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Investigation on growth, reproduction and artificial hatching in domestic black swans [1]

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Abstract

The aim of the current study was to investigate the growth, reproduction and artificial hatching in domestic black swans. The investigation combined two parts: I. An investigation of the growth performances for 20 cygnets (8 cobs and 12 pens) in house feeding. II. The twenty breeders black swans (10 cobs and 10 pens) were used to investigate the reproductive performances during in-house rearing period. The 41 hatching eggs with artificial incubation were used to invest in physical characteristics. The results showed that the body weight at 16 weeks of age differed significantly in sexes, whereas the cobs were taller than the pens ($P < 0.05$). The average fertilization rate and the hatching rate of fertilized eggs were 45.6% and 34.4%, respectively. In artificial incubation, optimum temperature and humidity were 37.5℃ and 55% in early phase (1-14 d). 37.5℃ and 60% in metaphase (15-28 d) and 36.6℃ and 65% in late phase (29-36 d). The fertilization and hatching rate of fertilized eggs were 61.1% and 63.2%, respectively. The hatching rates of fertilized eggs were taller than the natural incubation ($P < 0.05$). The length, width and weight of eggs were significantly longer and heavier in the second laying period compared with the first laying period. However, the egg shape index was significantly higher in the first laying period ($P < 0.05$). The results of artificial incubation were better than those of natural hatching. Our funding could be the reference for improving the artificial feeding technology.

Key words: Artificial incubation, Black swan, Growth, Reproduction.

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