

# PSX-A-6 Late-Breaking: Conventional vs Heritage cattle supplement intake, weight-gains, and body condition scores on Chihuahuan desert pasture

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*Journal of Animal Science*, Volume 99, Issue Supplement\_3, November 2021, Pages 375–376, <https://doi.org/10.1093/jas/skab235.687>

**Published:** 08 October 2021

## Abstract

Use of adapted beef cattle biotypes is gaining momentum as a novel management strategy for limiting the environmental footprint of ranching and adapting to climate change in the southwest. We compared supplement intake (SI), calf birthweights, cow weights, and body condition scores (BCS) of desert-adapted Brangus (BR; n = 15) vs. Raramuri Criollo (RC; n = 28) cows in four adjacent pastures (1098±85 ha) for three months (Mar 7 – Jun 9, 2020) using ANOVA for a RCBD (significance at  $P < 0.05$ ). Cows had ad libitum access to 18% crude protein lick tubs in all pastures, which were weighed weekly to determine SI. Brangus cows had greater SI than RC, both overall (BR:  $0.21 \pm 0.04$  vs. RC:  $0.08 \pm 0.03$  kg×cow×d<sup>-1</sup>) and on a metabolic bodyweight basis (BR:  $2.31 \pm 0.09$  vs. RC:  $0.95 \pm 0.09$  g×kg<sup>0.75</sup>). All cows were bred to Brangus bulls and calf birth weights were not different between biotypes (BR:  $31.5 \pm 1.0$ ; RC:  $29.6 \pm 0.9$  kg). Brangus cows weighed more at the beginning ( $535.0 \pm 14.8$  kg) and end ( $582.2 \pm 14.5$  kg) of the study compared to RC (beginning:  $345.5 \pm 11.8$  kg; end:  $357.0 \pm 12.0$  kg). Percent of bodyweight change was not different between biotypes (BR:  $8.51 \pm 2.35$ ; RC:  $2.85 \pm 1.81$  %). On a 1 to 5 scale, BCS of Brangus ( $4.06 \pm 0.09$ ) was greater than RC ( $3.18 \pm 0.07$ ) at the onset of the study, but biotypes had similar BCS at the end of the trial (BR:  $4.09 \pm 0.09$ ; RC:  $3.89 \pm 0.08$ ). Our preliminary results indicate that lighter RC cows were capable of gaining bodyweight and improving BCS with reduced SI, both overall and

on a metabolic bodyweight basis. This finding may reflect lower nutrient requirements, better relative efficiencies and lesser grazing impacts on desert rangelands by RC cattle. Future studies will seek to replicate these breed-comparison trials over multiple years, research sites, and supply chains, with an emphasis on overall systems production efficiency and sustainability.

**Issue Section:** [LATE-BREAKING ABSTRACTS](#)

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