

## **COMMERCIAL CATTLE PRODUCERS: BULL SELECTION CRITERIA <sup>1</sup>**

*D. D. Simms, J. M. Geske, and R. P. Bolze*

### **Summary**

A survey of 312 commercial cattle producers was conducted to determine the relative importance of selection criteria used in buying bulls. Calving ease was a major consideration of a high percentage of producers, and individual performance was being emphasized more than expected progeny differences (EPDs). Only 23% of the producers included EPDs in their first three selection criteria. Visual appraisal focused on structural soundness, length, and muscling.

(Key Words: Bulls, Selection, Breeding, Expected Progeny Differences.)

### **Introduction**

Many traits are of importance to the commercial cattle industry, and the relative importance of specific traits tends to shift as the industry changes. Understanding the relative ranking of traits by commercial producers and the information they are using to evaluate bulls has potential value for purebred breeders and Extension specialists. Consequently, a survey was conducted in early 1993 to assess current emphasis on selection criteria. Additionally, producers were asked to give the strengths and weaknesses of the breeds that they were

using to determine current perceptions of common beef breeds.

### **Experimental Procedures**

A questionnaire was mailed to over 1,000 producers who purchased a bull in 1993. Buyer lists were provided by 13 Kansas cattle breeders and buyers at both the Beloit and Potwin bull sales. Breeds represented included Angus, Simmental, Charolais, Gelbvieh, Red Angus, Salers, Limousin, and Horned Hereford. Over 400 hundred questionnaires were returned, with 312 representing commercial producers. Because the criteria emphasized by commercial producers were of primary interest, the questionnaires returned by purebred buyers were not included in the analysis.

### **Results and Discussion**

Producers were asked to rank (in order of importance) the factors considered in purchasing a bull. Table 1 shows the relative ranking of types of information available to commercial producers. Calving ease score was listed most commonly as the first criterion, and almost one-half of the producers had it in their first three criteria. This result was interesting, considering that only the Simmental and Gelbvieh breeds currently provide calving ease scores, and

---

<sup>1</sup>Appreciation is expressed to the following Kansas cattle breeders who assisted in this survey: Hubert Charolais, Monument; Green Garden Angus, Ellsworth; Gold Genetic Breeders, Phillipsburg; Dickinson Simmentals, Gorham; Thompson Cattle Company, Plainville; Schilling Limousin, Edson; Judd Ranch, Inc., Pomona; Gardiner Angus, Ashland; Stielow Angus, Paradise; BBB Charolais, Oakley; Runft Charolais, Scandia; RX Cattle Company, Hays; and Jamison Herefords, Quinter.

these breeds accounted only for approximately one-third of the bull purchases represented in the survey. The relatively low level of emphasis on expected progeny differences (EPDs) indicated that producers weren't using the most accurate selection criteria available. Relative ranking for all traits was similar across breeds, with the exception that buyers of Charolais and Horned Hereford bulls placed much less emphasis on EPDs than buyers of Angus, Simmental, and Gelbvieh bulls. Buyers of Charolais bulls emphasized birth weight and calving ease much more than buyers of any other breed, whereas buyers of Horned Herefords placed more emphasis on breeder reputation.

Table 2 summarizes the relative ranking of visual appraisal criteria. Structural soundness, length, and muscling were most often included in the first three criteria.

Performance information most often utilized is summarized in Table 3. Birth weight and birth weight EPD were the major performance items considered by producers. This emphasis indicates a shift from a similar survey conducted in 1981 (1982 Cattlemen's Day), in which growth traits received primary emphasis. The relative low ranking of maternal and milk EPDs was also interesting, given the economic importance of these traits. Actual performance of the bull, i.e., actual birth weight and weaning weight, were utilized more than their corresponding EPDs. Studies have shown that EPDs are more accurate predictors of progeny perfor-

mance than the individual's actual performance. Therefore, producers should emphasize EPDs more than actual performance.

Producers also were asked to indicate their direction with respect to cow size. Of those that responded, 78% wished to maintain the size (weight) of their cows at current levels, whereas 7% wanted to increase size and 15% decrease size. Correspondingly, 41% wanted to increase the milking ability of their cow herd, whereas 58% were content with current levels, and the remaining 1% wanted to decrease milk production.

Another question addressed producers' attitudes about the use of crossbred or composite bulls. Forty-six percent indicated that they would use them, whereas 54% indicated that they would not. The most common reason given for not using a crossbred or composite bull was a concern about the lack of predictability and uniformity of the offspring.

Seventy-four percent expressed a need for across-breed EPDs, with breed comparisons given as the main reason. The 26% that didn't indicate a need believed that across-breed EPDs would not be accurate and would be confusing.

As a final part of the survey, producers were asked to indicate the perceived strengths and weaknesses of the breeds that they were currently using. The three most commonly mentioned strengths and weaknesses for each breed are shown in Table 4.

**Table 1. Selection Criteria Utilized by Commercial Producers**

Factor	First Criterion, %	Included in First 3 Criteria, %
Calving ease score	25	49
Frame score	12	20
Birth weight	11	39
Conformation/visual appraisal	11	24
Expected progeny differences	9	23
Disposition	7	31
Breeder reputation	5	13
Weaning weight	4	32
Yearling weight	4	19
Structural soundness	4	16
Price	3	12
Color	1	5
Dam's functional traits	1	5
Pedigree	1	4
Polled/horned	0	5

**Table 2. Ranking of Visual Criteria Emphasized by Commercial Producers**

Factor	First Criterion, %	Included in First 3 Criteria, %
Structural soundness	21	43
Disposition	17	29
Length	16	41
Frame score	12	33
Weight	12	26
Muscling	10	39
Straight top line	3	19
Smooth shoulder	3	15
Masculinity	2	7
Color	2	6
Large testicles	1	19

**Table 3. Ranking of Performance Criteria Emphasized by Commercial Producers**

Factor	First Criterion, %	Included in First 3 Criteria, %
Birth weight and ratio	35	51
Birth weight EPD	15	43
Weaning weight and ratio	11	38
Weaning weight EPD	10	32
Yearling weight EPD	10	26
Direct calving ease EPD	6	27
Yearling weight and ratio	5	33
Maternal weaning weight EPD	3	7
Weight per day of age	2	12
Average daily gain	1	9
Milk EPD	1	9
Maternal calving ease EPD	1	9

**Table 4. Breed Strengths and Weaknesses Indicated by Commercial Producers**<sup>1</sup>

Breed	Strength	% of Responses	Weakness	% of Responses
Angus	Maternal/milking ability	36	Slow growth rate	21
	Calving ease	32	Disposition	14
	Carcass quality	22	Too small framed	10
Red Angus	Maternal/milking ability	24	Slow growth rate	26
	Color	20	Small framed	10
	Calving ease	18	Lack of availability	6
Simmental	Growth rate	82	Too large framed	34
	Maternal/milking ability	24	Calving difficulty	25
	Frame size	8	Color/dilution gene	10
Charolais	Growth rate	70	Calving difficulty	37
	Buyers' demand	14	Lack of milk/maternal	20
	Frame size	10	Too large framed	17
Gelbvieh	Maternal/milking ability	63	Calving difficulty	20
	Growth rate	45	Too large framed	10
	Disposition	15	Lack of eye appeal	9
Hereford	Disposition	34	Eye problems	34
	Easy keepers	28	Poor milkers	21
	Growth rate	10	Lack of buyer demand	9
Limousin	Muscling	31	Poor milkers	28
	Lean carcass	28	Disposition	25
	Calving ease	16	Slow growth rate	19
Salers	Calving ease	84	Disposition	53
	Lean carcasses	16	Slow growth rate	16
	Maternal/milking ability	16	Lack of buyer demand	11

<sup>1</sup>Responses per breed were as follows: A N = 186, RA = 51, SM = 119, CH = 71, GV = 87, HH = 47, LM = 32 and SA = 19.