

EFFECTS OF SOME SYNTHESIS AMINOACIDS ON PRODUCTIVE PERFORMANCES OF LAYING HENS

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SUMMARY

Each amino acid has a specific function, and the number and type of the amino acids included within the protein structure, beside their way of grouping, determine the so-called protein specificity. In this sense, these researches have been carried out in the Poultry Sector from the, BUASVM Timisoara, during 2005-2006, in permanent bedding shed. The researches concerning the study of synthetic amino acid optimization within laying hens food were performed on 269 "Shaver 579" hens' hybrid. In the ascendant part of the laying curve, there were being observed 69 laying hens, shared in 3 lots. The experiment used 3 different fodder recipes, with the afferent protein levels, situated at 17%, 16% and respectively 15%. Methionine (0.38%) and lysine (0.80%) levels were maintained as NRC (1994) requirements by supplying with different percents of synthesis amino acids. The egg production weight produced by the hens fed with the recipe with 16% BP, 0.81% lysine and 0.38% methionine has recorded an insignificant increase ($p > 0.05$) compared to the egg production weight produced by the hens from the other groups (with 17 and respectively 15% BP). In the plateau phase, there were used 4 experimental lots by 25-hens/group. Among the experimental period (8 weeks) the poultries age was between 32 and 39 weeks. The used combined fodders contained different levels for protein (16.2% -group 1, respectively 15.2% -groups 2, 3 and 4), and for amino acids as follows: group 1 and 2-0.75% lysine and 0.38% methionine; group 3-a decreased amino acids contain 0.70% lysine and 0.34% methionine; group 4-an increased amino acids contain 0.82% lysine and 0.42% methionine. The highest egg-mass production (50.07 g) was registered in group 4, where the diet contained a lower protein percent (15.2%), but the lysine was 0.82% and the methionine 0.42%. On the other side, the lowest egg-mass production (44.14 g) was obtained in lot 3, where the administrated fodder contains only 0.70% lysine and 0.34% methionine. Obviously the statistical differences were significant ($p < 0.001$). In the descendent phase, where given 4 receipts corresponding to the 4 lots, with the same protein content, (14.9%), but with different amino acids levels: group 1-0.70% lysine and 0.32% methionine, group 2-0.78% lysine and 0.32% lysine, group 3-0.70% lysine and 0.35% methionine, group 4-0.70% lysine and 0.29% methionine. The highest egg production weight was recorded in group 1 (41.14 g), whose combined fodder had a content of 14.9% BP, 0.70% lysine and 0.32% methionine. A good production was also achieved in group 3 (40.82 g), whose combined fodder was supplemented with methionine up to the level of 0.35% (10% above the literature recommendations). The lower egg production weight (39.41 g) was recorded in group 4, too, which was fed with a methionine-deficient fodder. In this phase, we do not recommend a supplementation with amino acids for the combined fodder.