

Assessment of semen characteristics and blood testosterone levels of Muscovy drakes in Taiwan ⁽¹⁾

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Abstract

This study aimed to investigate semen characteristics and concentration of serum testosterone of Muscovy drakes during the breeding season. The study was conducted from April to October 2017 and total of 9 Muscovy drakes (White Muscovy Duck LRI No.1) were used as experiment animals. Semen was collected twice a week from 29 to 56 weeks of age, and the semen characteristics and serum testosterone were recorded. All the data were divided into 7 groups, 29-32, 33-36, 37-40, 41-44, 45-48, 49-52 and 53-56 weeks of age, respectively. The results showed the semen volume, sperm concentration, total sperm, live sperm rate and abnormal sperm rate of Muscovy drakes were 1.3 ± 0.4 mL, $2.3 \pm 1.0 \times 10^9$ spz/mL, $3.1 \pm 1.6 \times 10^9$ spz, $93.7 \pm 5.1\%$ and $10.5 \pm 6.2\%$ during the breeding season, respectively. The semen volume, total sperm count and live sperm rate were significantly affected ($P < 0.05$) by different weeks of age. The averaged concentration of serum testosterone was 4.3 ± 2.8 ng/mL (1.7-5.6 ng/mL). The value was the highest at 37-40 weeks of age (5.6 ± 2.0 ng/mL) and the lowest at 53-56 weeks of age (1.7 ± 2.2 ng/mL), respectively. The concentration of testosterone was significantly affected by different weeks of age ($P < 0.05$). These basic data might provide information for the application of Muscovy duck semen extender and the establishment of the Muscovy duck semen supply station to improve the efficiency of domestic duck production.

Key words: Muscovy duck, Semen characteristics, Testosterone.

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