PHAENOTYPISCHE UND GENETISCHE UNTERSUCHUNGEN ZUR FUTTERVERWERTUNG DER LEGEHENNE

ABHANDLUNG
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Abstract

Some problems of feed efficiency of the laying hen were investigated on 2791 hens from three experimental lines of Leghorn-type chickens. The ratio feed consumption/egg mass was taken as a measure of feed efficiency. During production time (e.g. from the first egg) average feed efficiency of line 1 (e.g. hens with large body weight and large egg weight) was about 12 - 15 % better than in line 2 (e.g. hens with small body weight and small egg weight). Taking dry egg mass into account diminished this difference for about 5 %. Productivity of the laying hen e.g. egg mass divided by total physiological body weight was about 10 - 12 % higher in line 1. Multiple linear regression was used to calculate the dependencies between feed efficiency and egg number, duration of production, egg weight, $\Sigma G^{3/4}$ and body weight gain. The heritability of feed efficiency ($h^2_{S+D}$) was between 0.34 and 0.55 and between 0.09 and 0.54 from the weighted dam-daughter regression. Heritability for other traits and genetic correlations between feed efficiency and other traits were calculated from the nested analysis of variance and covariance.