

## **Abstract**

In The present study tries to investigate and find a suitable breeding strategy to improve the Sistani beef cattle using random simulation method. Simulation was done through ADAM software. The traits analyzed were birth weight and one year old weight. For the cattle size simulation, three levels of 5,10 and 20 herds were taken into consideration. different scenarios for simulation were defined as follows: the general number of dams was considered to be 500 dams at the first level, 1000 dams at the second level and 2000 dams at the third level. determined simulation parameters were mentioned, and; general genetic development, breeding and generation gap parameters are counted to analyze the functionality of different scenarios. Population, herd size, selection intensity, intercourse type and the interaction of population and herd size have meaningful effect on the genetic development. Selection intensity shows the meaningful effect of 0.05 on the average of generation gap. In this study, using random intercourse has caused genetic improvement increase when comparing to the list homo tribal intercourse. The increase in Population size shows a decrease in breeding and generation gap and also an increase in genetic improvement. Thus, in order to have a better selection program, we should consider the list homo tribal intercourse and large Population with cattle containing more dams as the key factors. It was recommended to analyze the effect of adding breeding data to production traits on the general genetic improvement and the improvement of mentioned traits.

**Keywords:** Sistani beef cattle, birth weight, one year old weight, simulation



**University of Zabol**  
Graduate School  
Faculty of Agriculture  
Department of Animal Science

**The Thesis Submitted for the Degree of M.Sc in the field of  
Genetics and Animal Breeding**

**Determination of suitable genetics  
improvement strategy of Sistani cows by  
stochastic simulation method**

**Supervisors:  
Dr. M. Rokouei**

**Advisors:  
Dr. Gh. Dashab**

**By:  
F. MIR**

**January2014**