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CARCASS CHARACTERISTICS OF DOMESTIC AND MEXICAN STEERS AFTER FEEDLOT PERIOD

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Background. Cattle are extremely variable with respect to breed type, feedlot gain, net returns, and carcass traits. The economic incentives that maintain feeder investors are linked to feedlot cost per pound of gain and overall price received for a pen of cattle. In general, the price paid for finished cattle has been based on the buyer's perception or knowledge of a "pen average" quality grade of the cattle and the targeted market of a specific pen of cattle. The USDA quality grade is influenced by factors such as age, weight, time on feed, breed, etc. This pasture-feedlot experiment using domestic 1/2 Simmental : 1/4 Hereford : 1/4 Brahman and Mexican steers was a cooperative project between TAES-Overton and TAES-Uvalde designed to examine the variability in carcass characteristics (see companion papers).

Research Findings. Mexican steers were transported to East Texas for winter pasture grazing and then to the feedlot for fattening. The length of the feeding period reported in a companion paper was 110 days for the domestic cattle and about 145 days for the Mexican steers. Dressing percentages and ribeye areas were similar but slightly favored the Mexican steers (Table 1). The backfat and yield grade data indicated that steers were fed to generally acceptable biological and economic efficiencies. The USDA quality grade data were as predicted for the 1/2 Simmental steers (18 to 20 months of age) at 84% USDA Select and 16% USDA Choice. Both Mexican steer groups (pens) produced about 60% USDA Choice carcasses. Table 2 shows selected carcass traits by visual Groups of steers. Differences among these arbitrary groups will require additional trials from which to make definitive statements on preferred breed types.

Application. In the current pen-purchasing method for fat cattle, all three sets of steers were very acceptable in that they received no discounts for carcass weight, yield grade, or quality grade, and they brought the top market price of the day. This substantiates previous data and economic returns which indicated that pens do not have to attain 100% or even 50% USDA Choice to attain top pricing. Supply and demand of cattle and packer-directions, however, are paramount factors in this pricing scenario. The Mexican steers, although quite variable in breed type, appearance, and individual performance, were biologically efficient and economically profitable in the feedlot. Recommendations for using Mexican-origin steers depend on numerous factors including trade agreements, pricing structure relative to domestic cattle, etc.

Table 1. Carcass traits of domestic and Mexican steer groups.

Item	Steers		
	Domestic	Mexican	
		Groups 1-4	Groups 5-8
Number	19	60	48
Feedlot Pay Wt, lbs	1321	1194	1167
Hot Carcass Wt, lbs	822	762	756
Dressing Percent ¹	62.2	63.8	64.8
Ribeye Area, sq. in.	13.62	14.85	14.97
KPH ² , %	2.08	2.25	2.16
Backfat, in.	0.34	0.54	0.38
Yield Grade	2.53	2.44	1.96
Maturity	A	A	A
Quality Grade ³	3.46	4.17	4.29
USDA Choice, %	15.8	57.6	60.4
USDA Select, %	84.2	40.7	39.6
USDA Standard, %	0	1.7	0

¹ Dressing percent calculated using feedlot pay weight which includes a 4% pencil shrink off final live weight.

² Kidney, pelvic, and heart fat expressed as a percent of hot carcass.

³ Quality grade determined from marbling score; 3 = select; 4 = low choice; 5 = avg. choice.

Table 2. Selected carcass characteristics of domestic and Mexican steers.

Groups ¹	Carcass Characteristics ²				
	HCW lbs	REA sq.in.	FAT in.	YG	QG
DOMESTIC	822	13.6	0.34	2.53	3.46
MEXICAN					
1	781	15.1	0.7	2.9	4.4
2	751	15.6	0.5	2.1	4.5
3	772	14.4	0.4	2.4	4.1
4	772	14.9	0.6	2.6	4.1
5	726	15.2	0.3	1.6	4.1
6	763	14.8	0.4	2.1	4.2
7	775	15.0	0.4	2.0	4.6
8	758	14.6	0.4	2.1	4.4

¹ Groupings based on visual appraisal by 2 scorers. Group details presented in companion paper entitled "Performance of domestic and Mexican steers on winter pastures in East Texas."

² HCW = hot carcass weight; REA = ribeye area; FAT = backfat; YG = USDA yield grade; QG = USDA quality grade.