

S08(T)-PP-3

A comparison of reproductive traits of Dazu black and Inner Mongolia Cashmere goat does with the same service bucks under subtropical monsoonal climate

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Reproductive traits including litter size are critical factors for efficient goat production. The heritabilities for most reproductive traits are less than those for many other traits, usually ranging from 0.05 to 0.15, and opportunities for within-breed selection are therefore limited. The objective of this study was to compare the reproductive traits of Dazu black goats (DBG) and Inner Mongolia cashmere goats (MCG) under the same subtropical monsoonal environment. A total of 28 DBG does were native and well adapted to this environment, whereas 20 MCG does were introduced from Northwest of China (four-season, monsoon climate, long cold arid winter). All does were mated with the same 5 DBG bucks. Goats were kept under confinement in half-covered pens and fed alfalfa hay plus a commercial concentrate. Data were analyzed for gestation length, litter size and weight. The gestation length of MCG does averaged 150.00 days vs. 149.12 days for DBG ($P < 0.05$). Mean Litter sizes and weight were all significantly affected ($P < 0.01$) by breed; with litter sizes, DBG and MCG averaged 2.36 and 1.16; and with litter weight, DBG and MCG averaged 5.33 ± 1.50 kg and 3.07 ± 0.99 kg, respectively. The mean birth weight of DBG and MCG kids were 2.29 ± 0.50 kg and 2.65 ± 0.41 kg, respectively, and significant difference was found ($P < 0.01$). Breed seems to be the major factor affecting the reproductive performance, and dam is the primary factor that affecting litter size in goat.

Keywords: goat, reproductive traits, performance test