Boron Supplementation in Broiler Chickens Diet

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Keywords: boron, broilers, phosphatic glass, bioproductive indices

SUMMARY

In the last period, more and more studies proved that Boron exerts an ameliorating effect on bioproductive performances in poultry. In our experiments, boron supplementation was carried out with the help of boric acid (Fassani et al., 2004). In this study, the B-source was represented by a B-based micromineral preparation, the phosphatic glass, with a low density B (a licensed product) (Drinceanu et al., 2006). With consideration for the results communicated in specialty works (Fassani et al., 2004; Drinceanu et al., 2007), the B-supplementation dose for the broiler feed in this experiment was 30 ppm. We arranged an experiment on 150 broiler chickens (hybrid ROSS 308), provided by the Incubation station from SC AVIS 3000 SA Deva, randomly distributed in three experimental groups: G1: in combined forage (CF), we introduced a mineral premix (MP) without a B source; V2: in CF, we introduced MP including boric acid (17.5% B), supplying 30 ppm B; V3: in CF, we introduced MP including phosphatic glass with B (50 mg B/g), supplying 30 ppm B. The chickens of experiment were fed according to growth period with two CF types, having following nutritional characteristics: 1-21 days –CF1 with 3200 kcal/kg ME and 23% CP; 22-42 days –CF2 with 3200 kcal/kg ME and 20% CP. Boron’s bioproductive effect was determined in relationship with following indices: feed intake, body weight and feed conversion index. The feed intake, for entire experimental period (1-42 days) was 4253.9 g/chicken in the reference group (G1) and insignificantly smaller in the groups with B supplementation, respectively 4191.7 g/chicken in G2 and 4209.3 g/chicken in G3. The mean body weight at the end of experiment was 2262.70±87.34 g in G1. In the variant with boric acid-based B supplementation, it was 2328.70±52.04 g, 2.92% bigger than in G1. Consequently, we may conclude that B supplementation of broiler feed, indifferently of source, induces a tendency of intake reduction, a final body weight increase (p>0.05) with 2.92-5.1%, respectively a conversion index reduction of 4.3–5.9%. Compared with the most common B-supplementation source (boric acid), the phosphatic glass with B provides superior results in broiler chickens.

Acknowledgement. This work was supported by CNMP, project number 52-148/01.10.2008.

REFERENCES