Phenotypic and genetic associations between feeding behavior and carcass merit in crossbred growing cattle.

Breeders can improve cattle by selecting for better carcass traits, but this can have unintended consequences on other traits like feeding behavior. Changes in such behaviors can create social conflict in the herd and lead to future management issues. Understanding how these traits are associated is critical to anticipating and managing the consequences of selection.

To determine if carcass merit is phenotypically (observable characteristics) or genetically (through DNA) associated with feeding behavior, ultrasound and carcass traits of 1548 crossbred cattle were compared to various feeding behaviors.

Carcass merit and feeding behaviors had stronger associations genetically than phenotypically.

CATTLE THAT FED FOR A SHORTER TIME PER DAY HAD:

- Heavier carcass weights
- Greater muscle depth
- Better carcass conformation
- Higher dressing percentage

Dressing difference was associated with an increased energy intake per feed event or meal.

Fat percentage or fat score were not associated with feeding behaviors.

Genetic associations exist between feeding behavior traits and both ultrasound and carcass traits. Therefore, changes to feeding behaviour should be expected when selecting for carcass merit. These changes can be reduced by measuring and including feeding behaviour traits when selecting for carcass traits.
INFographic

Phenotypic and genetic associations between feeding behavior and carcass merit

Feeding behavior and temperament are considerations of a cattle management plan because they can impact growth rate (Cooke et al., 2020). By extension, behavior may also affect carcass composition and yield (Mao et al., 2013; Reichhardt et al., 2021). A recent study examined the phenotypic and genetic contributions of feeding behavior on carcass merit (Kelly et al., 2021). Results indicate that selection for improved carcass weight and fat deposition can indirectly affect feeding behavior. The authors suggest that both traits should be considered in a multi-trait selection index to offset the negative aspects of unwanted behavior.

References


