جامعة الموصل
كلية الزراعة والغابات

الأثر التآزري للخليط المحمي للمثيونين واللايسين في الأداء الفسلجي والإنتاجي للنعاج العواسية

حنان وليد قاسم يحيى أغوان

أطروحة دكتوراه
علوم الإنتاج الحيواني (فسلجة حيوان)

بإشراف

الدكتور صائب يونس عبد الرحمن
أستاذ

الدكتور عمر ضياء محمد
أستاذ مساعد

1441هـ **2020م**

المستخلص بلغة الأطروحة

هدفت الدراسة لمتابعة أثر إضافة خليط المثيونين واللايسين المحميان في الإداء الفسلجي والإنتاجي للنعاج العواسية أثناء فترة الدفع الغذائي والحمل والرضاعة. أُجريت الدراسة في حقل أهلي في قرية بايبوخت التابعة لناحية بعشيقة شمال مدينة الموصل 20 كم للفترة من 2018/3/10 ولغاية 2019/5/1 وأستخدم فيها 32 نعجة عواسية بعمر 2-3 سنوات وبمعدل وزن 36.05 ± 0.74 كغم قسمت النعاج عشوائياً إلى أربع مجاميع 8 نعجة/ مجموعة وعوملت خلال المراحل الفسلجية المختلفة (مرحلة الدفع الغذائي ومرحلة الحمل ومرحلة الرضاعة)؛ المجموعة الأولى (السيطرة): غُذيت على العليقة القياسية (بدون إضافة) خلال كل المراحل، المجموعة الثانية: غذيت على العليقة القياسية مضافاً إليها 2.5 غم ميثايونين محمي و2.5 غم لايسين محمي/ نعجة/ يوم مع العلف خلال فترة الدفع الغذائي والرضاعة. المجموعة الثالثة: غُذيت على العليقة القياسية مضافاً إليها 2.5 غم ميثايونين محمي و2.5 غم لايسين محمي/ نعجة/ يوم مع العلف خلال مرحلتي الدفع الغذائي والحمل. المجموعة الرابعة: غُذيت على العليقة القياسية مضافاً إليها 2.5 غم ميثايونين محمي و2.5 غم لايسين محمي/ نعجة/ يوم مع العلف خلال كل المراحل الفسلجية.

وبشكل عام يتبين من هذه الدراسة بإن إضافة الأحماض الأمينية المحمية أدت إلى تحسين الخصوبة في النعاج في الموسم الأول والموسم الثاني حتى بعد قطع الإضافة وإن إضافة الأحماض الأمينية المحمية خلال كل المراحل الفسلجية كان له تأثير إيجابي في الأداء الإنتاجي للنعاج وإن التغذية على المثيونين واللايسين المحمي خلال مرحلة الحمل وإدرار الحليب أدى إلى إنتاج مواليد ذات أوزان عالية وإن قطع الإضافة بالأحماض الأمينية المحمية خلال مرحلة إدرار الحليب أدى إلى خفض إنتاج الحليب.

Summary

The Current study aimed to follow the impact of protected methionine and lysine mixture supplementation on the physiological and productive performance of Awassi ewes, the study was carried out in private farm located at Babokht region (20 Km north of Mosul City)from 14th Apr./2018 till 1st May/2019.

Thirty two Awassi ewes aged 2-3 Years were used in the study with an average weight of 36.05±0.74 Kg. The ewes were randomly divided into four groups (i,e.8 ewes/group) and were treated at different physiological stages (flushing, pregnancy and lactation stages)as follows:

1-The 1st group "control" This group was fed on a standard ration (without any additives) during the entire stages.

2nd group: ewes fed standard ration Supplemented with protected amino acid(2.5 gm of methionine and 2.5 gm of Lysine /ewe/day) during the period of flushing and Lactation stages .

3rd group: ewes fed Standard ration Supplemented with protected amino acid (2.5 gm of methionine and 2.5 gm of Lysine/ewe/day) during flushing and pregnancy stages.

4th group: ewes fed standard ration Supplemented with amino acids (2.5gm of methionine and 2.5gm of Lysine/ewe/day)during all stages (flushing, pregnancy and Lactation).

There was a significant decrease($p \leq 0.05$) in ALT and AST levels in serum of ewes supplemented with protected amino acids, and a significant decrease in serum total protein, globulin and cholesterol as compared with control ,and a significant increase in serum triglycerides and HDL-C levels($p \leq 0.05$) as compared with control. However, such changes were disappeared as pregnancy progress, with a significant

increase in ALT in the 2nd stage and in AST and albumin in the 3rd stage of pregnancy. Results also revealed that treatments had enhance conception rate (91.6%) and Fertility (87.5%) significantly compared with the control which were 62.5% and 62.5% respectively, further more,asignificant increase ($p \leq 0.05$) in lambing rate% was noticed in all treated groups(100%)as compared with the control (75%). The continuous feeding of the ewes on the protected amino acids throught the whole course of study had led to a significant increase in pregnancy rate % of the 4th group in the 2nd gestation season , pregnancy % were 100% in the 4th group supplemented with protected amino acids along the whole course of study compared with the 2nd group (71.43%) supplemented during pregnancy period, 3rd group(60%) which supplemented during lactation period , and with the 1st group (28.57%). And inregard to the open day values, it was the shortest in the 4th group (97.5 days). And for milk production ,continuous treatment with protected amino acids (4th group) enhance milk production (arithmetically) along lactation period, on the other hand solid non fat%,protein% and lactose% in milk were significantly increased in all treated groups as compared with control during 1st month of lactation ,where as only the amount of lactose significantly increased in the 4th group at the 2nd month of lactation, and protein % and lactose % were significantly increased in all treated groups as compare with control ,and amount of milk protein significantly increased in 4th group compared with other groups and control. In relation to blood biochemical parameters during the lactation stage, generally there is a significant increase in stress enzymes along the lactation period. And for treatment effects on ewes and lambs body weight ,all treatments enhance lambs weight and it reaches the significant level in lambs weight and body weight increment in 4th group at the3rd month of lactations compared with control. For protected methionine and lysine effect on wool quality, there was 14.28% increase

in the fleece weight ,24.02% increase in the wool staple and 22% increase in the wool fiber length in the group supplemented by protected amino acids (methionine and Lysine) as compared with those of control. In general, the study revealed that the addition of protected amino acids caused an improvement in ewes fertility on the 1st and 2nd reproductive seasons, even after the withdrawal of supplementation, also the protected amino acide supplementation had a positive effect along all the three physiological stages of the study and on the productive performance of ewes, as well as, that the supplementation on pregnancy and lactation stages produced lambs with heavier weights, and the supplementation withdrawal on the lactation stages reduce milk production.

University of Mosul

College of Agriculture & Forestry

The synergistic impact of protected methionine and lysine mixture on physiological and productive performance of Awassi ewes

Hanan Waleed Qasim Yahya Aqwaan

Ph. D. Thesis

Animal Production Science

(Animal Physiology)

Supervised by

Dr. Saeb Y. Abdul-Rahman
Professor

Dr. Omer Dheyaa Mohammed
Assist. Prof.

1441A.H **2020A.D**