

EVALUATION OF SALERS CROSSBRED COWS IN A COMMERCIAL COW HERD

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Story in Brief

This study was conducted for the purpose of evaluating the Salers breed as a component of a commercial cow herd. Fifty Salers-Hereford heifers, 28 Angus-Hereford heifers and 29 Hereford heifers were managed together for a period of three years on a commercial cattle ranch in northwest Wyoming. Salers-Hereford cows had the heaviest calves at 205 days and there were only minor differences in birth weight, calving difficulty and cow condition score. The advantage in 205-day weight over calves from the Angus-Hereford cows was not as large as the advantage over Hereford. Salers-Hereford cows produced the most calves, on average, during the three years of the study and the total weight, over three years, of their calves was 415 and 153 lb more than calves from Hereford and Angus-Hereford cows, respectively.

(Key Words: Beef Cattle, Breeds, Birth Weight, Weaning Weight, Salers.)

Introduction

The Salers (pronounced Sah-lairs) is a breed of beef cattle with a relatively short history in the United States. The breed originated in a mountainous area of France which may suggest hardiness and an ability to withstand harsh conditions. To date, Salers cattle have not been evaluated extensively in North America. This research was initiated with the intent of evaluating the breed, as a component of a crossbred cow herd, under range conditions. This report contains results from the entire experiment which was planned to last three years. Preliminary reports were presented previously (Buchanan et al., 1989, 1990).

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Materials and Methods

Pregnant yearling heifers, representing three breed groups, were set aside from the herd at the Pitchfork Ranch near Meteetse in northwest Wyoming. There were 50 Salers x Hereford, 28 Angus x Hereford and 29 straightbred Hereford heifers. All females were managed together for the duration of the study.

Calves were sired by Angus or Salers bulls and were born during January to April of each year. Each calf was weighed within 24 hours of birth and a calving ease score was assigned (1 = no difficulty, 2 = minor difficulty, 3 = major difficulty). Calves were weaned at approximately eight months of age. A weaning weight was obtained and adjusted to 205 days. At weaning, pregnancy status of each cow was determined and cow condition score was evaluated (1 = emaciated to 9 = obese). Non-pregnant females were culled. The number of calves produced by each female and the total weight of those calves was determined following weaning of the third year.

Data on yearly calf performance and cow condition were analyzed by ordinary least squares procedures with breed of female, year, sire breed (Angus or Salers), sex, age of the dam and appropriated two-way interactions in the model. The total number and weight of calves and the third year pregnancy status were analyzed by ordinary least squares with a model that contained only breed of female.

Results and Discussion

The average date of birth was calculated as the number of days after January 1. Calves were born progressively later each year (Table 1). Salers-Hereford and Angus-Hereford females had calves approximately 14 days earlier ($P < .05$) as first calf heifers. These differences diminished as the cows matured. Angus-Hereford and Salers-Hereford two year old cows also had easier births

Table 1. Average date of birth (days after January 1).

Age of cow	Hereford	Angus-Hereford	Salers-Hereford
Two	47.3 ^b	34.4 ^a	32.6 ^a
Three	73.8	68.3	70.0
Four	91.9	90.2	90.6

^{a,b} Means in the same row that do not share a superscript differ ($P < .05$).

($P < .05$) than Hereford two year old cows (Table 2). These differences disappeared as the cows matured so that none of the four year old cows from any breed group required assistance.

There were no significant breed group differences in birth weight (Table 3) for any of the ages of females, although Salers-Hereford cows had slightly heavier calves than the other cow groups at ages two and four. This additional birth weight did not result in any increased calving difficulty. Salers-Hereford cows had the heaviest calves at 205 days (Table 4) and Hereford cows had the lightest ($P < .05$) calves each year of the study. The Salers-Hereford advantage in 205-day weight was significant ($P < .05$) when the cows were two and four years old.

Table 2. Average calving score (1 = no difficulty, 2 = minor difficulty).

Age of cow	Hereford	Angus-Hereford	Salers-Hereford
Two	2.45 ^a	1.87 ^b	1.91 ^b
Three	1.08	1.12	1.10
Four	1.00	1.00	1.00

^{a,b} Means in the same row that do not share a superscript differ ($P < .05$).

Table 3. Average birth weight (lb).

Age of cow	Hereford	Angus-Hereford	Salers-Hereford
Two	63.9	63.2	66.2
Three	67.6	69.7	67.7
Four	74.8	75.7	76.3

Table 4. Average 205-day weight (lb).

Age of cow	Hereford	Angus-Hereford	Salers-Hereford
Two	347.7 ^a	380.6 ^b	403.2 ^c
Three	418.6 ^a	454.3 ^b	462.4 ^b
Four	465.7 ^a	494.4 ^b	524.3 ^c

^{a,b,c} Means in the same row that do not share a superscript differ ($P < .05$).

Salers-Hereford cows had the lowest body condition score (Table 5) throughout the study. The differences were significant ($P < .05$) only between Angus-Hereford and Salers-Hereford as two year old cows. It is likely that the slightly lower body conditions score resulted partially from the much heavier calves weaned by the Salers-Hereford cows.

Salers-Hereford cows produced more calves ($P < .05$) and more total weight of calves ($P < .05$) during the three years of this study than Hereford cows (Table 6). They also had an advantage over the Angus-Hereford cows for both characteristics, but the differences were not significant. Ideally, each cow would have produced three calves. Failure to do so was largely the result of failure to calve as a three year old and exit from the herd at that time. The total weight of calves was larger than the number of calves \times average 205-day weight because the actual weaning weight was used to calculate total weight and calves were generally weaned at eight or nine months.

Only one of the cows that weaned a calf as a four year old was diagnosed open when that calf was weaned (Table 7). That cow was a Salers-Hereford, but this did not result in a significant difference in average pregnancy rate.

Table 5. Average cow condition score (1 = emaciated, 9 = extremely obese).

Age of cow	Hereford	Angus-Hereford	Salers-Hereford
Two	4.7 ^{ab}	5.0 ^a	4.7 ^b
Three	5.1	5.1	5.0
Four	5.0	5.1	4.9

^{a,b} Means in the same row that do not share a superscript differ ($P < .05$).

Table 6. Average number and total weight (lb) of calves produced in three years.

	Hereford	Angus-Hereford	Salers-Hereford
Number	2.38 ^a	2.66 ^{ab}	2.84 ^b
Total weight	1082.8 ^a	1345.3 ^b	1498.3 ^b

^{a,b} Means in the same row that do not share a superscript differ ($P < .05$).

Table 7. Average pregnancy rate in cows that weaned a calf during the third year.

	Hereford	Angus-Hereford	Salers-Hereford
Pregnancy rate	1.00	1.00	.98

These results show a clear advantage in calf performance for calves out of Salers-Hereford cows. Their calves were heavier at weaning and were not enough larger at birth to cause any additional calving difficulty. Salers-Hereford cows also produced more calves during the duration of this study than did the other breed groups. There may be a concern about the ability of the Salers-Hereford cow to maintain sufficient condition, but these results do not show any adverse effect on reproductive performance to this point. It appears, for the fairly harsh environment in which these cattle are maintained, that Salers crossbred cows may have advantages for the commercial cattle producer and could be a useful contributor to the United States cattle industry.

Literature Cited

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