B-57: The evaluation of layer-type breed lines for egg production parameters

Theivanayagam Thiruchelvam
(*Central Poultry Research Station, Karandagolla, Kundasale*)

Eight layer-type breed lines maintained at the Central Poultry Research Station (CPRS), Karandagolla were evaluated for several productive traits. A total of 480 layers were utilized. Each line was maintained in 3 pens (replicates) and each replicate consisted of 20 birds. The experiment lasted 4 months.

Body weight, feed intake, feed conversion efficiency, percentage laying and egg weight were the parameters studied. The breed lines M and RIR had heavy body weights than other breeds, lines Kl and L2 showed good performance on most characters, but L2 exhibited somewhat better performance than K1.

This experiment was carried out from February 20 to June 1, 1991. Data on various production parameters was collected from 8 different types of breed lines of chickens such as: J1, J2, K1, K2, L2, M, WLA and RIR. The lines were derived from 2-way crosses. Among these, M and RIR were brown egg strains, while others were white egg lines.

Chicks at hatching were blocked according to the body weights and then blocks were randomly allocated into 8 groups, consisting of 60 birds in each group. Each group was housed in separate pens. Each treatment(breed type) consisted of 3 replicates and each replicate consisted of 20 birds. the general management and feeding of all groups were similar.

Body weights were recorded at the age of 140, 168 and 224 days. Feed consumption was recorded during 2 periods, between 180 to 210 days and 210 to 240 days. Egg production was measured daily from replicate and after 28 days total egg production was taken. Percentage lay was calculated for the periods between 180 to 210 days and 210 to 240 days of age. Feed conversion efficiency was calculated for the 2 periods. A completely randomized design was used to analyse the breed effects. The breed effects (treatment effects) were statistically analysed by the ANOVA and Duncan's Multiple Range Test.

There were significant differences among breeds in terms of body weights at 224 days. Lines M and RIR recorded the highest weights, whereas K1, K2 and WLA showed low body weights.

There were significant differences among the breed lines in percentage laying at 180 to 210 days. The K1 and L2 lines showed the highest percentage and the RIR had the low percentage.

There were significant differences in terms of feed consumption during the period of 210 to 240 days. The lines M and RIR consumed more feed and Lines K1 and L2 exhibited low consumption.

There were significant differences with regard to feed conversion efficiency during the period of 180 to 210 days. Lines M and RIR showed poorer efficiency than others.

Significant differences were observed in terms of egg weight at 210 to 240 days of age. Lines J1, J2 and L2 had rather high egg weight and RIR showed low weight.

The 8 layer lines tested differed significantly in productive parameters such as body weight, feed intake, feed conversion efficiency, percentage lay and egg weight. The overall results suggest that lines K1 and L2 were better suited for egg production purposes than other lines.