

GENETIC STUDIES ON SOME CAMEL HERDS

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ABSTRACT

**Fatma Ahmed Mohamed. Genetic Studies on Some Camel Herds
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Three camel herds were used in the present study; Sudani, Falahi, and Maghrabi. These herds were discriminated with Biochemical and Molecular genetic markers after analyzing SDS-PAGE for milk proteins, native plasma protein profiles, and six isozyme systems. These isozymes were (Carboxylesterase (EC ٣,١,١,١), Acid phosphates (EC ٣,١,٣,٢), Malate dehydrogenase (EC ١,١,١,٣٧), Alcohol dehydrogenase (EC ١,١,١,١), Glycerol-٣-phosphat dehydrogenase (EC ١,١,١,٨) and Phosphogluconate dehydrogenase. Fourteen ISSR primers were also used, in which seven primers showed polymorphism with percentages lower than ٥٠%. Dendrogram tree based on SDS-PAGE for milk protein fractions, native plasma proteins, isozyme electrophoresis, and ISSR data analyses was generated. Five specific primers were designed to detect five different genes that, contribute in milk suckling and composition. These genes are Kappa casein, Lactoferrin, Whey acidic protein, Lactoperoxidase and Alpha lactalbumin. The cluster analysis for the combined data of the three used techniques (Protein, isozyme, and ISSR) separated the Maghrabi camel herd from the other two herds. This obtained result is similar to the cluster revealed by native isozyme electrophoresis technique. That is to say, that isozyme electrophoresis can be considered as a suitable technique for studying the genetic relationships between camel herds.

Key words: Camel herds, genetic markers, plasma proteins, casein proteins, whey proteins, isozymes electrophoresis, Dendrogram, SDS-PAGE, ISSR-PCR.

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