Three experiments were carried out to evaluate the influence of cage density on the performance of 25- to 84-week-old laying hens. Forty hundred Lohmann-LSL layers were distributed in cages (100x40x 45x50cm) according to a completely randomized experimental design with split plot in time. Three treatments (10, 12, or 14 hens per cage, corresponding, to 450, 375, and 321cm²/bird, respectively), with 15 assessment periods (four weeks each), and eight replicates per treatment were applied. Considering that layer's production cycle is affected by age, three experimental trials (25 to 44; 45 to 64 and 65 to 84 weeks of age) were carried out, and the data collected in each trial was individually analyzed. Increasing cage density significantly reduced feed intake in all phases studied. Increasing birds/cm² significantly decreased feed intake and improved feed conversion at all stages of study, and egg production was only affected in 45-week-old birds. The number of birds per cage should be reduced as birds age in order not to affect their performance. Birds with more cage space in the presented higher feed intake; however, this did not result in higher egg production or lower mortality. These results suggest that up to 45 weeks of age, 375 cm² per layer results in the best performance, and from then on, 450 cm² per bird is required to maintain egg production and to reduce hen mortality.

Keywords
Birds per cage, cage density, egg production, laying hens.