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SDSU Beef Cattle Teaching Herd

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SDSU Beef Cattle Teaching Herd

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CATTLE 95-2

A herd of Angus, Simmental and Simmental-Angus crossbreds are maintained at the Cow-Calf Teaching and Research Unit near the SDSU campus. Cattle are used for teaching, research, and extension activities. In addition to use in the classroom, cattle are used for the annual SDSU Little International, field days, and numerous 4-H, FFA, and other educational events. The herd is also used for reproductive physiology and cow/calf nutrition research.

For teaching purposes, cattle that vary in calving ease, growth rate, mature size, and maternal value are maintained. Although it is not feasible to maintain all of the breeds that are important in this region, two breeds that are distinctly different are represented. The goal for our breeding program is to produce bulls that are useful to the commercial beef industry that fit into the following four categories:

1. Low birth weight Angus bulls to breed to yearling heifers.
2. Higher growth Angus bulls to breed to cows.
3. High percentage Simmental bulls to breed to cows in a rotational crossbreeding system.
4. Simmental-Angus crossbred bulls (F₁ composites) to use in a simplified crossbreeding system to maintain the percentage Simmental and Angus close to 50% each.

The objective goals for the bulls produced are presented in the Tables 1 and 2. All sires are selected to produce bulls that fit these objective goals and still produce females without problems (bad udders, feet and leg problems, etc.) that are reasonable in mature size and will maintain their body condition and reproduce in an nutritional

environment similar to commercial herds in this area. A majority of the yearling heifers are bred and kept as replacements. This allows us to cull the cow herd closely for problems that require extra management.

Table 1. Goals for Angus bulls produced

	Low birth wt bulls	Higher growth bulls
Birth wt EPD	< +2	< +6
Weaning wt EPD	> +25	> +30
Milk EPD	> +10	> +10
Yearling wt EPD	> +50	> +60
Frame score	5 to 6	6
Yearling scrotal circumference	> 34 cm	> 34 cm

Table 2. Goals for Simmental and SimAngus bulls produced

Calving ease EPD	> 0
Birth wt EPD	< 0
Weaning wt EPD	> +5
Yearling wt EPD	> +10
Maternal calving ease EPD	> 0
Milk EPD	> -2
Frame score	6 to 7
Yearling scrotal circumference	> 34 cm

Tables 3 and 4 show carcass information from steers sired by bulls bred at the Cow-Calf Unit. The steers were raised at the SDSU Cottonwood Research Station west of Philip, SD, and fed in a commercial feedyard. For the last two years, 14 head of steers sired by SDSU

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bulls fed in the South Dakota Retained Ownership Demonstration at Kimball have averaged \$38.30/head more profit than the average steer on test. It is encouraging that we can select for a balance of traits, emphasize functional traits for the cow herd, and still produce cattle that are profitable for the feedlot industry.

Table 3. Steers sired by Angus and Simmental bulls from the SDSU Cow/Calf Unit

Number of steers	48
Avg % Angus/Simmental	77/23
Birth date	April 7
Days on feed	200
Final wt, lb	1170
Slaughter date	May 6
Age at slaughter, days	394
Carcass wt, lb	706
Rib eye area, in. ²	12.3
12th rib fat, in.	.40
Yield grade	2.70
Percent choice	77.1

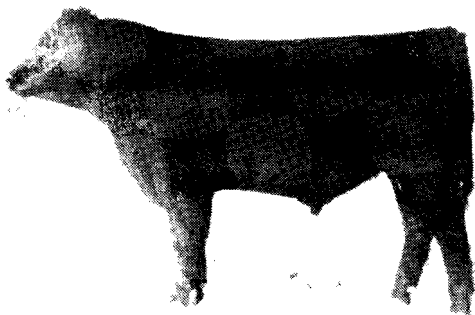
Table 4. Distribution of quality and yield grades

Yield grade	Quality grade		
	Percent Choice	Percent Select	Percent Standard
1	4.2	2.1	—
2	47.9	14.6	2.1
3	25.0	4.2	—
Total	77.1	20.8	2.1

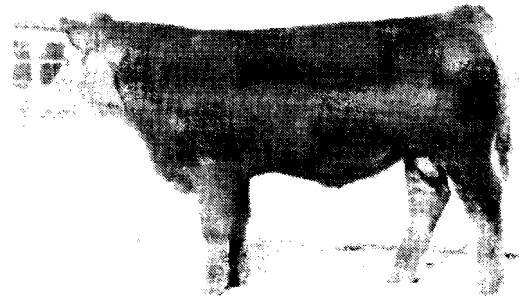
In mid-April bulls and heifers from the Cow/Calf Unit are sold in a "limited auction" managed by the SDSU Seedstock Merchandising Class. The class is responsible for advertising, promoting, organizing, and conducting the sale. A major objective in organizing the sale is to provide students an opportunity to learn about the industry by interacting with beef cattle producers about the cattle that sell. The prices for our 1995 sale are listed in Table 5. If you would like to be included on our mailing list, contact Kevin VanderWal (Unit Manager), Jarrod Johnson (Assistant Manager), or Dick Pruitt (faculty coordinator).

Table 5. Final bids for 1995 SDSU Limited Auction Bull and Heifer Sale

	Number	Average, \$	Range, \$
Angus bulls	14	2357	1200-4900
Purebred Simmental bulls	3	2000	1200-3600
SimAngus bulls	6	1333	1200-1600
SimAngus yearling heifers	11	800	650-1050



Top selling Angus bull in 1995 SDSU Limited Auction Sale



Top selling Simmental bull in 1995 SDSU Limited Auction Sale