

THE EFFECTS OF DIETARY MULBERRY LEAF POWDER IN LAYING HENS' DIETS ON INTERNAL AND EXTERNAL EGG QUALITY PARAMETERS AND YOLK COLOR

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Abstract

The experiment studied the effects of different levels mulberry leaf powder (ML) inclusion in laying hens' diets on their physical parameters and yolk color intensity. The study was conducted on 120 Hy-line laying hens (age 27 weeks), divided in 3 groups C (0%), E1 (1.5%), E2 (3%), 40 laying hens/group, 10 cages/group; 4 laying hens/cage, accommodated into Zucammi-type digestibility cages. Feed and water access were provided ad-libitum. During the entire 4-wks experimental period, performance parameters were recorded: laying intensity (%), average egg weight (g), eggs classification (%). Concerning production parameters, no significant differences ($p \geq 0.05$) were registered. At the beginning, at 2nd and 4th weeks' period, 18 eggs/group were collected to determine the internal and external eggs' quality parameters. The color intensity recorded a significant increase ($p \leq 0.05$) in the experimental groups (1st and 2nd egg collection). The eggshell thickness (mm) was significant higher ($p \leq 0.05$) on E2 group (1st and 2nd egg collection) compared to E1 and C groups. Also, 18 eggs/group were collected to assess shelf-life characteristics after 14 and 28 days storage period. Significant differences ($p \leq 0.05$) were recorded for average egg weight on E1 group compared to C and E2 groups (at 14 days storage period). The experiment demonstrated that an inclusion rate of 1.5% and 3% mulberry leaves powder can significantly increase yolk color intensity without negative effects on production performances.

Key words: egg quality, yolk color, laying hens, phytoadditiv, mulberry leaves