

GENETIC AND PHENOTYPIC TRENDS FOR GROWTH AND MILK TRAITS OF INDIGENOUS AND EXOTIC BREEDS OF GOATS AND THEIR CROSSES IN IRAQ

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ABSTRACT

Animal model approach was applied to evaluate 309 does and 998 kids for milk yield and body weight, respectively. The does belonging to four genetic groups: Local (L), Damascus (D), Damascus X Local (DL) and Saanen X Local (SL) were evaluated over four milking seasons (1995, 1997, 1998 and 2000). The kids were L and D purebreds and 2- and 3-way crossbreds between Local (L), Damascus (D) and Saanen (S). All kids were born at the Agargouf Goat Breeding Station between 1994 and 2000.

Heritability (h^2) and repeatability (r) were estimated by REML after adjusting records for the fixed effects. An Animal Model program was used to predict breeding values for animals and their parents. Genetic and phenotypic trends of the traits studied were estimated by regression of breeding and phenotypic values on birth years, respectively.

Genetic trends of total, test day and post weaning milk yield were 1.060 ($P<0.01$), -0.003 ($P<0.05$) and -0.105 kg/year, respectively. The phenotypic trends of the same traits were -9.275 , -0.031 and -7.303 kg/year ($P<0.01$), respectively. Genetic trends of body weights at 6, 12 and 18 months of age were 0.166, 0.415 and 0.310 kg/year ($P<0.01$), respectively, while, the phenotypic trends were 0.161 ($P<0.05$), 0.751 ($P<0.01$) and 1.106 kg/year ($P<0.01$), respectively for the three ages.

It was concluded that the breeds studied lack effective directional selection and thus a breeding program should be activated to increase goat productivity.

Keywords: *Genetic and Phenotypic Trend, Goat, Milk, Growth*