TEXAS A&M AGRILIFE EXTENSION

Texas Dairy Matters

Higher Education Supporting the Industry

ACCELERATED GROWTH FOR HEIFERS CAN IMPROVE PRODUCTIVITY

Ellen Jordan by
Extension Dairy Specialist
Department of Animal Science
Texas A&M AgriLife Extension Service
The Texas A&M University System

Recently, Cornell researchers conducted a meta-analysis on twelve studies that compared preweaning intake to first lactation milk yield. They reported that first lactation milk yield was more than twice as likely to be increased in heifers with greater preweaning average daily gain. The overall milk yield response was approximately 1,000 pounds of milk (Soberon and Van Amburgh, 2013).

However, not all studies have found increasing the amount of milk fed prior to weaning is related to the amount of milk produced during the first lactation. A Canadian research group (Kiezebrink et al., 2015) fed four or eight liters (1.06 or 2.11 gallons) of whole milk daily to 152 Holstein heifers. Calves were abruptly weaned and then commingled and fed similarly until calving.

The accompanying table contains performance information on the two groups from birth thru first lactation. Although the heifers fed eight liters of milk per day gained more during the first 56 days of life; their average age and weight at first calving, as well as their 305 day milk yield and composition did not differ.

The question is **WHY**? In the Canadian trial, heifers were only fed at the accelerated rate during the preweaning stage. For accelerated rearing to result in increased milk yield, reduced days to first calving, and a return on investment; enhanced nutrition must be provided not only preweaning, but from weaning to first parturition. This is particularly true for the quantity and quality of protein provided prior to puberty.

For dairy herd owners who decide to try accelerated rearing techniques, it isn't enough to just increase the amount of milk being fed. Work with your nutritionist to alter heifer rations from weaning to puberty to first calving. This will allow you to reap the benefits of enhanced nutrition in the neonatal phase.

Parameter	Milk Fed, Liters/Day	
	4	8
Average Daily Gain (0 to 28d), lbs	0.82	1.46
Average Daily Gain (d29 to 42), lbs	1.71	1.79
Average Daily Gain (0 to 56d), lbs	1.36	1.72
Age at First Calving, mo	24.9	24.3
Post-Calving Weight, lbs	1310	1299
305-day Milk Yield, lbs	19212	19158
Fat Yield, lbs	718	724
Protein Yield, lbs	608	610