

STUDY THE EFFECT OF AWASSI EWE LAMBS BODY WEIGHT ON IT'S PUBERTY AND THE CHANGES IN SOME BIOCHEMICAL AND HORMONAL PARAMETERS AND IT'S PRODUCTIVITY

Summary

This study was carried out at the animal farm , Animal Resources Department /College of Agriculture and Forestry / University of Mosul , during the period from 1/5/2009 to 1/9/2010 on 75 Awassi ewe lambs (105 days aged) to investigate the effect of body weight for female lambs on Reproductive capacity & concentration of some biochemical & hormones in blood serum.

This study involved three stages:-

- a) The 1st stage : from weaning (105 days) until the puberty .
- b) The 2nd stage :from mating until birth .
- c) The 3rd stage : from birth until lambs weaning (6 weeks) .

The results :-

a) The 1st stage:-

- 1- The puberty percentage was higher in groups with high and intermediate body weight as compared with low body weight .
- 2- A significant and arithmetic increase in carcass , tail , abdominal fat , kidney's fat & tail weight : carcass weight percentage and body fat weight :carcass weight percentage in the high body weight group as compared with other two groups .
- 3- A significant and arithmetic increase in the following reproductive parameters : reproductive system , ovarian , oviduct & uterine weight & the length of uterine horns in the high body weight group as compared with other two groups .

4- A significant and arithmetic increase in L.H concentration at (242 day age) female lambs and Cortisol concentration at(130 day age) female lambs as compared with other ages .

5- For the biochemical parameters :-

- A significant increase in serum glucose concentration at the ages : 158 and 186 days .

- A significant decrease in serum triglyceride and vLDL-C concentration at the age 248 day .

- A significant decrease in serum cholesterol ,HDL-C and LDL-C concentration at the age 130 day as compared with other ages.

- A significant increase in serum cholesterol and HDL-C concentration in the intermediate body weight group as compared with other group.

b) The 2nd stage:-

1- A significant increase ($p \leq 0.05$) in PCV and Hb values in the 1st & 2^{ed} month as compared with others month of gestation , and with regard to the interaction between body weight and gestation month , the results revealed a significant ($p \leq 0.01$) or arithmetic increase in the 1st and 2nd month of gestation for the high body weight group ,and in the 1st gestation month for the low body weight group as compared with others .

2-eCG Treatment have no effect on the biochemical traits and Cortisol concentration in the ewes.

3- Body weights on effects blood biochemical parameters ,the results revealed :

- A significant increase ($p \leq 0.05$) in serum urea concentration in ewes with low body weight as compared with other groups .

- A significant ($p \leq 0.05$) or arithmetic increase in serum triglyceride & vLDL-C in ewes with intermediate body weight as compared with other groups.

- A significant ($p \leq 0.05$) or arithmetic increase in serum AST, ALT & Ketone bodies in ewes with high body weight as compared with other groups.

4- In regard to the interaction between eCG treatment & the body weight a significant ($p \leq 0.05$) or arithmetic increase in urea and HDL-C concentration in low body weight ewes group, and a significant increase ($p \leq 0.05$) in AST concentration in the high body weight ewes group as compared with other groups.

5- The best fertilization rate, fertility & lambing percentage at weaning yielded a high and intermediate body weight ewes groups as compared with low body weight ewes group.

c) The 3rd stage:-

1- A significant ($p \leq 0.05$) or arithmetic increase in lambing initiation weight which born from high body weight ewes as compared with other groups.

2- A significant increase ($p \leq 0.05$) in milk yield amount from the high body weight ewes group, and in solid non fat component (SNF) in the intermediate body weight ewes group as compared with other groups.

3- A significant ($p \leq 0.05$) or arithmetic increase for interaction between high body weight of ewes & 4 and 6 weeks after birth in milk yield, while a significant increase ($p \leq 0.05$) in the interaction between intermediate body weight of ewes & 2 and 4 weeks after birth in SNF as compared with other interaction found.

4- In the 2nd reproductive season the fertilization rate for high & intermediate body weight ewes group, is better than in the low body weight ewes.

In conclusion, it's possible to mate Awassi female lambs with high body weight (> 38 kg) & intermediate body weight (35-38 kg) at early ages (less than 10 months) with a good reproductive performance in the 1st & 2nd seasons.