

ABSTRACT

The Dietary Supplemental Effect Of Boron and Zeolite, Either Alone Or In Combination on Aged Laying Hens

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The effect of dietary supplementation with boron, zeolite and combination of both on egg production performance, egg quality and bone mineralization in aged laying hens was assessed. A total 576 laying hens of commercial white strain (Süper nick), 65 wk of age, were used in the present study. The experiment was lasted for 15 weeks. The hens were randomly divided into 4 groups each comprising 144 hens with 6 replicates. Experimental feeding groups were constituted supplementing no boron and zeolite to basal diet (control), adding boron (100 mg/kg diet), zeolite (8 g/kg diet) to basal diet and combination of boron and zeolite at corresponding levels. Boron and zeolite, either alone or combination, reduced egg weight ($P<0.01$) and egg mass output ($P<0.05$), but did not intervene to egg production rate ($P>0.05$). Dietary treatments had no effect on feed intake and feed conversion rate. Boron increased shellless egg rate ($P<0.01$), whereas showed no effect on cracked-broken egg ratio ($P>0.05$). Internal and external egg quality indices were not affected by treatments with the exception of egg shell thickness which was increased in response to dietary administration with boron+zeolite ($P<0.01$).

The present findings suggest that the expectation that boron and zeolite would efficiently decrease damaged egg ratio of hen eggs thereby improving egg shell quality was not the case under the practical conditions of this study.

Key words: Boron, Zeolite, Aged Laying Hens, Egg Quality