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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

ORGAN MEASURE OF JAPANESE QUAILS FED WITH DIETS CONTAINING CHOLINE AND BETAINE IN A DIGESTIBLE METHIONINE PLUS CYSTINE REPLACEMENT

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The objective was to evaluate organs measure of Japanese laying quails fed with diets containing different levels of choline and betaine-HCl in digestible methionine + cystine replacement. The experiment lasted 112 days and were used four hundred and fifty birds with 180 days of age, in a completely randomized design with five treatments, ten replicates and nine birds per experimental unit. The experimental diets were formulated based on corn-soybean and contained 19% of crude protein and 2.850 Kcal of metabolizable energy. The treatments contained respectively levels of digestible methionine + cystine (0.5880; 0.6630; 0.7380; 0.8130 e 0.8880%), choline (0.3350; 0.2510; 0.1680; 0.0840 e 0.0000%) and betaine-HCl (0.1580; 0.1180; 0.0790; 0.0395%), maintaining levels of the 0.3000; 0.2250; 0.1500; 0.0750 e 0.000% choline + betaine replacement on the equimolar base to reach 0.888% of M+C dig in feed . The parameters studied were: weight of the bird (g), absolute (g) and relative weight (%) of liver, pancreas, heart, intestines and oviduct, intestines and oviduct length (cm). No significant effects of digestible methionine + cystine, choline and betaine levels were observed for the variables studied. The mean values were: bird weight (182.32 ± 20.79 g); liver (5.76 ± 1.39 g) and (3.18 ± 0.81%); pancreas (0.70 ± 0.45 g) and (0.41 ± 0.33%); heart (2.01 ± 0.51 g) and (1.12 ± 0.38%), intestinal (13.77 ± 1.67 g, 7.62 ± 1.13%, 60.53 ± 3.82 cm) and oviduct (10.77 ± 1.99 g, 5.93 ± 1.01% and 28.01 ± 3.26 cm) by the Student Newman Keuls (SNK) test. The liver was not influenced by the available choline in the experimental rations, and the biosynthesis capacity allowed sufficient levels without altering the weight of the organ. The requirement for choline for birds decreases with age and generally no deficiency is observed for animals, and the supply of diet without choline allows them to be able to synthesize every required choline with no signs deficiency such as reduced egg production and changes in organs involved in fat metabolism. The studied levels of choline, betaine and digestible methionine + cystine replacement were not sufficient to determine significant biometry changes of the studied organs of Japanese laying quails.

Keywords: equimolar base, essential amino acid, intestines, liver, oviduct