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“Bridging the gap between increasing knowledge and decreasing resources”

## The Impact of the Seabuckthorn (*Hippophae rhamnoides*) Supplement in the Feed Ration on the Quality of Poultry Products

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### Abstract

Seabuckthorn (*Hippophae rhamnoides*) (SB) is a shrub which belongs to the family Elaeagnaceae, it have been used in Asia, Europe, and North America for human consumption, cosmetics, and also animal feeding as a dried by-product after fruit processing for juices. This study aimed to find effects of the SB supplement in feed ration on the laying hens' productivity and egg quality. Two experiments were conducted at the ITP (International Testing of Poultry) in Ústřasice, Czech Republic. Total number of laying hens was 2160. In the first experiment 1440 hens were divided into 48 pens - 7 periods with a diet containing 5 % of SB (T) vs. a diet without SB (control). During the second experiment 720 hens were divided into 12 pens - over 2 periods with a diet containing 13.5 % SB (T) vs. a control group without SB. The data collected was analysed by statistical software SAS System 9.3. Parameters of the production of eggs, quality of eggs, live weight of hens and also feed consumption were measured. There were no statistical significant differences between groups of hens fed by 5 % of SB in a diet vs. control group in egg production and egg weight during the first experiment, but significant decrease of egg productivity and egg weight was found in T group (13.5 % of SB) during the second experiment ( $p < 0.01$ ). The colour of yolk increased significantly – more orange, in the diet with SB for both experiments ( $p < 0.01$ ). The feed consumption was the highest in the group fed 13.5 % of SB, but the feed conversion was not better in this group. Overall, some positive effects of 5 % SB inclusion in the diet were found: promotion of a more orange yolk colour, higher productivity of laying hens, and decreasing number of disorders in eggs. However, 13.5 % of SB in a diet decreased the egg quality and productivity of hens, so we cannot recommend this higher concentration of SB in a diet for laying hens.

**Keywords:** Feed, laying hens, poultry products, quality of eggs, seabuckthorn