



### Effect of rooster semen enrichment with oleic acid on the quality of semen during their *vitro* storage

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**Objectives:** It is mandatory to use efficient semen storage techniques in order to prevent the reduction of fertilizing ability of stored semen. The present study was designated to evaluate the effect of oleic acid on the rooster semen quality stored at 4°C for 48h.

**Material & Methods:** Semen was collected from ten roosters twice a week. Good quality ejaculates were pooled and after dilution, the semen was enriched with 0 (control), 0.25 (O 0.25), 0.5 (O 0.5) millimolar oleate. Forward progressive motility and viability of spermatozoa were evaluated at 0, 24 and 48h. Moreover, malondialdehyde (MDA) levels were measured in seminal plasma and spermatozoa at the mentioned time points.

**Results and conclusion:** Motility was 80.00±2.08, and 66.00±2.30% at 24h and 57.33±2.18 and 41.33±2.02% at 48h in O0.25 and control, respectively (P<0.001). MDA concentrations of seminal plasma and spermatozoa were lower in oleate treated groups in comparison with control group at 24 and 48h (P < 0.05). In conclusion, rooster semen enrichment with low doses of oleate would exert beneficial effects on the quality of semen during cooled storage.

**Keywords:** oleic acid, lipid peroxidation, MDA, semen, rooster

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### The effect of two different programs of vaccination with foreign Infectious Bursal Disease vaccine on systemic antibody responses against Newcastle vaccine in chickens

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**Objectives:** The objective of this study was to investigate two different programs of vaccination against Infectious Bursal Disease on systemic antibody responses against Newcastle vaccine in chickens. **Materials & Methods:** In the present study, 180 day-old broiler chicks were purchased and for determination vaccination time by Deventer formula, thirty chicks randomly were bled and remaining chicks divided into 3 equal groups and each group divided into 2 equal subgroups. On the basis of ELISA results and vaccines instruction, chicks of group 1 were vaccinated once by intermediate Gumboro vaccine manufactured by Lohman Germany company at 16 days by drinking water. Chicks of group 2 were vaccinated twice by intermediate Gumboro vaccine manufactured by Lohman Germany company at 16 and 23 days by drinking water. Chicks of group 3 were kept as unvaccinated control group. At 9 days old, all 3 groups were vaccinated by B1 Newcastle vaccine via eye drop and mixed killed Newcastle and Avian Influenza vaccines inoculated at neck back subcutaneously. The blood samples from 16 birds of each group were collected at 42 days of age. Mean blood serum titer against Newcastle vaccine were measured by HI test. **Results & Conclusion:** The results showed that there is significant difference between group 1 and 2, and mean of HI titer in group 1 was less than group 2. This study showed that two times vaccination with foreign intermediate Gumboro vaccine had no negative effect on immune response against Newcastle vaccines.

**Keywords:** Gumboro vaccine, Newcastle vaccine, Immune response, Immunosuppression