Discovering performance and value in North Dakota Calves: 2025-2026 Dakota Feeder Calf Show Feedout

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The Dakota Feeder Calf Show is a feedout project in which North Dakota cattle producers identify cattle with superior growth and carcass characteristics. For the 2025-2026 feeding period, the average difference in profitability between consignments from the top five herds and the bottom five herds was $338.82 per head.

Summary

Dakota Feeder Calf Show feedout project provides North Dakota cattle producers with the actual value of their spring-born beef steer calves, comparisons among herds, and benchmark feeding and carcass performance measurements. Cattle consigned to the feedout project were delivered to the NDSU Carrington Research Extension Center Livestock Unit on Oct. 18, 2025. After a 263-day feeding period with 2.27% death loss, cattle averaged 1,450.2 pounds (shrunk harvest weight). Feed required per pound of gain was 8.6 (dry-matter basis). Overall pen average daily gain was 3.14 pounds. Feed cost per pound of gain was $0.782, and total cost per pound of gain was $1.080. Profit ranged from $333.94 per head for pen-of-three cattle with superior growth and carcass traits to $(283.33) per head. The variability among producers' herds remains substantial when considering the feeding and carcass value of spring-born calves.

Introduction

Although cattle prices are trending upward, cow-calf producers need to be competitive amid rising production costs and returns. By determining calf value through a feedout program, cow-calf producers can identify profitable genetics under common feedlot management. Substantial marketplace premiums are provided for calves that exhibit exceptional feedlot performance and produce high-quality carcasses.

Cost-effective feeding performance is needed to justify the expense of feeding cattle past weaning. Price premiums are provided for cattle producing highly marbled carcasses. Knowing production and carcass performance can lead to profitable decisions for ranchers raising North Dakota-born and fed calves.

This ongoing feedlot project provides cattle producers with an understanding of cattle feeding and variability of cattle raised in North Dakota.

Procedures

The Dakota Feeder Calf Show was developed for cattle producers willing to consign steer calves to a show and feedout project. The calves were received in groups of three or four on Oct. 18, 2025, at the Turtle Lake Weighing Station in Turtle Lake, North Dakota, for weighing, tagging, veterinary processing and display. The calves were evaluated for conformation and uniformity, with the judges providing a discussion to the owners at the beginning of the feedout. The number of cattle consigned was 132,104 of which competed in the pen-of-three contest.

The calves then were shipped to the NDSU Carrington Research Extension Center in Carrington, North Dakota, for feeding. Prior to shipment, calves were vaccinated, implanted with Synovex-S, dewormed and injected with a prophylactic long-acting antibiotic.

Calves were sorted and placed on a corn and distillers grains-based receiving diets. After an eight-week backgrounding period, the calves were transitioned to a 0.58 megacalorie of net energy for gain (Mcal NEg) per pound finishing diet. Cattle were weighed every 28 days, and updated performance reports were provided to the owners. Cattle were reimplanted with Synovex-Choice on Jan. 27, 2026.

The cattle were harvested on July 9, 2026 (129 head). The cattle were sold to Tyson Fresh Meats in Dakota City, Nebraska, on a grid basis, with

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premiums and discounts based on carcass quality and yield. Carcass data were collected after harvest.

Ranking in the pen-of-three competition was based on the best overall score. The overall score was determined by adding the index values for feedlot average daily gain (25% of score), marbling score (25% of score) and profit (25% of score) and subtracting index value for calculated yield grade (25% of score). The Dakota Feeder Calf Show provided awards and recognition for the top-ranking pen of steers.

Results and Discussion

Cattle consigned to the Dakota Feeder Calf Show feedout project averaged 591.1 pounds upon delivery to the NDSU Carrington Research Extension Center Livestock Unit on Oct. 18, 2026. After a 263-day feeding period, cattle averaged 1,450.2 pounds (at plant, shrunk weight). Three steers died during the feeding period.

Average daily feed intake per head was 41.5 pounds on an as-fed basis and 27.0 pounds on a dry-matter basis. Pounds of feed required per pound of gain were 13.23 on an as-fed basis and 8.60 pounds on a dry-matter basis.

The overall feed cost per pound of gain was $0.782. The overall yardage cost per pound of gain was $0.126. Bedding cost was $0.050 per pound of gain. The combined cost per pound of gain, including feed, yardage, veterinary, trucking and other expenses except interest, was $1.080.

Calves were priced by weight upon delivery to the feedlot. The pricing equation ($ per 100 pounds = (-0.52529621* initial calf weight, pounds) + 790.4614008) was determined by regression analysis of local livestock auction prices reported for the week before delivery.

Overall, the carcasses contained U.S. Department of Agriculture Quality Grades at 5.4% Prime, 80.6% Choice (including 32.6% Certified Angus Beef), and 14.0% Select. The USDA Yield Grades for carcasses were 3.1% YG1, 18.6% YG2, 41.8% YG3, 26.4% YG4, and 10.1% YG5.

Carcass value per 100 pounds (cwt) was calculated using the actual base carcass price plus premiums and discounts for each carcass. The grid price received for July 9, 2026, was $409.32 Choice YG3 base with premiums: Prime $15, CAB $6, YG1 $6.50 and YG2 $3; and discounts: Select minus $16, YG4 minus $16, YG5 minus $32 and carcasses heavier than 1,100 pounds minus $15 or lighter than 650 pounds minus $20.

Overall, the pen-of-three calves averaged 464.2 days of age and 1,483.3 pounds per head at slaughter (Table 1). The overall pen-of-three feedlot average daily gain was 3.33 pounds, while weight gain per day of age was 1.87 pounds. The overall pen-of-three marbling score was 512.4 (average choice, modest marbling).

Correlations between profit and average birth date, harvest weight, average daily gain, weight per day of age or marbling score are shown in Table 2. Average slaughter weight and average daily gain had higher correlations to profitability than average birth date, average weight per day of age, marbling score or yield grade.

The top-profit pen-of-three calves with superior genetics returned $333.94 per head, while the bottom pen-of-three calves returned a negative $283.33 per head. The profit of the five top-scoring pens of steers averaged $252.70 per head, while the profit of the bottom five scoring pens of steers averaged a negative $86.11 per head.

For the pen-of-three competition, average profit was $81.69 per head. The spread in profitability between the top and bottom five herds was $338.82 per head.

North Dakota calf value is improved with superior carcass and feedlot performance. Favorable average daily gains, weight per day of age, harvest weight and marbling score can be found in North Dakota beef herds. Higher profit per head was a result of superior feedlot weight gain and higher value carcass characteristics in 2026. Feedout projects continue to provide cattle producers with information on feedlot performance and individual animal differences, and discovering cattle value.

Table 1. Feeding performance — 2025-2026 Dakota Feeder Calf Show Feedout

Pen of three	Best Three Score Total	Average Birth Date	Average Weight per Day of Age, lbs	Average Harvest Weight, lbs.	Average Daily Gain, lbs.	Average Marbling Score[1]	Ave Calculated Yield Grade	Ave Feeding Profit or Loss/Head
1	2.744	23-Mar-25	1.93	1519.0	3.46	605.7	3.66	$303.52
2	2.704	12-Apr-25	1.88	1527.7	3.24	656.0	4.14	$333.94
3	2.471	20-Mar-25	1.94	1553.6	3.50	467.3	3.58	$284.48
4	2.383	4-May-25	2.21	1520.9	3.61	449.7	3.36	$193.24
5	2.292	18-Feb-25	1.83	1575.3	3.51	575.7	4.29	$148.34
Average Top 5 herds	**2.519**	**28-Mar-25**	**1.96**	**1539.3**	**3.46**	**550.9**	**3.81**	**$252.70**
6	2.251	27-Apr-25	1.97	1477.5	3.27	409.0	3.01	$169.58
7	2.233	18-Mar-25	2.00	1628.4	3.63	517.7	4.82	$244.75
8	2.213	31-Mar-25	1.91	1469.7	3.37	432.3	3.14	$118.51
9	2.194	13-Mar-25	1.86	1542.0	3.39	495.3	3.71	$117.27
10	2.183	23-Mar-25	1.68	1447.7	3.00	654.3	4.58	$122.62
11	2.116	8-Mar-25	1.97	1566.6	3.64	459.3	4.42	$178.59
12	2.113	23-Mar-25	1.79	1364.1	3.20	589.3	3.63	$(29.55)
13	2.088	8-Mar-25	1.81	1476.2	3.34	491.7	3.69	$58.07
14	2.057	5-Apr-25	2.00	1503.4	3.49	463.0	4.12	$116.77
15	2.053	14-Apr-25	1.95	1412.7	3.33	467.3	3.46	$32.66
16	2.043	6-Apr-25	1.31	1585.4	3.45	508.3	4.75	$161.09
17	2.015	16-Mar-25	2.01	1549.7	3.66	500.7	4.83	$124.04
18	2.005	20-Apr-25	1.79	1402.7	3.01	503.0	3.20	$(22.56)
19	1.968	2-May-25	1.94	1338.2	3.18	436.7	2.78	$(62.88)
20	1.949	3-Mar-25	1.77	1526.4	3.29	587.3	4.88	$52.45
21	1.940	n.a.(2)	n.a.[2]	1494.0	3.44	598.7	5.01	$25.94
22	1.930	29-Apr-25	1.91	1387.1	3.16	356.3	2.45	$(34.55)
23	1.927	5-Apr-25	1.78	1447.7	3.11	518.0	3.70	$(29.91)
24	1.916	n.a.(2)	n.a.[2]	1500.5	3.42	593.3	4.70	$(30.63)
25	1.842	14-Mar-25	1.73	1440.3	3.16	505.3	3.90	$(42.96)
26	1.752	26-Mar-25	1.82	1467.8	3.23	607.3	5.14	$(43.73)
27	1.284	16-May-25	1.88	1325.0	2.96	360.3	3.23	$(283.33)
Average bottom 5 herds	**1.744**	**7-Apr-25**	**1.80**	**1436**	**3.18**	**517**	**4.13**	**$(86.11)**
Overall average - pens of three	**2.112**	**31-Mar-25**	**1.87**	**1,483.32**	**3.33**	**511.44**	**3.932**	**$81.695**
Standard deviation		21.9	0.16	76.70	0.20	81.48	0.74	136.20
number		25	25	27	27	27	27	27

[1]Marbling score 300-399 = select, 400-499 = low choice, 500-599 = average choice, 600-699 = high choice, 700-799 = low prime
Spread: Top 5 to Bottom 5 Herds $338.82
[2]not available

Table 2. Correlations between profit and various production measures (pen of three) — 2025-2026 Dakota Feeder Calf Show Feedout

	Correlation coefficient
Profit and average birth date	-0.3567
Profit and average slaughter weight	0.7710
Profit and average daily gain	0.6270
Profit and weight per day of age	0.2250
Profit and marbling score	0.2887
Profit and yield grade	0.2001