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**Effect of dietary nano-selenium on productive,
immunological performance, oxidation resistance and
selenium deposition in tissue for laying hens**

By

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ABSTRACT

The experiment was designed to study the effect of dietary nano-selenium on productive, immunological performance, oxidation resistance and selenium deposition in tissue of laying hens. A total number of 180 laying hens of Silver Montazah strain were used. Layers were divided randomly into six treatments. Five nano-selenium diet concentrations (200, 160, 120, 80 and 40 mg/ton for treatments (T2, T3, T4, T5 and T6), respectively. The treatment (T1) was used as control with 200 mg/ton diet sodium selenite.

The results were discussed and summarized as follows:

1. Application of nano-selenium in layer diets was effective in increasing egg number, egg mass, total serum protein, and albumin.
2. Also, nano-selenium improved some immunological traits, feed conversion, some egg quality traits and some antioxidant enzymes traits.
3. The optimum level of nano-selenium was 200 mg/ton diet, which recorded 5.40g feed/g egg mass compared to 9.24g feed / g egg mass in control treatment (200 mg/ton diet)
4. Application of 200 mg nano-selenium /ton diets were significantly increased total cholesterol, triglycerides, heterophils (H%) and H/L ratio. Where, low density lipoprotein was significantly decreased compared to other doses of nanoislimin
5. The concentration of selenium in liver, breast meat and whole egg were 30.9, 40.5 and 102.3% higher in layers fed 200 mg/ton diet nano-selenium compared to layers fed 200mg/ton sodium selenite.
6. layers fed 200mg/ton diet nano-selenium had 5.6 % and 5.4 % higher in dressing and edible meat, respectively, compared to layers fed 200 mg/ton sodium selenite.

Key Words: Laying hens, nano-selenium, sodium selenite, productive, physiological, immunological and carcass traits.

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