

## Alternative technologies applied in laying hybrid husbandry

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Conventional technology used in laying hen husbandry supposes the appliance of optimised management, to satisfy the physiological requirements of the fowl and to better express the hybrid production potential. Our study aimed to assess the effects given by the usage of the alternative accommodation systems on the layers performance. The biological material comprised 1296 Lohmann Brown hybrids, allocated to 3 groups of 432 hens each, a control group (Lc) accommodated in 108 conventional cages (4 hens/cage, 500 cm<sup>2</sup>/hen) and two experimental treatments: L1exp group, accommodated in 72 enlarged conventional cages (6 hens/cage, 1000 cm<sup>2</sup>/hen) and L2exp group, accommodated in 108 opened conventional cages (without front panels, meaning two kinds of cages: one kind for nesting and resting area, 500 cm<sup>2</sup>/hen and the other kind for feeding and water intake, also 500 cm<sup>2</sup>/hen). Egg yield and quality were assessed weekly, based on the real flock size. The microbiological tests used the serial dilution technique (Romanian Veterinary Agency standards). The data were statistically processed using the ANOVA single factor algorithm. After 60 weeks of production, the Lc group gave an average yield of 325.05 eggs/hen, meaning 2.68-4.72% higher than that of the hens in both experimental groups. The FCR was 6.88-13.10% more efficient in Lc group, compared to the experimental groups. Flock casualties were influenced by the low density in cages at L1exp (mortality: 8.22%) and by the freedom of movement in L2exp (mortality: 7.46%). No statistical significance occurred between the mortality values. The higher density in the control group produced struggling and higher mortality level (11.66%). Not significant differences occurred between groups, concerning egg quality. However, the eggshell microbial load was significantly affected by the husbandry system. The lowest microbial load was measured on the eggs issued from Lexp-1 (enlarged conventional cages): 106.31-146.61 germs/cm<sup>2</sup> of shell, 6.08-10.91% lower than Lc, respectively 39.79-76.6% lower than Lexp-2. The super-intensive system gave better production performances. Live weight, feed intake and egg yield were better in the Lc group (conventional cages), while the L1 exp group (enlarged conventional cages) had the best egg quality parameters. Lowest mortality rates were recorded at the L2 exp (conventional cages with opened front panels and movement freedom).

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