

**ESTIMATION OF GENETIC RESPONSE DEPENDENT ON SHEEP
PERFORMANCE AT WEANING IN LOCAL & TURKISH
AWASSI SHEEP WHICH ARE BREEDING IN SHELTERS**

Abstract

The aim of this study to investigate the estimation of direct and correlated genetic response dependent on phenotypic values and genetic values of weaning weight (WWT), number of lamb at weaning (LNO) and economic value (EV) from both traits. This study was carried out at the Sheep and Goat Research Station, Stat Board for Agricultural Research (20 km west of Baghdad), and over period from 1/7/2008 to 31/1/2009 using 603 records produced by 379 ewe analyzed statistically. Different criteria of selection program were performed using 90,80,70,60 and 50 % to be selected ewes from the flock for future records. Two alternatives of selection criteria were followed. The first was that selection depend on phenotypic values WWT,LNO and EV, the second alternative was the selection based on Best Linear Unbiased Prediction (BLUP) values of WWT.LNO and EV to represent the genetic values of the ewes.

The overall mean for the WWT,LNO and EV were 28.98 ± 0.30 kg, 1.59 ± 0.04 lamb per ewe and 144942.81 ± 1520.70 Iraqi dinar (ID) respectively.The heritability of the WWT,LNO and EV was 0.31,0.13 and 0.28 respectively.Highly genetic correlated between WWT and EV (0.98), and lest genetic correlated between WWT and LNO in this study (0.06). The corresponding phenotypic correlation coefficient were 0.99 and 0.08.

The percentage of direct genetic response of WWT were 1.31,2.19,2.93,3.59 and 4.20 % from flock mean at the selection percentage 90,80,70,60 and 50 % respectively, direct genetic response of LNO corresponding were 0.57,1.14,1.79,2.53 and 3.27 % , and direct genetic response of EV were 1.20,1.97,2.60,3.19 and 3.72 % respectively.The selection at 50 % from ewes taken high of direct genetic response were 4.20,3.27,3.72 of WWT,LNO and EV respectively.

Conclusive correlated effect in criteria applied in this study ,at the select of LNO were increased in WWT and EV , the high of correlated response (1.07 and 1.52 %) at the selection percentage 70 %, but decreased of the correlated genetic response of LNO at the selection according to WWT and EV were carried out using 90,80,70,60 and 50 % to be selected ewes from the flock.

In conclusion, positive genetic response dependent on direct selection, but correlated genetic response dependent on LNO is best of WWT and EV dependent on phenotypic values or genetic values.