

**PERFORMA DAN ESTIMASI NILAI RIPITABILITAS BOBOT TELUR,  
BOBOT DOC, BOBOT KERABANG, DAN FERTILITAS AYAM  
MERAWANG DARI BANGKA DAN SEMBAWA**

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**INTISARI**

Ripitabilitas dapat bermanfaat untuk memprediksi produksi di masa mendatang dengan menghitung korelasi fenotip performa sekarang dan masa depan pada individu. Penelitian ini bertujuan untuk mengetahui performa dan estimasi nilai ripitabilitas bobot telur, bobot DOC, bobot kerabang, dan fertilitas ayam Merawang dari Bangka dan Sembawa. Penelitian dilaksanakan di Semanu, Gunung Kidul, Yogyakarta dan Kebun Percobaan Banyakan, Balai Pengkajian Teknologi Pertanian Daerah Istimewa Yogyakarta. Materi yang digunakan adalah ayam Merawang yang berasal dari UPTD Balai Benih Pertanian, Dinas Pertanian dan Ketahanan Pangan Provinsi Bangka Belitung dan Balai Pembibitan Ternak Unggul dan Hijauan Pakan Ternak Sembawa. Ayam Merawang dari Bangka dan Sembawa masing-masing terdiri dari 12 jantan dan 36 betina. Sistem perkawinan dilakukan dengan *pen mating* rasio 1:3 (jantan : betina). Telur dikoleksi selama 7 hari dengan penetasan sebanyak 3 periode setiap 7 hari. Data yang diambil meliputi bobot telur, bobot DOC, bobot kerabang, dan fertilitas. Data dianalisis menggunakan *independent sample t-test*, sedangkan estimasi nilai ripitabilitas menggunakan metode *Restricted Maximum Likelihood* (REML) berbasis *Linear Mixed-Effect Models* (LMM). Hasil penelitian menunjukkan bahwa bobot telur, DOC, dan kerabang telur ayam Merawang dari Bangka lebih tinggi dibanding asal Sembawa. Persentase kerabang dan fertilitas ayam Merawang dari Bangka lebih rendah dibanding asal Sembawa. Nilai ripitabilitas bobot telur, DOC, dan kerabang telur ayam Merawang dari Bangka dan Sembawa termasuk kategori sedang sampai tinggi, sedangkan fertilitas kategori rendah sampai sedang. Kesimpulan dari penelitian ini yaitu performa ayam Merawang dari Bangka lebih unggul dibandingkan Sembawa. Ripitabilitas bobot telur, bobot DOC, dan bobot kerabang dapat digunakan sebagai acuan seleksi ayam Merawang.

(Kata kunci: Ripitabilitas, Bobot telur, Bobot DOC, Bobot kerabang, Fertilitas)

## **Performace and Repeatability Estimation of Egg Weight, DOC Weight, Eggshell Weight, and Egg Fertility of Merawang Chicken from Bangka and Sembawa**

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### **ABSTRACT**

Repeatability can be useful for predicting performance in the future by quantifying the correlation between present and future performance phenotypes in individuals. This study aimed to estimate the repeatability of egg weight, DOC weight, eggshell weight, and fertility of Merawang chicken from Bangka and Sembawa. This research was conducted at Semanu, Gunung Kidul, Yogyakarta and The Institute for Agricultural Technology (BPTP) Yogyakarta. The material used in this study were Merawang chicken from The Agricultural Seed Center Bangka Belitung and The Center for Superior Animal Breeding and Forage (BPTU-HPT) Sembawa, South Sumatra. Merawang chickens were 36 female and 12 male for each. Pen mating used in this study with a ratio of 1:3 (male : female). Eggs were collected for 7 days with 3 hatching period every 7 days. Egg weight, DOC weight, eggshell weight, and fertility were recorded and analyzed using *independent sample t-test* and Linear Mixed-Effect Models (LMM) based repeatability estimation with Restricted Maximum Likelihood (REML). The results showed that egg weight, DOC weight, and eggshell weight of Merawang chicken from Bangka was higher than Sembawa. Shell percentage and egg fertility of Merawang chicken from Bangka was lower than Sembawa. The repeatability values of egg weight, DOC weight, dan eggshell weight of Merawang chicken from Bangka and Sembawa in the moderate to high category, and egg fertility in the low to moderate category. The conclusion of this study is the performance of Merawang chicken from Bangka superior than Sembawa. Repeatability of egg weight, DOC weight, and eggshell weight can be used as reference for selection of Merawang chicken.

Keyword : Repeatability, Egg weight, DOC weight, Eggshell weight, Fertility