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ABSTRACT

A total number of 2478 lactation records for 853 Holstein cows sired by 121 bulls in a herd belongs to the Modern technologycompany for dairyand agriculturalprojects (EL- Tobgy) was used to study some Milk production and reproductive traits and study effects of some non- genetic factors on them. Estimation of heritability, Genetic and phenotypic correlations among these traits was included. The data were analyzed using SAS (2002) and WOMBAT.

Means of total milk yield (TMY), lactation Period (LP), dry period (DP), daily milk yield (DMY), days open (DO) and Number of services per-conception (NSPC) were 6406 kg, 310 day, 91 day, 20 kg, 121 day and 3 services, respectively. Cow genotype had highly significant ($P< 0.0001$) effects on all traits. Parity had highly significant ($P< 0.0001$) effects on all traits, except for NSPC ($P< 0.2391$). Season of calving had significant effects on all traits, except for TMY ($P< 0.1044$) and DP ($P< 0.1131$). Also year of calving had significant effects on all traits, except for TMY ($P< 0.1953$) and LP ($P< 0.5132$). Heritability estimates of TMY, LP, DP, DMY, DO and NSPC were 0.28, 0.24, 0.09, 0.17, 0.14 and 0.04.

Positive genetic and phenotypic correlation coefficients were obtained among all traits and ranged from 0.406 to 0.929 and from 0.017 to 0.804, respectively. Except for estimates of genetic correlation that between DP and all of the other traits under study (TMY, LP, DMY, DO and NSPC) were negative. Moreover, Estimates of phenotypic correlations between DP and each of TMY, LP and DMY were negative. In addition DMY with NSPC had also negative correlation.

The results indicated that Holstein cattle in Egypt can produce high amount of milk if kept under reasonable management of commercial farms. Also, results indicate possibility of genetic improvement of milk yield by selection for DMY only because of its reasonably high genetic correlation coefficient with TMY (0.92)

Key Words: Holstein, Milk Yield, Reproductive Performance, Heritability, Genetic and Phenotypic Trend, Genetic and Phenotypic Correlation.