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AN UPDATE ON RETAINED OWNERSHIP: CASE STUDY OF CALVES BORN AT THE ANTELOPE RANGE LIVESTOCK STATION

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Summary

An update to a previous report on the case history of retained ownership in the Antelope Range Livestock Station herd is provided. Calves born in 1990 and 1991 were placed in a custom feedlot following weaning and the profitability of postweaning feedlot performance was estimated. Retaining ownership through slaughter, as opposed to selling calves at weaning, resulted in additional estimated profits of \$51.27 and \$107.82 per head (excluding interest on calf) for the 1990-born and 1991-born calf crops, respectively.

(Key Words: Retained Ownership, Economics.)

Introduction

Ownership through slaughter has been retained of a portion of each calf crop since 1985 from the SDSU Antelope Range Livestock Station. A previous report (Marshall and Wagner, 1990) presented results from the first five years, during which profits from weaning to slaughter ranged from \$1.82 per head in the worst year to \$215.41 in the best year (excluding interest on calf value). The objective of this report is to provide an update of our experiences with retaining ownership from weaning through slaughter for calf crops born in 1990 and 1991.

Materials and Methods

This study includes two years of information from crossbred calves of several breed combinations born at the Antelope Range Livestock Station in northwestern South Dakota. Calves were born primarily in March and April and were weaned in October at an average age of

about 7 months. Within two to three weeks after weaning, calves were transported to a commercial custom feedlot where they remained until slaughter. Ownership was retained through slaughter on 101 steers and 25 heifers from the 1990-born calf crop and on 57 steers and 27 heifers from the 1991-born calf crop.

Energy levels were increased quite rapidly after entry into the feedlot. Calves were slaughtered on two dates (4 weeks apart) each year, with a random half of each breed-sex combination included in each slaughter group. The time period from feedlot entry to slaughter was 196 and 224 days for the two respective slaughter groups for 1990-born calves and 185 and 212 days for 1991-born calves. Slaughter age generally ranged from 13 to 15.5 months.

Average values for days in the feedlot, final live weight, and percent choice or prime carcasses were calculated from the calves that finished their respective feeding period, whereas other average values in Table 1 also take into account the performance of calves that died or were prematurely removed from the feedlot. Similarly, in Table 2, slaughter calf price represents only those calves that finished their respective feeding period, whereas all figures expressed on a per-head basis are based on the number of calves entering the feedlot.

Calf price at feedlot entry (Table 2) is the assumed average price for which the calves could have been sold at weaning time if ownership had not been retained. Estimated calf value at feedlot entry is the assumed calf entry price multiplied by the average weight of calves entering the feedlot. Initial shrunk weight averaged 532 and 548 lb for calves born in 1990

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and 1991, respectively. Performance and costs during the period from weaning to feedlot entry were not directly taken into consideration but should be reflected in calf value at feedlot entry. Feedlot charges reflects the actual payment to the feedlot for feed, lot charges, medication and veterinary expenses. The line labeled trucking/marketing takes into account trucking from the feedlot to the slaughter plant, insurance and the \$1 check-off deduction. Trucking from the ranch to the feedlot was not taken into account on the assumption this expense would also have occurred if the calves had been sold at weaning.

Estimated gross profit during the postweaning feedlot period was computed as slaughter sales minus the assumed value of calves at feedlot entry minus feedlot expenses minus trucking/marketing expenses. Estimated net profit was computed as estimated gross profit minus interest costs on feedlot expenses. No interest cost was charged for the value of calves at feedlot entry.

Results and Discussion

While interpreting the information presented, keep in mind that the objective was to estimate only the profit (or loss) that accrued during the postweaning feedlot period. This is profit (or loss) over and above that which would have been attained if the calves had been marketed soon after weaning in the fall. Costs and revenues associated with the cow herd (i.e., preweaning profit factors) were not considered. With other factors held constant, a lower price of calves at feedlot entry results in larger postweaning profits but lower cow-calf phase profits. The difference between two calf crops in postweaning profits is, in general, not indicative of the difference in cow-calf profitability.

Numbers of calves retained and their average performance values for both calf crops are presented in Table 1. The death loss for both years combined was 6 of 210 or 2.86%. Reduced salvage values were received for one 1990-born calf and two 1991-born calves which were removed from the feedlot early. Although statistically meaningful comparisons between calf crops cannot be made, the 1991-born calves appeared to have performed somewhat better than the

1990-born calves. The genetic makeup of the two calf crops is assumed to have been quite similar. The difference between years in performance could possibly have been due in part to relatively milder weather during the winter of 1991-92. For the five previous calf crops of this herd, daily gain averaged 3.20 lb/day (Marshall and Wagner, 1990).

Relative profitability from weaning through slaughter is presented in Table 2. The 1990-born calves returned an estimated net profit of \$51.27 per head. A relatively higher estimated net profit of \$107.82 was realized for the 1991-born calf crop, reflecting improved performance, reduced death loss, and especially, reduced value of calves at feedlot entry compared to the previous calf crop. Again, the reader is reminded that these figures give no indication as to the relative profitability of the cow-calf (preweaning) phase of production. Marshall and Wagner (1990) reported positive postweaning net profits for each of the five previous calf crops of this herd. However, there was considerable variation across years, ranging from \$1.83 to \$215.41 per head.

As mentioned previously, no interest cost was assumed for the value of calves entering the feedlot. Thus, the estimated net profit figures in Table 2 can be interpreted as dollar return on investment, where the investment is the calf value at feedlot entry. If interest costs for the opportunity loss associated with not selling at weaning were deducted, then the estimated net profit figures would be reduced accordingly.

It has been profitable in general over the last seven calf crops to retain ownership of calves through slaughter in this particular herd, although the magnitude of profits have varied considerably across years. Market factors over which the producer has little or no control have tended to fluctuate much more than performance factors, contributing to the risk of retaining ownership. It might be possible to manage some of the risk through forward contracting and(or) futures markets. The decision to participate in retained ownership must be made by each individual, after carefully considering factors such as risk tolerance, financing, price outlook for cattle and feed, and identification of a feedlot.

Literature Cited

Marshall, D. M. and J. J. Wagner. 1990. A five-year case history of retained ownership. SD Agr. Exp. Sta. Beef Report CATTLE 90-15:57.

Table 1. Feedlot performance of steers and heifers

	Year of calf birth	
	1990	1991
No. calves started	126	84
Death loss, head	4	2
No. calves sold early	1	2
No. calves finished	121	80
Days in feedlot ^a	210.3	198.4
Avg daily gain, lb/day	2.98	3.25
Final live weight, lb ^a	1160	1197
Avg feed intake, lb/day	22.6	25.6
Percent choice or prime carcasses ^a	64.5	58.8
Cost of gain, \$/lb ^b	.434	.397
Cost/head/day, \$ ^b	1.29	1.29

^a Based entirely on calves that finished.

^b No interest costs are included.

Table 2. Economic performance of steers and heifers in feedlot

	Year of calf birth	
	1990	1991
Estimated calf price at feedlot entry, \$/cwt	98.00	90.00
Slaughter price, \$/cwt ^a	76.86	75.77
Slaughter value, \$/head	861.65	876.39
Feedlot charges, \$/head	265.84	252.46
Trucking/marketing, \$/head	12.85	13.18
Estimated calf value at feedlot entry, \$/head	521.50	493.23
Estimated gross profit, \$/head ^b	61.46	117.52
Estimated net profit, \$/head ^c	51.27	107.82

^a Slaughter price is based only on calves that finished. All other figures are based on all calves.

^b No interest costs are included.

^c Interest costs for feedlot charges are included.