

豐輝牧場紅羽土雞選育族群種蛋受精率與孵化率檢定



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前言

種雞產業的發展與利基在於每隻母雞在一個產蛋週期中能產出多少隻雛雞，種蛋的受精率與孵化率是創造利潤的重要關鍵。受精率與孵化率影響到一隻母雞年可生產雛雞數，直接反應生產者的成本與收益。因此，如何提高土雞種雞的受精率與孵化率是現今產業的重要課題。豐輝牧場紅羽土雞選育族群已經6年，8個世代的種原固定與產蛋性能選育，為了解該選育族群之種蛋受精率與孵化率，以該族群G8世代3個品系152隻7月齡種雞以人工受精系譜配種來進行種蛋受精率與孵化率檢定。

材料與方法

- 1.選用豐輝牧場紅羽土雞選育族群G8世代54隻A品系母雞、57隻C品系母雞及41隻E品系母雞分別與其同一品系1隻公雞以人工授精進行純品系系譜配種，每5天進行人工授精一次。
- 2.種蛋於配種後第3天開始收集，種蛋每天收集一次，置於16-17 °C貯蛋室。
- 3.每收集10天的種蛋回溫後進行入孵一批，連續3批。入孵後第8天進行驗蛋，第18天移入發生機，第21天出雛。孵化機與發生機溫度分別為100°F與99°F。
- 4.檢定項目為無精蛋數、中止蛋數及出雛數。
- 5.受精率=(入孵種蛋數-無精蛋數)*100/入孵種蛋數，孵化率=出雛數*100/(入孵種蛋數-無精蛋數)。

結果與討論

收集由152隻母雞連續30天的種蛋分3批入孵，總共3,231枚種蛋入孵，選育族群3個批次所有種蛋之平均種蛋受精率與受精蛋孵化率分別為91.2%(2,947/3,231)與80.8%(2,382/2,947)。A、C及E品系3個批次之平均種蛋受精率與受精蛋孵化率分別為92.3%(956/1,036)與86.6%(828/956)、91.0%(1,238/1,360)與79.1%(979/1,238)及90.2%(753/835)與76.4%(575/753)。比較種蛋受精率與受精蛋孵化率在批次間皆無顯著差異(P>0.05)，種蛋受精率在品系間亦無顯著差異(P=0.088)，然而受精蛋孵化率則在品系間存在顯著差異(P<0.05)，A品系母雞之受精蛋孵化率顯著較E品系者佳。G8世代母雞再種蛋收集30天中，平均生產21.3±6.6枚種蛋，其中無精蛋有1.9±2.4枚。

李淵百等(2001)指出民間紅羽土雞平均受精率與孵化率分別為85.7%與84.5%，林旻蓉等(2008)比較不同雜交組合土雞之種蛋受精率與孵化率的結果，紅羽土雞平均受精率與孵化率分別為95.5%與54.8%，推測孵化率不佳可能試種雞場的衛生防疫不好所致。

表1. 豐輝牧場紅羽土雞選育族群G8世代種雞種蛋受精率與孵化率

品系	母雞數	入孵蛋數	無精蛋數	中止蛋數	出雛數	受精率 %	孵化率 %
A	54	1036	80	143	828	92.3	86.6
C	57	1360	122	250	979	91.0	79.1
E	41	835	82	185	575	90.1	76.4
All	152	3231	284	579	2382	91.2	80.3

受精率=(入孵種蛋數-無精蛋數)*100/入孵種蛋數，
孵化率=出雛數*100/(入孵種蛋數-無精蛋數)。

結論

豐輝牧場紅羽土雞選育族群平均種蛋受精率可達91.2%，然孵化率僅80.8%，10枚種蛋只孵出7隻雛雞，顯示種雞場與孵化場衛生防疫仍有努力改善的空間。

Fertility and hatchability test of red feathered chicken selection flock in Feng Hui breeding farm

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To understand the fertility and hatchability of red feathered chickens selection flock in Feng Hui breeding farm. One hundred and fifty two hens including 54 hens of A line, 57 hens of C line and 41 hens of E line were used for fertility and hatchability test. All hens of each line were mated with 1 roaster of each line by pure line artificial insemination every 5-day. The hatching eggs were collected daily and stored at 16 °C for 10 days per batch before setting in incubator. Three continued batches of hatching eggs were carried out for this trial. The average fertility and hatchability of fertilized eggs were 92.8% (956/1,036) and 86.6% (828/956) in A line, 91.0% (1,238/1,360) and 79.1% (979/1,238) in C line, and 90.2% (753/835) and 76.4% (575/753) in E line, respectively. The average fertility and hatchability of fertilized eggs of all hatching eggs in this trial were 91.2% (2,947/3,231) and 80.8% (2,382/2,947). There were none significant differences in fertility and hatchability of fertilized eggs detected among the three batches and fertility detected among the three lines(P>0.05). However, There was significant difference in the hatchability of fertilized eggs detected among the three lines (P>0.05). The hatchability of fertilized eggs of A line was better than that of E line. Result shows the average fertility of the selection flock reached more than 90%, and the hatchability of fertilized eggs of the selection flock could reach more than 80% in Feng Hui breeding farm.