

Genetic Analysis of Growth Traits in White Boni Sheep under the Central Highlands Region of Yemen

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Abstract : The data were collected from 1992 to 2009 of White Boni sheep maintained at the Regional Research Station in the Central Highlands of Yemen. Data were analyzed to study the growth related traits and their genetic control. The least square means for body weights were 2.26 ± 0.67 , 11.14 ± 0.46 and 19.21 ± 1.25 kg for birth weight (BW), weaning weight (WW), six-month weight (WM6), respectively. The pre- and post-weaning average daily weight gains (ADG1 and ADG2) were 106.04 ± 4.98 g and 46.21 ± 8.36 g/ day. Significant differences associated with the year of lambing were observed in body weight and weight gain at different stages of growth. Males were heavier and had a higher weight gain than females at almost all stages of growth and differences tended to increase with age. Single-born lambs had a distinct advantage over those born in twin births at all stages of growth. The lambs in the dam's second to fourth parities were generally of heavier weight and higher daily weight gain than those in other parities. The heritabilities of all body weights, weight gains at different stages of growth were moderate (0.11-0.43). The phenotypic and genetic correlation among the different body weights were positive and high. The genetic correlations of the pre- and post-weaning average daily gains with body weights were high to moderate, except BW with ADG2.

Keywords : breed, genetics, growth traits, heritability, sheep

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