

# HAWAII GRASS-FINISH PRODUCTION STUDY

## 2006-07 Summary

The two-year Hawaii Grass-Finish Production Study was completed under the CTAHR Beef Initiative Program. Its purpose is to evaluate the University's beef cattle genetic traits for growth and carcass performance on forage.

### Forage:

100% pasture base forage, consisting of approximately 95% kikuyu grass, *Pennisetum clandestinum* and 5% legumes.

### Pasture Management:

The strategic stratified grazing rotation consists of forty-six 3-acre paddocks with 45-50 day recovery periods throughout the year. Each paddock is grazed for three consecutive days by three herd groups; the grassfed steer make up the leader group, followed by the replacement heifers, and then by the cow herd. Each group graze deeper into the forage strata, from the highest to the lowest forage quality.

### Herd Genetics:

The cow herd is a composite base and sired by Angus. No cows were displaced during this study period.

### Growth Performance: N = 27 steers

Age at weaning = 217.8 days; range 191 - 246

Beginning live weight (wean) = 549.7 lbs.; range 400 - 710

Ending live weight = 1,242.7 lbs.; range = 1,068 - 1,396

Average gain from wean to harvest = 687.3 lbs. in 387 days

Average daily gain from weaning = 1.79 lbs.; range 1.28 - 2.18

Weight per day of age = 2.05 lbs.; range = 1.70 - 2.31

### Carcass Performance:

Age at harvest: 20.2 mo. (605 days) ; range = 18.5 to 22.4 mo.

Carcass weight: 669.7 lb.; range = 555 - 745

Carcass value: \$837/head; range \$693 - \$933

Rib eye area: 12.0 in<sup>2</sup>; range = 10.0 - 14.0

Back fat thickness: 0.29 in.; range = 0.10 - 0.45

Dressing percent: 53.9 %; range 51% - 56%

Marbling Score: Average 5.5 or Small 50 = low Choice

Quality grades (based on marbling score):

Select: n = 7, low Choice or better: n = 20

### Tenderness: Shear force: 5.21 kg, range = 3.64 - 7.54

Research has shown that shear force values of less than 4.2 kg are considered tender. Identifying specific factors which affect tenderness are difficult, however age verification programs, in combination with shear force testing can be used to improve tenderness of grass-finished beef in the marketplace.

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