



ID-O4

Semen collection and sperm kinematic parameters in Cobb 500 breeding roosters

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Abstract

Selection of males for reproduction in chicken and turkey industries, in which artificial insemination (AI) is practiced, is of great importance. It is therefore mandatory to monitor semen quality traits routinely to evaluate their reproductive capacity. Many indicators are currently used, including ejaculate volume, color, concentration, viability, abnormal sperm percentage and motility (MOT) that is positively correlated to fertility rate in different chicken breeds. Kinematic parameters such as VSL, VCL, VAP, LIN, BCF and ALH are strongly related with individual male fertility. In the current study, twelve semen quality characteristics were determined using a CASA system (Sperm class analyzer, SCA Microptic). Twenty-four Cobb 500 reproductive roosters (5-6 kg of weight, 45 weeks of age), in the region of Biskra (Algeria), were selected and identified according to their response to the dorso-abdominal massage; and subjected to three semen collections, pooled samples were analyzed and obvious differences in semen quality traits were observed between individuals. There were different sorts of correlation between Sperm count (2.13 spz/ml), viability (86.83 %) and semen volume (0.36 ml). Sperm motility and all kinematic velocities, that might be crucial parameters for evaluating breeding soundness of cocks, were positively correlated. The CASA system remains a very reliable technique for the evaluation of the kinematic parameters of sperm.

Keywords: Rooster, Semen quality traits, Fertility, CASA system.