

FEED FOR THOUGHT

News For Cattlemen From Suga-Lik® A Product Of U.S. Sugar Corp.

Variation In Reproductive Performance and Potential Causes

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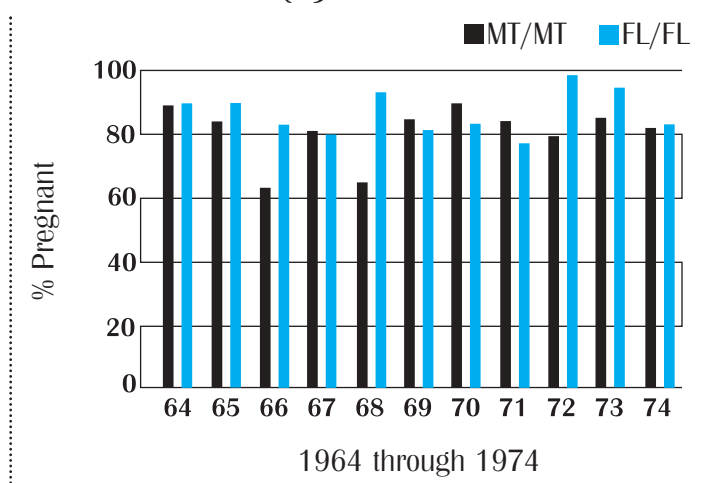
Cattlemen frequently ask, when discussing potential changes in the ranch's nutrition program, "What might happen to my herd's reproductive performance?" First, let's define reproductive performance as the number of calves weaned per cow exposed. Now, to put any answer to this question in perspective, consider the following adapted from data presented at the 2003 FL Beef Cattle Short Course by Dr.'s Chad Chase and Sam Coleman of the Brooksville, FL experiment station. In that study, Florida cattle were shipped to the Montana experiment station and Montana cattle shipped to the Florida experiment station. Some cattle from each location "stayed home." The study measured reproductive performance annually from 1964 until 1974. The comparisons were performance of Florida cattle in Montana, Montana cattle in Montana, Florida cattle in Florida and Montana cattle in Florida. The goal was to study "environmental" effects on cattle genetically adapted to Montana or Florida environments. Over the study's ten-year period, the "adapted" cattle that remained at their "home" had average pregnancy rates of 81% for Montana cattle in Montana and 87% for Florida cattle in Florida. Not bad, but over the 10-year period:

- Pregnancy rate varied from 63% to 90% in the Montana cattle and from 77% to 98% in the Florida cattle.
- Weaning rate varied from 57% to 86% for the Montana cattle and from 66% to 91% for the Florida cattle.
- Calves weaned as a percent of cows pregnant varied from 83.3% to 97.6% for the Montana cattle and from 79.5% to 97.4% for the Florida cattle.

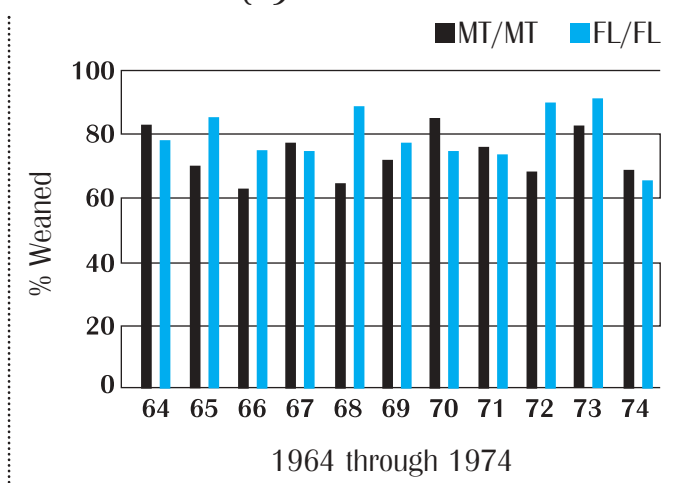
There were no trends over time for any of the above parameters. The message is that even with no obvious changes in inputs, annual reproductive performance may vary greatly even in cattle genetically adapted to their environments. This substantial variation within geographical locations over time can make measurements of improvement in reproductive performance extremely difficult.

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PREGNANCY RATE (%) VARIATION BY YEAR



WEANING RATE (%) VARIATION BY YEAR



Why so much variation? Consider the following list of factors (in no particular order) that have been proven to influence reproductive performance. These lists certainly aren't "all-inclusive."

ENVIRONMENTAL	DISEASE	GENETIC	NUTRITION
temperature stress	parasites	maturity	body condition score
rainfall	brucellosis	milking ability	digestible energy availability
standing water	vibriosis	libido	protein (deficiency or toxicity)
vectors of disease	leptospirosis	fertility	vitamins (deficiency or toxicity)
photoperiod	trichomoniasis	conformation	minerals (deficiency or toxicity)
bulls per female	BVD	hybrid vigor	toxic substances in forage
age at weaning	IBR	calf birth weight	gossypol
age of cows	neosporosis		mycotoxins
age of bulls	mastitis		water quantity & quality
length of breeding season	lameness		essential fatty acids
method of insemination	metritis		time from birth to 1st nursing
age & weight at breeding	milk fever		
length of dry cow period	retained placenta		
stocking rate	dystocia		
use of implants/additives	uterine prolapse		
employee workload	ketosis		
	neonatal scours		
	magnitude of pathogen challenge		
	endotoxins		

Numerous interactions occur among these factors. For example, did standing water or employee work load during shipping result in not getting nutrient supplements to your herd for two or three weeks? Nutrient deficiency or toxicity can influence immune response. Visual symptoms of acute nutrient deficiency or toxicity may take weeks to occur; and alleviating those effects may take substantially longer. It's therefore important to make sure your cattle are on a Fully Fortified™ Suga-Lik® supplement every day of the year!



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