

## Semen Characteristics, Haematological and Serum- Biochemical Indices of Cocks Drenched Varying Levels of Turmeric Powder as Supplement

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**Abstract :** Signals from in vivo as well as in vitro studies shows that botanicals play notable roles in the treatment, prevention and management of diseases. Use of natural compounds in botanicals has been suggested as potential alternative to conventional therapeutic options. Therefore this study aimed to evaluate the effect of varying levels of turmeric powder (*Curcuma longa*) on semen characteristics and haematological indices of cocks. Turmeric (*C. longa*) was obtained from a local market in Saki in Oyo State, Nigeria, in March 2023. The rhizomes were washed, its skin scraped and air-dried for about 10 h, and further oven-dried at 40°C for 12 h. afterwards, the dried turmeric was ground into powder using a blender. The product was kept in an air-tight container until the period of usage. The experimental material was drenched in cocks (60 cocks assigned into four treatments with three replicates) at 0.0g (T1), 0.05g (T2), 1.00g (T3) and 1.5g (T4) after 2 weeks of acclimatization. Semen volume, sperm cell progressive motility, sperm cell liveability, acrosome integrity, sperm cell concentration and normal sperm cell were evaluated for semen characteristics. Haematological parameters measured were: PCV, RBC, WBC Hb, MCV, MCH and MCHC. Data obtained were subjected to one-way analysis of variance. Semen volume (0.34 - 0.37ml), sperm cell progressive motility (68.33 - 80%), sperm cell liveability (46.66 - 85.00%), acrosome integrity (50.00 - 85%) and normal sperm cell (66.66 - 90%) shows significant difference ( $p < 0.05$ ) in favour cocks on higher level of turmeric powder. While sperm cell concentration (28.33 - 40.00 X10<sup>9</sup>/ml) shows no significant difference ( $p > 0.05$ ). PCV (36.00 - 40.33%), RBC (3.55 - 3.74 X10<sup>6</sup>/ml), WBC (19.01 - 19.71 X10<sup>9</sup>/ml), Hb (11.66 - 13.00 dl), MCV (100.53 - 109.53  $\mu$ l), MCH (32.57 - 35.31pg) and MCHC (32.00 - 32.37%) shows no significant difference ( $p > 0.05$ ). all serum biochemical indices showed significant difference ( $p < 0.05$ ) with animals on the test ingredient showed higher values in respect of the increase in turmeric powder.

**Keywords :** semen volume, total protein, packed cell volume, turmeric powder, albumin

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