

ABSTRACT

Samy Mahmoud El - Soudany. Effect of crossbreeding between two strains of chickens on productive performance. Unpublished Ph. D. Thesis, Ain Shams University, Faculty of Agriculture, Department of Poultry Production, Egypt, 2003.

This study was conducted at Anshas Poultry Breeding Research Station, Animal Production Research Institute, Ministry of Agriculture, Egypt. The aim of this work was to evaluate and compare the performance of purebreds and crossbreds chicken and determining some phenotypic parameters and heterosis.

The results could be summarized as follows:

The Matrouh (Mt) purebred had the higher fertility and hatchability percentage when compared to the other genetic groups (GM, MtxGM and GMxMt). While Golden-Montazah (GM) purebred had the lowest values, the crossbreds were intermediate for fertility and hatchability percentage.

Cumulative mortality rate from 0 till 12 weeks of age, was higher for the GMxMt crossbred when compared to the other groups.

Feed consumption for Mt purebred was higher than those of GM, MtxGM and GMxMt genotypes. But the differences among all genetic groups were not significant for such trait. Concerning the feed conversion ratio, the result showed that the best feed conversion was associated with MtxGM crossbred as compared to the other genetic groups.

The MtxGM crossbred had a positive effect on body measurements (body weight, shank length, keel length and body depth) as compared to the other crosses.

The crossbred hens had a heavier body weight than those of purebreds measured at sexual maturity, but there were no significant

differences among all genetic groups. Moreover, the MtXGM hens reached sexual maturity earlier than those of the others, while Matrouh strain reached sexual maturity later than the other groups. Generally, using GM strain as a maternal line could be more useful than as a paternal line in crosses for age at sexual maturity .

The Mt hens had a heaviest egg weight but this trend did not exist for both egg number and egg mass when compared with other groups, also GM hens had highest values of egg number and egg mass, the crossbreds were intermediate .

Concerning shell weight, the GM purebred had a slightly higher figure followed by the crossbreds. While the difference between the purebreds and the crossbreds for shell thickness trait was not significant.

With respect to breaking strength, the Mt purebred was higher than that of GM one. The two crossbreds were intermediate for such trait.

Key words: crossbreeding, heterosis, body weight, body measurements, egg production, egg quality measurements, Golden-Montazah and Matrouh strains.

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