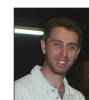


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GENETIC PARAMETERS FOR GROWTH TRAITS IN BRAUNVIEH CATTLE REARED IN BRAZIL

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Objectives

The objective of this research was to estimate direct and maternal heritability coefficients and genetic correlations for growth traits from birth to 550 days of age in Braunvieh cattle reared in Brazil.

Introduction

The Braunvieh breed is genetically evaluated in Brazil since 2000. This is an important breed in crossbreeding Brazilian beef systems, with Braunvieh bulls being mated with Nellore cows, producing animals with good maternal ability, growth rates, carcass quality and fairly well adapted to Brazilian field conditions.

Methods

Performance records of growth traits of 18,688 Braunvieh animals were analyzed under a complete animal model, to estimate the variance components in single-trait analyses, with the software MTDFREML (Boldman et al., 1995).

Traits analyzed were:

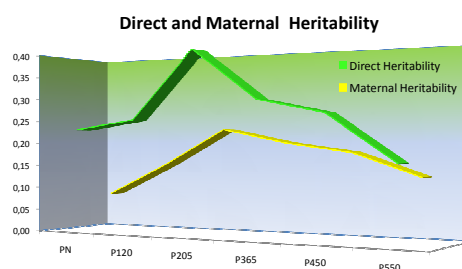
- Birth weight (BW, kg, N = 9,955),
- Weight at 120 days of age (W120, kg, N = 5,901),
- Weaning weight at 205 days (WW, kg, N = 6,970),
- Yearling weight at 365 days of age (W365, kg, N=4,055),
- Weight at 450 days (W450, kg, N=3,453),
- Weight at 550 days (W550, kg, N=1,946).

Full relationship matrix had 35,188 animals.

Results

Direct and maternal heritability increased from birth to weaning, with estimates of 0.23 ± 0.037 , 0.25 ± 0.050 , 0.41 ± 0.059 for direct heritability for BW, W120 and WW, 0.08 ± 0.012 , 0.15 ± 0.032 , 0.22 ± 0.036 for maternal heritability, and 0.18, 0.14 and 0.16 for total heritability estimates.

Heritability coefficients estimated for post-weaning weights decreased with age. For W365, W450 and W550 estimations for direct heritability were 0.29 ± 0.061 , 0.25 ± 0.057 , 0.16 ± 0.060 , while maternal heritability were 0.20 ± 0.035 , 0.18 ± 0.035 , 0.13 ± 0.052 , and total heritability were 0.30, 0.35, 0.26.



Conclusions

Direct and maternal heritability estimates reached the maximum values at weaning, increasing before and decreasing after that age. However maternal influence is important in this breed until the 550 days of age, maybe due to high milk production of cows.

Higher genetic correlations between weights were observed for close ages. Maternal effects should be considered in genetic evaluation of growth traits until 550 days of age in Braunvieh cattle in the population studied.



Braunvieh cow



Braunvieh bull



Nellore cows with
1/2 Braunvieh – Nellore calves



1/2 Braunvieh – Nellore cow