

SELECTION FOR PARASITE RESISTANCE

IN KIKO X BOER GOATS

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ABSTRACT

Goat production has increased in the United States over the last three decades. However, the prevalence of gastrointestinal nematodes is a major challenge for goat producers as it is a leading cause of health issues and death loss. One feasible approach to combatting internal parasites is to select naturally immune goats. Therefore, the objectives of this study were to estimate genetic parameters for parasite resistance, reproduction, growth, and carcass traits in a closed line of Kiko x Boer goats divergently selected for parasite resistance. Genetic parameters for parasite resistance, reproduction, growth, and carcass traits were estimated using ASREML procedures. Heritability estimates for FEC, PCV, and FAMACHA[®] score were 0.13, 0.06, and 0.11, respectively. Correlations between FEC and FAMACHA[®] were large and positive ($r = 0.46$), while correlations between FEC and PCV and FAMACHA[®] and PCV were slight ($r = 0.00$ and $r = -0.09$, respectively). Heritability estimates were 0.23 for litter size, 0.18 for birth weight, and 0.17 for weaning weight. Positive genetic correlations ($r = 0.24$) were also found between direct birth weight and weaning weight. Heritability estimate for final live weight was 0.58, 0.14 for hot carcass weight, and both loin eye area and shear force estimates were estimated to be outside the parameter space (1.00) because of insufficient records. Results of this study indicate that parasite resistance may be lowly heritable. Nonetheless, anthelmintic resistance issues may be abated through genetic selection based on parasite resistance.