

Estimates of genetic trend for carcass traits in a commercial broiler line

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ABSTRACT. Data from the slaughter of 24,001 chickens that were part of a selection program for the production of commercial broilers were used to estimate genetic trend for absolute carcass (CW), breast meat (BRW), and leg (LW) weights, and relative carcass (CY), breast meat (BRY), and leg (LY) weights. The components of (co)variance and breeding values of individuals were obtained by the restricted maximum likelihood method applied to animal models. The relationship matrix was composed of 132,442 birds. The models included as random effects, maternal additive genetic and permanent environmental for CW, BRW, LW, CY, and BRY, and only maternal permanent environmental for LY, besides the direct additive genetic and residual effects, and as fixed effects, hatch week, parents' mating group and sex. The estimates of genetic trend were obtained by average regression of breeding value on generation, and the average genetic trend was estimated by regression coefficients. The genetic trends for CW (+6.0336 g/generation), BRW (+3.6723 g/generation), LW (+1.5846 g/generation), CY (+0.1195%/

generation), and BRY (+0.1388%/generation) were positive, and they were in accordance with the objectives of the selection program for these traits. The genetic trend for LY (-0.0019%/generation) was negative, possibly due to the strong emphasis on selection for BRY and the negative correlations between these two traits.

Key words: Animal breeding; Breeding value; Carcass yield; Genetic gain; Poultry