



**EFFECT OF IN-OVO NANO-SELENIUM  
INJECTION ON PRODUCTIVE PERFORMANCE  
AND IMMUNITY OF IMPROVED BALADI  
CHICKEN**

**By**

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## ABSTRACT

An farm experiment was carried out to study the effect of in ovo injection by nano-selenium on growth performance, carcass parameters, some blood plasma parameters and histological segments of improved Baladi chicken raised in an semi open house during the period from April to July.

A total number of 525 fertile improved Baladi eggs (Saso with Golden Montazah) with an average weight of  $51.30\text{g}\pm 0.81$  were collected. Before incubation, eggs were randomly divided into seven groups. The first group was non-injected eggs, considered as control(T1), the second group was injected into air sac with sterile water with volume of 0.1 ml/egg (T2), the third group was only punctured (T3) while the fourth (T4), fifth (T5), sixth (T6) and seventh (T7) groups were injected into air sac with concentration of 0.05, 0.075, 0.1 and 0.2  $\mu\text{g}$  SeNPs respectively. The hatched chicks from the seven groups were brooded in suitable floor pens with chopped wheat straw litter. Then Chicks were housed in galvanized wire cage batteries (30 chick per treatment divided into 3 replicates as 10 chicks per each) for 7 weeks of age .

The main results showed that ovo injection by SeNPs significantly increased chicks weight, final body weight, and improved feed conversion. And decreased decreased triglycerides. Also, Plasma T3 and T4 levels were higher in all treatments with SeNPs at the first and final day of age. Plasma HDL concentration significant increased but LDL concentration and L/H ratio was significantly decreased in SeNPs treatments. Plasma protein were significantly increased in SeNPs treatments. At one day old, there is no obvious histological difference in the studied organs such as liver, thymus, bursa and spleen except the thyroid gland in between the seven treatments. Histological examination of lymphoid organs revealed that in ovo injection of Nano Se at the 10th day of incubation had better influence on the histological structure of bursa of Fabricius, thymus gland and spleen of developed Baladi chicken at 7 weeks of age.

**Key words:** (Nanotechnology, Nano Selenium, Blood Parameters, histological segments, Immunity, Growth, performance, Carcass)