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Effect of Different Levels of Distillery Yeast Sludge on Immune Level, Egg Quality and Performance of Layers as a Substitute for Soybean Meal

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Abstract : There is a dire need to replace high-cost protein with more economical protein to overcome animal protein shortage in developing nations especially countries like Pakistan. In conjunction with these efforts, the current study was planned to evaluate the effects of various dried distillery yeast sludge (DYS) levels on the immune level, egg quality, and performance of layers by replacing soybean meal. The study was designed with two hundred layers of Hy-Line variety. Distillery yeast sludge was dried and ground for 2 mm mesh size and after this proximate and mineral analysis was determined. Five isocaloric and isonitrogeneous feeds were given containing C (control), 5, 10, 15, 20% distillery yeast sludge by replacing soybean meal. The trial was performed in the completely randomized design with five treatments, 4 replicates and 10 hen per replicate. Results demonstrated that feed intake, egg production, feed conversion ratio decreased ($P < 0.05$) with the increased dietary DYS. However, statistically significant decrease ($P < 0.05$) was found in hens having DYS20 diet than control. Layers on Diets C, DYS5 and DYS10 exerted a higher immune level than DYS15 and DYS20 diets. Egg weight, eggshell weight, eggshell thickness, egg albumen height as well as haugh unit score were affected significantly by the increased level of DYS. In general, results of this study demonstrated that inclusion of DYS up to 10% showed no adverse effects on health and performance of layers.

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