DNA FINGERPRINT BANDS LINKED TO LOCI CODING EGG PRODUCTION TRAITS IN CHICKEN

By

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حزم البصمة الوراثية للحمض النووي DNA المرتبطة بالمواقع الوراثية لصفات انتاج البيض في الدجاج

رسالة مقدمة من

معتز ابراهيم بدوي

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للحصول على

درجة دكتور فلسفة في العلوم الزراعية

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ABSTRACT

Moataz Ibrahim Badwe Ibrahim: DNA Fingerprint Bands Linked to Loci Coding Egg Production Traits in Chicken. Unpublished Ph.D. Thesis, Department of Poultry Production, Faculty of Agriculture, Ain Shams University, 2011.

The aims of this study were: the first study was conducted at Misr Arab Poultry Company (MAP) to evaluate the effects of age, strain and their interaction on body weight and the internal and external egg quality measurement. The second study was to identifying quantitative trait loci QTL associated with economic and biological internal and external egg quality traits to explain the differences between two commercial broiler breeder strains by using PCR Fingerprint.

Main results obtained could be summarizing as follows:

- The avian48 hens were significantly heavier body weight compared to Hubbard ones at different ages.
- There was no significant difference in egg weight between strains.
- There was no difference between strains for egg production rate from 29 to 40 weeks of age.
- The Hubbard eggs had significantly heavier yolk weight than Avian48 ones.
- The present results revealed that there was a significantly decreased in yolk index ($P<0.0001$) with progressive age for Avian48 and Hubbard strains.
- There was no significant difference between strains for albumen height and Haugh unit.
- The Hubbard eggs were significantly higher breaking strength compared to Avian48 ones at all studied ages.
- The shape index of Avian48 eggs was significantly higher than that of Hubbard ones.
- There was no significant difference in egg shell weight between strains.

- The Avian48 eggs had significantly thickened eggshell with membranes than that of Hubbard ones.
- The molecular weight for Avian48 and Hubbard broiler breeder strains were 285bp for marker MCW241.
- The result referred to was no significant different between Avian48 and Hubbard broiler breeder strains for the marker MCW241.
- The marker ADL365 for both the Hubbard strain had four lanes the alleles were 290bp molecular weight and seven lanes the alleles were 198bp molecular weight and the Avian48 had two lanes the alleles were 290bp molecular weight and seven lanes the alleles were 198bp molecular weight.
- There was no significant difference between strains marker ADL365.
- The molecular weight marker MCW114 was 238bp for both Avian48 and Hubbard broiler breeder strains.
- The marker MCW0114 was no significant different for Avian48 and Hubbard broiler breeder strain.
- The molecular weight for MCW200 was 250bp for both Avian48 and Hubbard broiler breeder strains.
- The marker MCW200 was no significant different for Avian48 and Hubbard broiler breeder strain.

Key words: Eggs quality, egg shell quality, body weight, broiler breeder, microsatellite marker, QTL.

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