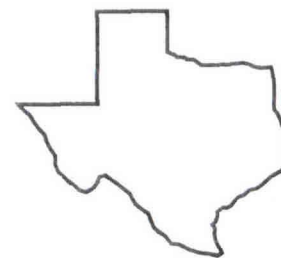
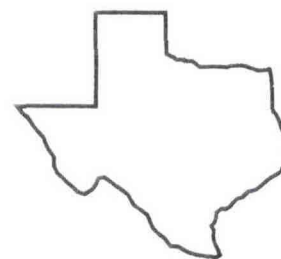
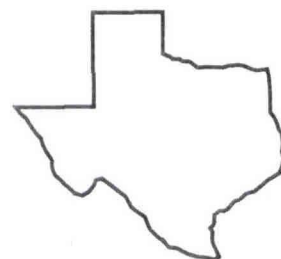
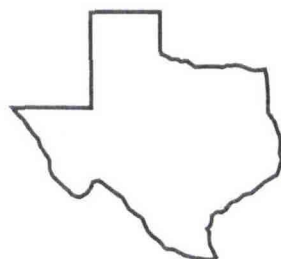
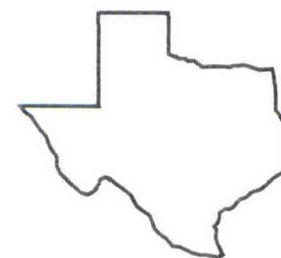


Texas Agricultural Experiment Station
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MEXICAN STEERS IN TEXAS

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Background. One million Mexican steers are imported into the U.S. each year. Compared to domestic cattle, steers from Mexico generally have more compensatory growth potential, less acute respiratory disease, more chronic disease and lower meat quality. They are also much more variable in these characteristics than their domestic counterparts. Determination, at the time of importation, of these animals' net present value currently is not possible. American feeder calf grading systems are not used by the industry for steers imported from Mexico; the system employed assigns a numerical grade (Mexican #1, #1.5, #2). This system is ill defined and, although generally related to proportion of Brahman breeding and to thriftiness, it is not generally useful in predicting future performance. Two scoring systems have wide-spread current practice in the U.S. for describing the net present value of domestic feeder cattle: condition scoring and frame scoring. The purpose of this report is to evaluate the use of condition and frame scores, as well as weight and subjectively estimated percentage Brahman of newly imported Mexican steers, to predict future performance on wheat pasture and south Texas rangeland.

Research Findings. Performance of steers imported from Mexico varied greatly among the 1,680 steers studied (Table 1). While some steers on wheat were gaining 3 lb/day, others were only maintaining their weight. On range, while some steers gained 1.7 lb/day, others on the same pasture were losing .3 lb/day. Our concept is that most of these calves will "fit" in some system but some were "mismatched" in our study. The question is, what criteria should be used to sort these animals to assure a minimum of "misfits"? This report addresses that question.

Table 1. Performance characteristics of experimental sample

	<u>Mean</u>	<u>SD</u>	<u>n</u>
Weight, lb ^a	418.0	62.6	1680
Condition score ^{a,b}	3.9	.88	1680
Frame score ^{a,c}	4.7	1.04	1680
Gain on wheat, lb/d	1.66	.496	313
Days on wheat	111.0	6.8	313
Gain on range, lb/d	.73	.363	1367
Days on range	163.0	34.9	1367

^a Measured at time of importation.

^b 1-9 with 9 being fattest.

^c 1-7 with 7 being largest.

Application. For uniform performance on rangeland, steers from Mexico should be sorted on the basis of weight, frame score and estimated percentage Brahman (Table 2). For uniform performance on wheat pasture, steers from Mexico should be sorted on the basis of weight (Table 2).

Table 2. Regression analyses relating variables evaluated at time of importation to future performance on south Texas range or wheat pasture.

Parameter ^a	Range ^b		Wheat Pasture ^b	
	Coefficient	PR>F	Coefficient	PR>F
Intercept	.1961		3.0961	
Mean gain for load	.8325	.0001	-.3308	.0001
Weight	.0021	.07	-.0065	.0001
Condition Score			-.0604	.02
Frame Score	.0150	.0040		
Brahman, %	.0201	.0013		
Weight ²	-3.6×10^{-6}	.01		
Brahman ²	-2.3×10^{-4}	.009		
Mean gain x Brahman	-.0557	.001		
Mean gain ² x Brahman	.0369	.004		
Mean gain x Brahman ²	6.8×10^{-4}	.008		
Mean gain ² x Brahman ²	-4.6×10^{-4}	.01		
Mean gain x weight			.0031	.09
R ²	.44		.48	
RSD	.2860		.3613	

^a Initial model included all variables measured and their linear and quadratic interactions with mean gain for group (load). Models were reduced in subsequent analyses to include only parameters that were important (PR>F = .10).

^b Three loads for wheat pasture (daily gains of 1.40, 1.82 and 2.30 lb/d) and eight loads for range (daily gains of 1.10, .18, .50, .75, .78, .82, .83 and 1.05 lb/d).