

# Breeding of Chihsin ducks <sup>(1)</sup>

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## Abstract

The purpose of this study was to reduce the artificial insemination labor costs required to breed mule ducks by improving the duration of the fertility of ducks and establishing a new duck line. The 20 drakes and 60 ducks of Pekin (L-201) G17 maintained in the Eastern Branch of Live Stock Research Institute (Eastern Branch) in 2005 were chosen to breed 104 drakes and 127 ducks of Chihsin duck G1 as the experimental animals. To breed the first-generation, Chihsin ducks at 29, 32 and 35 weeks of age underwent single artificial insemination with 0.05 mL pooled semen from 10 to 15 Muscovy drakes in 2006, as the source of experimental breeding ducks. After insemination, the eggs were collected from day 2 to day 14, and were candled during incubation to determine the number of fertile eggs (F) and other traits. The breeder ducks were selected and bred based on the best unbiased prediction (BLUP) of estimated breeding value (EBV) of the number of fertilized eggs. After 13 generations of selective breeding, the EBV of the number of fertilized eggs is 3.24 eggs, and the phenotypic value is 5.94 eggs in Chihsin duck. Compared with the first generation, the EBV has improved by 3.29 eggs, and the phenotypic value improved by 1.89. The fertility rate from day 2 to day 8 was 82.1%, after a single artificial insemination with mixed semen from White Muscovy LRI No. 1 drakes, which average maximum duration of fertility was 7.0 days and achieved the breeding goals of one insemination every 6 days. This line of ducks was mainly bred in the Eastern Branch and named after Chihsin Village, Wujie Township, Ilan County, where the duck line is inhibited. The line was approved by the New Line Name Registration Application Review Committee on July 1, 2021 and the nomenclature is Chihsin Duck. The Chihsin Duck can be used as pure breeding or the female breeder for mule duck production.

Key words: Duration of fertility, New duck line, Chihsin duck.

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