

MCA/MSU Bull Evaluation Program: Foot Conformation

Dan Buskirk, Professor/Extension Beef Specialist, Michigan State University

BACKGROUND

Correct feet and leg structure is imperative for the performance of beef cattle, contributing to effective mating and longevity of breeding bulls and cows. Economic losses in cattle because of poor feet and leg conformation have been attributed to injury treatment cost, decreased estrus expression, longer calving interval, and involuntary culling. Heritability in beef cattle has been reported as moderate to high for foot angle (0.34 to 0.50) and claw set (0.21 to 0.46)^{1,2}

FOOT CONFORMATION SCORING

The objective of scoring bull foot structure is to eliminate bulls from the sale offering that have a likelihood of future impaired movement and reduced longevity. Bull confirmation should be closely examined at the farm of origin before being delivered to the evaluation. Bulls will be visually screened for extremes in foot and leg structure upon delivery to the station. Those deemed to exhibit poor confirmation of foot angle, claw set, or rear leg conformation will not be accepted. Because many foot/h hoof faults tend to develop as the bulls mature, formal scoring will be done at the conclusion of the evaluation, on one of the two final weigh days. Scores for foot angle and claw set will be assigned by two independent evaluators per established guidelines³ (see Figure 1). When there is scoring variation among an animal's feet, the worst foot will be scored. If both evaluators score the animal as less than 3, or greater than 6 for both foot angle and claw set, the animal will be removed from the sale offering. The conformation scores will be shared with consignors. In some instances, breed associations will be able to use the scores generated in calculation of foot angle and claw set EPDs.

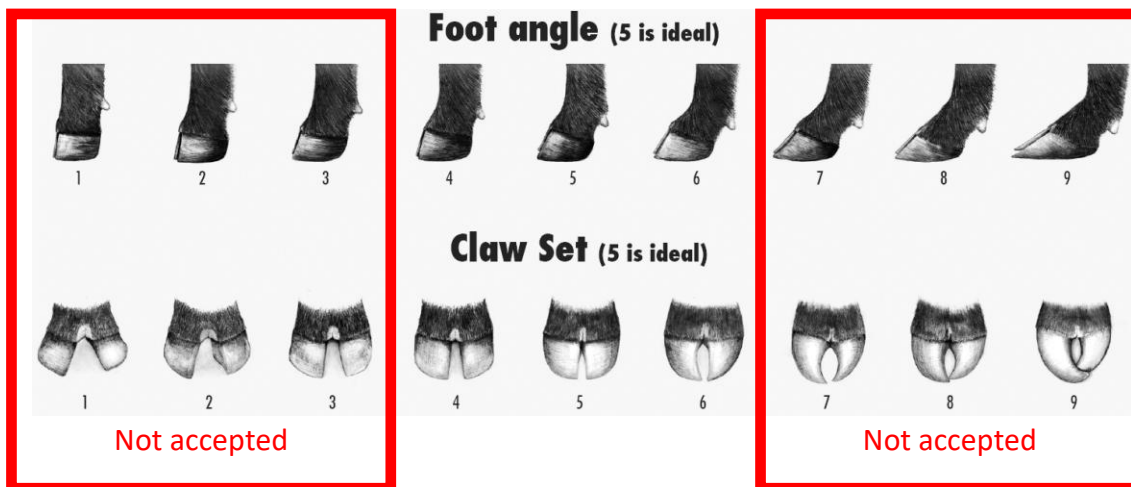


Figure 1. Adapted from American Angus Association Foot Score Guidelines³

¹ Jeyaruban, G., B. Tier, D. Johnston, and H. Graser. 2012. Genetic analysis of feet and leg traits of Australian Angus cattle using linear and threshold models. *Anim. Prod. Sci.* 52:1-10. <http://dx.doi.org/10.1071/AN11153>

² Wang, L, S. P. Miller, K. J. Retallick, and D. W. Moser. 2017. Genetic parameter estimation for foot structure in American Angus cattle. ASAS-CSAS Annual Meeting, Baltimore, MD July 8-12. Abstr.

³ American Angus Association. n.d. Foot score guidelines. Available: <http://www.angus.org/performance/footscore/footscoreposter.pdf> Accessed June 21, 2017. [accessed June 21, 2017].