Nutritional effects of dietary inclusion of Leucaena leucocephala and Moringa oleifera leaf meal on Rhode Island Red hens' performance

Abou-Elezz F.M.K., L. Sarmiento-Franco, R. Santos-Ricalde, F. Solorio-Sanchez, 2011

Abstract:

This study consisted of two experiments, aimed at determining the effect of the dietary inclusion of either Leucaena leucocephala (LLM) or Moringa oleifera (MOLM) leaf meals on Rhode Island Red (RIR) hens' egg production and quality. In the first experiment, thirty six RIR hens, at 36 weeks of age, were randomly divided into four groups each of nine birds and were allocated in individual cages. The four groups corresponded to four dietary treatments containing 0 (control), 5, 10, and 15 % of LLM, respectively. Simultaneously, the second experiment was carried out following the same design but using MOLM instead of LLM. The egg production and quality traits were monitored for five weeks, preceded by one week of adaptation. The results showed a quadratic effect on the egg laying rate (57.10, 57.46, 53.25, and 47.46 %), egg mass (g/hen/d) and feed conversion due to the LLM treatments (0, 5, 10, and 15 %, respectively). The MOLM treatments decreased linearly the egg laying rate (60.00, 59.72, 56.13, and 51.87 %) and the egg mass, and had a quadratic effect on the feed intake (111.15, 111.93, 107.08, and 100.47g/hen/d) when including 0, 5, 10, and 15 % of MOLM, respectively. The yolk color increased linearly by the rise in both the MOLM and the LLM levels. Other results were obtained in the albumen and yolk proportions (%) and in the yolk coefficient, while no adverse effects were found on the other egg quality traits due to the LLM or MOLM treatments. The MOLM or the LLM could be acceptable as sustainable feed resource up to 10 % in laying hen diets.

Keywords:

feed alternatives, mono-gastric, tropical forages, egg production, and egg quality

Published In:

Cuban Journal of Agricultural Science, Volume 45 No. 2, 163-169