

STUDY THE EFFECT OF *PANAX GINSENG* ON TESTICULAR MORPHOLOGY, SOME SPERM PROPERTIES AND TESTICULAR HISTOLOGY IN MALE JAPANESE QUAIL

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ABSTRACT : This study was designed to evaluate the levels affected levels of adding *Panax ginseng* powder admistration on sperm motility, testicular weight and histological evaluation. This study was conducted at the laboratories of Theriogenology Department, College of Veterinary Medicine, Basrah University, during the period extended from 15/ 1/2019 to the end of 15/ 3/2019. The study includes 40 intact straw male birds, aged between (14–15) weeks, weight range between 200-220gm. The birds were divided randomly into four equals groups (10 birds in each group). The 1st group was served as the control group (n = 10), 2nd group, 3rd group and 4th group were treated by ginseng for 50 days. Testis with epididymis were harvested directly after slaughtering birds, the sperm was collected by sliced caudal epididymis for evaluation sperm availability, dead sperm and sperm abnormality and the testis sample was collected in formalin 10% for histological examination. The results illustrated that the rate mass motility, individual motility and forward spermmotility increased significantly value (P<0.01) in groups A, B and C as compared with the control group. On the other hand, the rate of the dead sperm and sperm deformity decreased significantly value (P<0.01) in groups A, B and C as compared with the control group. The results also showed highest significant (P<0.01) values of rate mass motility, individual motility, forward sperm motility in Group C as compared with Group B and A. Moreover, the results indicated the total average testicular weight (Right and Left) increased significantly value (P<0.01) in groups A, B and C as compared with the control group. As well as the results showed the total rate of right testis increased significantly value (P<0.01) in groups A, B and C as compared with the control group. On the other hand, the results illustrated that the total rate of left testis increased significantly value (P<0.01) in groups A, B and C as compared with control group. While the results appeared the total average testicular weight right and left testis increased significantly value (P<0.01) in group C as compared with groups B and A. Ginseng is one of the most popular herbs and antioxidant property, which effects on sexual performance, general tonic, increases the motility and morphology of epididymal sperm and increased male fertility.

Key words : Japanese quails, *Panax ginseng*, testis, epididymis, sperm.

INTRODUCTION

Japanese quails are small, chunky, fast-moving, and able to fly at a low level (Shanaway, 1994). Japanese quail is resistant to common diseases of poultry (Mohammed and Ejiofor, 2015). It does not require intensive vaccination programs, but only Newcastle vaccine, it is considered as one of the best birds in poultry experiments and research because of the great flexibility it brings to obstacles (Priti and Satish, 2014). Japanese quail has highly sexual activity in production of spermit is approximately 92.5×10^6 (sperm / cloud / testicular tissue / day) (Clulow and Jones, 1988). With the increased activity of the male reproductive system, which leads to an increased chance of developing free radicals (Bartosikova *et al*, 2003). The organs and tissues of high capacity (testis) are exposed to free radicals at a higher rate (Loven and Oberley, 1985). To treat tissues from

injuries, antioxidants prevent or slow down the generation of free radicals that are generated by various vital activities in the body, so they act as a defensive line against the destructive activity of free radicals in terms of their generation or their chain of interactions (Bartosikova *et al*, 2003). Recent studied have tended to used medicinal herbs as food additives which help to increase growth and protect them from many diseases (Hassan, 2011). These additives include palmpollen and ginseng extracts that contribute to improve male and female fertility (Yesilbag *et al*, 2013). These herbs containestrogen and estrone as well as other nutrients, proteins, essential and non-essential amino acids, carbohydrates, vitamins and minerals (Hassan, 2011). The major active ingredient of ginseng is the ginseng saponin, which is composed of various ginsenosides (Pak *et al*, 2005). Currently; approximately 30 ginsenosides have been identified (Kim