VI. SUMMARY

Milk production records of the Friesian herd, located at Sakha Experimental Station, Animal Production Research Institute, Ministry of Agriculture were used. These records included data for imported cows from the Netherlands between 1960 and 1961, in addition to their descendents up till 1979.

First and second lactation records (1794 and 1389 records, respectively) obtained through the period from 1960 to 1979 was used to investigate the non-genetic factors that influenced 305-day milk production and to evaluate phenotypic, environmental and genetic trends of change in the 305-day milk yield. The least squares procedures were followed.

Results obtained are summerized as follows:

Non-genetic factors:

The overall mean for the age at first calving was 29.67 months. It showed non-significant effect on

305-day milk yield.

Autumn calvers recorded the highest milk production compared with calvers of the other seasons of the year. The differences due to season of calving in 305-day milk yield were non-significant.

Year of calving constituted a considerable highly significant (P 0.01) source of variation in 305-day milk production of either the 1st or the 2nd lactations.

Trends of change:

Positive phenotypic change was observed in 305-day milk yield of both the 1st and 2nd lactations. The average annual phenotypic change ranged between 22.07 and 44.05 Kg.

Environmental change in 305-day milk yield of either the 1st or the 2nd lactation was indicated to

be positive. The average amount of this change, obtained by the 2 methods used, ranged between 45.09 and 65.75 Kg per year.

Genetic change in the 305-day milk yield of the 1st and 2nd lactations was found to have a negative direction. The average annual genetic change, calculated by the three methods of analysis used, ranged between - 1.03 and - 36.17Kg. The average genetic change per generation ranged between - 31.25 and - 49.68 Kg.