畜試土雞高畜品系之育成與展望

梁筱梅
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畜試土雞高畜品系是以基因鑑定方式選育「近親土雞台畜一號」L7、L9、L11 及 L12 等四個近親品系育成，並具有熱休克蛋白 70（heat shock protein, HSP70）及泌乳素接受體（prolactin receptor, PRLR）基因之純合基因型組合。經歷代種雞群選留時剔除雛白痢（Pullorum Disease, PD）抗體陽性者，畜試土雞高畜品系雞群已有效清除雛白痢。生長性能測定顯示，畜試土雞高畜 7、9、11 及 12 號品系出雛重分別為 27.6 ± 2.7、27.5± 2.3、30.4± 4.0 及 27.1 ± 2.9 公克， 16 週齡公雞體重分別為 2,197 ± 193.0、2,238 ± 228.1、2,148± 228.7 及 2,241 ± 216.3 公克，16 週齡母雞體重分別為 1,347 ± 188.5、1,390 ± 170.7、1,364 ± 210.2 及 1,513 ± 255.2 公克。產蛋性能測定顯示，畜試土雞高畜 7、9、11 及 12 號品系之初產蛋重分別為 32.1 ± 5.7、31.4 ± 5.1、32.7 ± 5.5 及 32.5 ± 4.7 公克，初產日齡分別為 153.7 ± 22.3、160.6 ± 20.6、155.1± 19.9 及 151.4± 14.9 天，初產體重分別為 1,603 ± 227.2、1,568 ± 260.8、1,564 ± 241.0 及 1,742± 242.2 公克，至 40 週齡平均產蛋數分別為 65.8 ± 15.1、67.0 ± 17.8、71.7 ± 17.8 及 77.4 ± 16.0 枚。雞群異地飼養結果顯示，畜試土雞高畜品系之生長性能與產蛋於不同地區亦能維持穩定表現。畜試土雞高畜品系適應本土環境生長並遺傳組成穩定且為最少雛白痢病原之雞群，可供商業種雞場改良雞群性狀之種原。

關鍵語：熱休克蛋白 70 基因、純合基因型、泌乳素接受體、土雞

The Growth and Reproductive Performances of Taiwan Native Chickens Carrying Homozygous Genotypes

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Livestock Research Institute applied inbreeding procedure and established four strains as TLKT-07, TLKT-09, TLKT-11, and TLKT-12 chickens carried homozygous genotypes of heat shock proteins (HSP-70) and prolactin receptor (PRLR) gene. The Pullorum disease virus of the chicken was detected and removed. The growth and reproductive performances of four strains were assessed. The results showed that the body weight at hatching of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 27.6 ± 2.7, 27.5± 2.3, 30.4± 4.0, and 27.1 ± 2.9 g, respectively. The body weights at 16 weeks of age in male of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 2,197 ± 193.0, 2,238 ± 228.1, 2,148± 228.7, and 2,241 ± 216.3 g, respectively. The body weights at 16 weeks of age in female of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 1,347 ± 188.5, 1,390 ± 170.7, 1,364 ± 210.2 and 1,513 ± 255.2 g, respectively. The egg weights at the first egg of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 32.1 ± 5.7, 31.4 ± 5.1, 32.7 ± 5.5, and 32.5 ± 4.7 g, respectively. The ages of chickens at the first egg of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 153.7 ± 22.3, 160.6 ± 20.6, 155.1± 19.9 and 151.4± 14.9 days, respectively. The average body weight at first egg of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 1,603 ± 227.2, 1,568 ± 260.8, 1,564 ± 241.0 and 1,742± 242.2 g, respectively. The average number of eggs laying up to 40 weeks of age of TLKT-07, TLKT-09, TLKT-11, and TLKT-12 were 65.8 ± 15.1, 67.0 ± 17.8, 71.7 ± 17.8 and 77.4 ± 16.0 eggs, respectively. Four homozygous genotypes chickens with the pleased egg production performance and have been established the Pullorum disease minimal disease (MD) flock by regular health inspection and the procedure of eliminating chickens with Pullorum disease virus, may be provided as the germplasm for the chicken industry.

Key Words: Heat shock protein 70 gene, Homozygous genotypes, Prolactin receptor, Native chicken