

HERITABILITIES AND GENETIC AND PHENOYPIC CORRELATIONS OF EARLY GROWTHTRAITS IN CROSSBRED CHICKENS

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Abstract

Sire heritabilities and genetic and phenotypic correlations among some growth traits in crossbred chickens at day old to 8 weeks of age were estimated using 357 chicken progenies. A total of 23 sires from four different strains were mated to 25 dams from each strain through artificial insemination. Data collected on body weight, body length, breast girth and keel length on weekly basis were subjected to paternal half-sib analysis and variances. Sire heritabilities for growth traits in each sire strain and age were generally high. Also, genetic correlations between the traits using combined sire variances were generally high, positive and significant, while those of phenotypic correlations varied between low to high but not as high as genetic correlations. High heritability estimates indicate presence of appreciable genetic variabilities in the growth traits studied amongst the sire strains and improvement could be made through mass selection. High, positive and significant correlations between growth traits suggest that the traits were under the same genetic influence (pleiotropism). Therefore, selection for one trait would lead to improvement in the other traits as correlated response.