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Production Efficiency Ona Physiology Research Herd

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One way to compare cow/calf production efficiency between herds within a ranch, and between ranches in the state and as well as across the country, is by using the Standard Performance Analysis (SPA) program developed by Texas A & M researchers in collaboration with the National Cattlemen's Association. Production performance, as well as financial measures, are standardized within the SPA program such that calculations are performed in the same way for each herd. Some producers in Florida have started analyzing their cow herd production efficiency using the SPA program. We have yet to obtain sufficient data to compile a data base specific to Florida conditions for comparative purposes, although performance and financial data bases have been summarized for other parts of the country. One of the questions producers ask who have run the SPA program is "How does my operation compare with performance of the University herds?" This article summarizes production performance of both the long-establishing spring breeding herd and the recently established winter breeding herd under the physiology research program at the Ona-REC using the SPA program.

Spring-breeding mature cows are exposed to bulls from March 1 to May 1 (60 day breeding season started in 1991), calve between December 1 to February 13 (75 days) and wean calves in late August at about 8.2 months of age. Cows graze bahiagrass pasture throughout the year (1.40 to 1.67 acres per breeding female) and are fed mineral year-round and supplemented with stargrass hay and molasses slurry between mid-December and the first part of April (1195 to 1524 total pounds of feed per breeding female). Spring-breeding replacements (yearlings and two-year olds) were exposed to bulls at the same time as mature cows in 1990 and 1991, but have been started two weeks earlier since 1992. Replacements calve between December 1 and March 16 (102 days in 1990/91 and 68 days in 1991/92) or between November 24 and January 3 in 1992/93 (40 days). Calves are weaned at the same time as the mature cows. Replacements graze .90 to 1.52 acres of bahiagrass pasture per exposed female and were fed 1700 to 2200 pounds of supplemental feed per breeding female.

The winter cow herd is exposed to bulls from December 15 to February 15, calve between September 1 and December 1 (69 days in 1992, 77 days in 1993), and wean calves at about 8.2 months of age the first part of June. Winter cows graze bahiagrass pasture (1.27 acres per exposed female in 1992/93) and are supplemented with mineral year-round, with molasses slurry between calving and the end of breeding, and with stargrass hay from mid-December to April 1 (cows averaged 2357 pounds of feed per breeding female in 1992/93).

From our data, the established spring-breeding mature cow group averages about an 85 percent pregnancy rate, losses about two percent from prey check to calving to yield an 83 percent calving rate and then loses another two to three percent from calving to weaning to yield about an 80 percent weaned calf crop. The spring mature cows produce an average of 500 pounds of calf at weaning at eight to eight and a half months of age to yield about 400 pounds of calf per cow exposed. These results are almost identical to the national data base for commercial herds summarized in 1990/91 and published by Dr. James McGrann, Texas A & M, in April 1993. Our replacement heifers are the group that has the lowest and most variable performance and, likely, the highest cost associated with that performance. I have not seen a SPA summary compiled on replacement heifers only, so I am unable to compare our data with other university and/or commercial herds. Our winter cows had lower performance than the Spring cows the first year's production cycle. The second year's production cycle started out poorly due to non-puberal status of bulls used to breed these cows. It will likely require completion of two to three more production cycles to get an accurate reading of cow performance in the winter breeding season.

The advantages to using the SPA program are numerous, but there are two important points that stand out: 1) a SPA analysis readily points to opportunities for improving a herds' or units' production capability and; 2) results from one herd can be compared, based on the same production performance definitions, to any other herd or region in the country.

Primary Production Measures - Ona Physiology Research Herds						
Group	Years Analyzed	Adjusted Exposed Females	Pregnancy Rate (%)	Calving Rate (%)	Weaning Rate (%)	Lbs. of Calf weaned/ Exposed Female
Spring	1990-1994*	148	84.9	83.4	80.3	406
Matures	(Range)	(106-200)	(81.3-88.0)	(78.8-85.8)	(77.3-84.5)	(398-419)

Spring	1990-1994*	73	49.7	34.8	34.0	143
Replacements	(Range)	(46-89)	(26.9 - 72.7)	(22.5- 47.8)	(21.4 - 47.8)	(101 - 191)
Winter	1990-1994*	76	67.3	61.9	72.2	338
Cows	(Range)	(74-79)	(50.7 - 83.8)	(46.6- 77.2)		

** All production data not yet available for fiscal year 1993/94.*