0.30	0.31	0.26	4.75%
1960	0.36	0.22	0.30	0.31	0.27	4.50%
1961	0.36	0.22	0.30	0.31	0.27	4.50%
1962	0.37	0.23	0.30	0.31	0.27	4.50%
1963	0.38	0.24	0.31	0.31	0.28	4.50%
1964	0.38	0.24	0.30	0.30	0.28	4.50%
1965	0.38	0.25	0.31	0.31	0.28	5.00%
1966	0.40	0.27	0.32	0.31	0.30	5.75%
1967	0.40	0.30	0.32	0.32	0.30	5.71%
1968	0.37	0.32	0.32	0.34	0.31	6.38%
1969	0.38	0.35	0.34	0.36	0.33	7.67%
1970	0.40	0.38	0.35	0.36	0.34	7.30%
1971	0.42	0.40	0.37	0.39	0.36	5.67%
1972	0.42	0.42	0.39	0.42	0.38	5.32%
1973	0.63	0.46	0.47	0.47	0.43	8.23%
1974	0.77	0.53	0.54	0.57	0.49	9.99%
1975	0.74	0.57	0.59	0.65	0.54	8.27%
1976	0.76	0.62	0.62	0.68	0.58	6.81%
1977	0.74	0.67	0.64	0.73	0.61	7.13%
1978	0.72	0.71	0.70	0.79	0.66	9.78%
1979	0.81	0.78	0.80	0.86	0.75	13.78%
1980	0.91	0.84	0.89	0.93	0.84	15.92%
1981	0.99	0.91	0.95	0.97	0.91	18.50%
1982	0.90	0.96	0.98	0.98	0.96	16.08%
1983	0.99	0.99	0.98	1.00	0.98	10.83%
1984	1.00	1.00	1.00	1.00	1.00	12.04%
1985	0.86	1.02	0.97	0.99	0.99	9.93%
1986	0.80	1.06	0.93	0.99	0.97	8.33%
1987	0.76	1.10	0.94	0.94	0.99	9.21%
1988	0.95	1.13	0.99	0.99	1.00	9.32%
1989	1.01	1.23	1.04	1.04	1.07	10.87%
1990	0.95	1.26	1.07	1.07	1.10	10.01%
1991	0.91	1.33	1.09	1.09	1.13	8.46%
1992	0.91	1.33	1.09	1.09	1.13	10.00%
1993	0.91	1.33	1.09	1.09	1.13	10.00%

CONTINUED

FEED, LABOR PRODUCTION ITEM, LAND, MARKETING INDICES, AND INTEREST RATE USED TO DETERMINE PROFITABILITY OVER TIME, 1958-2001

Year	Feed Index	Labor Index	Item Index	Land Index	Production Marketing Index	Interest Rate
1994	0.91	1.33	1.09	1.09	1.13	10.00%
1995	0.91	1.33	1.09	1.09	1.13	10.00%
1996	0.91	1.33	1.09	1.09	1.13	10.00%
1997	0.91	1.33	1.09	1.09	1.13	10.00%
1998	0.91	1.33	1.09	1.09	1.13	10.00%
1999	0.91	1.33	1.09	1.09	1.13	10.00%
2000	0.91	1.33	1.09	1.09	1.13	10.00%
2001	0.91	1.33	1.09	1.09	1.13	10.00%

SOURCE: Agricultural Prices 1992, Economic Report of the President, 1992.

APPENDIX D
BEEF CATTLE PRICES USED, 1958-2001

BEEF COW, CULL HEIFER, FEEDER STEERS AND HEIFER PRICES FROM WEST FARGO, NORTH DAKOTA, 1958-1991

Years	cull cows	cull heifer 7-800#	steers 4-500#	steers 600-700#	heifer 4-500#	heifers 600-700#
	dollars/cwt					
1958	$18.57	$26.18	$33.73	$29.75	$30.13	$27.36
1959	$15.62	$26.84	$30.38	$31.70	$27.07	$29.26
1960	$14.25	$23.50	$26.27	$28.62	$22.77	$25.80
1961	$14.95	$23.37	$27.86	$26.52	$25.01	$24.38
1962	$15.33	$24.32	$30.49	$26.53	$26.43	$24.70
1963	$13.39	$22.02	$26.93	$25.37	$24.89	$23.03
1964	$11.74	$18.01	$21.65	$21.39	$19.80	$20.09
1965	$13.62	$20.93	$25.84	$22.00	$19.93	$19.10
1966	$16.53	$24.09	$29.13	$27.24	$26.20	$24.52
1967	$15.86	$24.01	$29.86	$26.23	$26.02	$23.87
1968	$16.68	$24.52	$29.59	$27.50	$25.96	$24.79
1969	$18.98	$28.05	$33.12	$30.36	$29.90	$27.30
1970	$19.83	$29.03	$36.54	$34.25	$32.44	$31.07
1971	$21.04	$33.21	$40.69	$33.36	$36.56	$30.59
1972	$25.29	$35.24	$49.46	$39.21	$44.04	$34.64
1973	$32.74	$45.43	$61.32	$52.29	$54.32	$47.64
1974	$20.30	$26.13	$29.66	$42.10	$26.10	$38.64
1975	$22.22	$31.88	$34.84	$31.18	$28.74	$26.51
1976	$22.99	$30.24	$38.96	$42.25	$32.16	$36.38
1977	$25.34	$35.12	$45.89	$39.52	$39.34	$34.26
1978	$41.10	$56.23	$73.10	$55.13	$66.32	$50.65
1979	$48.17	$68.42	$95.41	$86.10	$84.06	$78.91
1980	$47.30	$64.34	$82.38	$71.84	$72.63	$63.47
1981	$40.90	$56.94	$65.85	$65.64	$58.43	$60.16
1982	$39.62	$57.27	$65.92	$64.43	$58.70	$57.33
1983	$37.30	$51.48	$62.22	$65.88	$53.33	$59.84
1984	$36.84	$57.25	$66.03	$63.98	$57.08	$54.69
1985	$34.84	$52.51	$63.34	$64.55	$55.16	$58.36
1986	$37.11	$58.01	$67.75	$57.94	$60.51	$50.51
1987	$50.69	$68.55	$88.98	$71.15	$80.96	$65.32
1988	$53.19	$75.45	$92.99	$83.19	$85.43	$77.34
1989	$46.29	$77.29	$95.34	$81.73	$85.96	$74.62
1990	$53.62	$84.17	$100.64	$86.43	$93.06	$80.96
1991	$47.27	$82.64	$97.96	$94.87	$89.03	$85.78

SOURCE: PETRY, 1992

BEEF COW, CULL HEIFER, FEEDER STEERS AND HEIFER PRICES FROM FAPRI ADJUSTED TO NORTH DAKOTA 1992-2001

Years	cull cows	cull heifer 7-800#	steers 4-500#	steers 600-700#	heifer 4-500#	heifers 600-700#
	----------	----------	----------dollars/cwt----------	----------	----------	----------
1992	$51.55	$81.73	$91.45	$87.04	$85.65	$82.52
1993	$50.71	$87.00	$96.72	$92.31	$90.92	$87.79
1994	$47.32	$78.45	$88.17	$83.76	$82.37	$79.24
1995	$43.79	$75.37	$85.09	$80.68	$79.29	$76.16
1996	$44.43	$76.05	$85.77	$81.36	$79.97	$76.84
1997	$46.72	$80.86	$90.58	$86.17	$84.78	$81.65
1998	$48.71	$83.49	$93.21	$88.80	$87.41	$84.28
1999	$50.67	$89.24	$98.96	$94.55	$93.16	$90.03
2000	$53.19	$94.59	$104.31	$99.90	$98.51	$95.38
2001	$49.80	$91.56	$101.28	$96.87	$95.48	$92.35

SOURCE: FAPRI, 1992

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