

0274 Growth Potential of Dhanni cattle under rain-fed conditions of Punjab, Pakistan. G. Bilal^{*1}, M. Moaen-ud-Din¹, and A. Zurwan², ¹*PMAS-Arid Agriculture University, Rawalpindi, Pakistan*, ²*PMAS-Arid Agriculture University, Rawalpindi, Pakistan*.

The objective of the present study was to investigate growth potential of Dhanni cattle (a local humped cattle used for light draft) for possible utilization as potential beef cattle in arid or rain fed region of Attock, Punjab, Pakistan. Data on live weight of cattle ($N = 185$: 105 male, 80 females; age ranged from 1 to 375 d) were recorded in the field from 30 registered farmers raising purebred Dhanni cattle. The overall production system consisting of grazing (from 0800 to 1700 daily) with little or no supplementation. Mostly farmers weaned the calves between 6 and 8 mo of lactation probably due to low milk yield of Dhanni cows. Age of cattle was divided into 11 monthly classes with the last class having d 301 to 375. Data were analyzed using PROC MIXED of SAS (University Edition). The model included fixed effects of age at of cattle on test-day and sex; random effects of herd and residual. Males had slight higher weights (73.94 ± 1.81) than females (71.77 ± 1.97), but overall effect of sex was statistically nonsignificant ($P = 0.33$). Estimates of herd and residual variances were 18.15 and 206.35, respectively. Live weight of cattle varied with age ($P < 0.0001$). The least squares estimates of means of live body weight (kg) for monthly age classes 1 (1–30 d), 2 (31 to 60 d) and so on to 11 (301–375 d) were 24.86 ± 2.60 , 39.31 ± 3.18 , 51.68 ± 4.62 , 61.86 ± 2.90 , 72.27 ± 3.67 , 75.49 ± 3.65 , 80.19 ± 3.93 , 81.97 ± 5.04 , 97.45 ± 4.25 , 98.80 ± 6.12 and 117.49 ± 5.41 , respectively. Overall, cattle showed a daily growth rate of 268.50g from 1 mo to approximately 12 mo of age. The data shows potential of Dhanni cattle for raising as a beef cattle using current genetic and genomic selection tools.

Key Words: Dhanni cattle, growth potential, field condition

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BEEF SPECIES SYMPOSIUM: IMPROVING WELFARE OF BEEF CATTLE

0275 Assessing and improving welfare in cow calf systems. C. B. Tucker*, *University of California, Davis*.

To date, animal welfare assessment, particularly independent audits, have focused on intensive animal agriculture. As public and corporate interest in farm-to-plate animal welfare assurance grows, extensive animal agriculture, such as cow-calf operations, may begin to be audited as well. The extensive nature of cow-calf systems presents both opportunities and

challenges from an auditing perspective. Cow-calf operations lend themselves toward animal welfare auditing from two perspectives: direct inspection of animals (animal-based measures) and evaluation of practices or records (management-based measures). Looking at the animals directly during a ranch visit allows assessment of several key welfare concerns, namely stockmanship, animal behavior during handling, long-term effects of forage availability (e.g., body condition), and some health conditions like lameness, pinkeye and injury. An investigative approach to assessing management practices provides information about welfare concerns, including pain management during common procedures, weaning practices, and antibiotic use (a proxy for incidence of health problems such as bovine respiratory disease). When available, direct inspection of ranch records can also provide information about frequency and causes of mortality. The more challenging aspects of animal welfare assessment on cow-calf operations are related to how cattle are kept, or facility-based measures, including: water access and quality, access to dry, protected lying areas, shade and shelter. Assessing the animal welfare implications of transport are also a challenge. These environmental factors are known to be important, yet change on a regular basis, thus are difficult to audit. In addition, there are other logistical challenges including the size of the cow-calf sector (757,000 U.S. ranches) and, in some cases, limited availability of days/year and facilities to directly observe cattle. Despite these challenges, there is tremendous potential to provide valuable feedback to ranchers and their customers and ultimately improve animal welfare in the cow-calf sector.

Key Words: cow-calf, welfare, assessment
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0276 Best management practices for weaned calves for improved health and well-being. C. R. Krehbiel*, B. K. Wilson, C. J. Richards, and D. L. Step, *Oklahoma State University, Stillwater*.

Morbidity and mortality from Bovine Respiratory Disease (BRD) in newly weaned calves continues to be the most significant health problem facing the beef cattle industry. BRD accounts for over 50% of all cattle treated for sickness, and several studies have documented the economic impacts of BRD on profit outcomes of calves. Direct costs attributable to BRD include death loss, treatment and labor costs, and prevention costs. BRD has been shown to impact growth performance and feed efficiency, days on feed, carcass merit and market value, and can decrease the returns of individual cattle from \$50 to \$250. Best management practices for weaned calves vary depending on factors such as season of year calves are purchased, calf genetics, length of time in the marketing/transport process, previous management/vaccination, among other factors. Calves purchased directly from a ranch have fewer health problems. In general, the longer an animal is in the marketing chain, the more health problems will be encountered.

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