Starea, Urea, and Soybean Meal Compared in Wintering Rations for Cows on Bluestem Pasture

II.   Effect on Birth and Weaning Weight of Progeny and Rebreeding Performance

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During the winter of 1970-71, 63 six-year-old, non-lactating, pregnant Hereford cows were divided into eight groups to compare a soybean meal-sorghum grain supplement with supplements containing either urea, Starea 44 (an expansion-processed mixture of sorghum grain and urea), or sorghum grain only (Bulletin 546, 1971, p. 28). Cows were fed each morning six days a week, 7 days' feed each six days. They had access to water, a salt-mineral-vitamin mix (55.1% salt; 36.7% dicalcium phosphate; 8.2% vitamin A premix) fed free-choice, and native winter pasture (table 38).

Soybean meal-supplemented cows lost 26 lbs. each from November to February (70 days), while Starea-fed animals lost 48 lbs. each. The most notable weight changes occurred in groups on the urea-sorghum grain (-75 lbs. each) or sorghum grain only (-79 lbs. each).

Birth weight, percentage of cows rebred, and 205-day adjusted weaning weights (steer equivalent) of calves born during and after the winter supplementation study are given in table 39. Results did not differ significantly, but cows fed no supplemental nitrogen tended to produce lighter calves at birth.

Average weaning weights were similar for calves whose mothers received either soybean meal or Starea 44. Calves from cows receiving either urea-sorghum grain or sorghum grain were lighter than calves from cows on other supplements.

Rebreeding percentages of all cows were lower than expected. Cows receiving the unprocessed urea-sorghum grain had more rebreeding problems than those receiving other experimental rations.

Table 38. Gestation and lactation rations fed daily to cows
           wintering on native bluestem pasture.

Protein supplement	Nitrogen source, lbs.	Sorghum grain, lbs.
Gestation rations		
Soybean meal	1.00	2.00
Starea 44	1.00	2.00
Urea	0.13	2.87
None	--	3.00
Lactation rations		
Soybean meal	1.00	5.00
Starea 44	1.00	5.00
Urea	0.13	5.87
None	--	6.00

Table 39. Production data of cows and their calves during
           and following winter supplementation.

Protein supplement	Cows		Birth wt. lb.	Adj. weaning wt. lb.
	Weight loss (70 days)	% rebred		
Soybean meal	26#	67 (10/15)	73 (62-83)*	400 (305-447)*
Starea 44	48#	60 (9/15)	70 (59-85)*	401 (336-521)*
Urea	75#	43 (7/16)	72 (59-95)*	386 (308-427)*
None	79#	62 (10/16)	68 (57-75)*	365 (249-439)*

*Range of weights in parenthesis.