Productive and reproductive performance of Japanese Quail raised in batteries and on litter floor at two densities under the prevailing climatic condition in Assiut upperEgypt.

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Abstract:

Four hundred and fifty, 4 weeks old, sexed Japanese quail birds were wing- banded, individually weighed and equally distributed into two groups (G1 to G2). G1 was reared on litter floor, while G2 was housed in batteries with a sex ratio of 1:2. Each group was divided into two equal subgroups at two densities which were further classified into 3 replicates (30 and 45 bird/replicate). All experimental birds were raised till 20 weeks of age. The achieved results could be concluded as follow: The BWG of females (F) raised in batteries at both densities I and II (BD1 and BD2) exceeded (P≤0.05) those of F raised on litter floor at both densities I and II (LD1 and LD2). The mortality rate decreased in batteries than on litter flower. Also, it decreased at the lower stocking density than that of the higher density. The feed consumption from 4 to 8 weeks of age for M and F in LD1 and LD2 exceeded (P≤0.05) those of BD1 and BD2. The feed conversion as g feed per g gain (FCRg) of F at both densities (BD1 and BD2) improved (P≤0.05) than those of LD1 and LD2. The FCRg values of M at BD2 improved (P≤0.05) than that of LD2. Feed conversion as g feed per g egg mass (FCRe) for LD1 and LD2 were significantly (P≤0.05) better than those of BD1 and BD2. The differences in egg weight, egg shell thickness and albumen percentage among all groups were insignificant. Shell percentage of birds at LD1 and LD2 exceeded (P≤0.05) those of BD1 and BD2. The hen day production (HDP), egg number (EN) and egg mass (EM) surpassed (P≤0.05) in LD1 those of LD1, BD1 and BD2. The birds in LD2 exceeded (P≤0.05) those of BD1 and BD2 for HDP, EN and EM. The fertility percentage (FP) for LD2 exceeded (P≤0.05) that of LD1, BD1 and BD2. Economical efficiency (EE) of birds raised on litter floor exceeded that of birds raised in batteries. It exceeded at LD1 those of LD2, BD1 and BD2, while it at LD2 surpassed those of BD1 and BD2. In general, quails raised on litter floor had higher EE than that of birds raised in battery cages. The birds raised on litter floor were superior in FCRe, HDP, EN and EM; in addition to improved FP. Quails raised at the densities I and II on litter floor had the same EE. Applying the density II could be considered more economic and efficient than density I due to saving in management costs as well as in raising housing space area.

Keywords:

battery, litter, density, performance, Japanese quail

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