CONTENTS

LIST OF ABBREVIATIONS

A.O.A.C.	Association of Official Analytical Chemists.
ADC	Average daily gain
AL	Albumin
AL/GL	Albumin/globulin ratio
AST	Activity of Aspartate
ALT	Alanine amino transferase.
BW	Body weight
BY	Baker's Yeast
BWG	Body weight gain
CFM	Concentrate feed mixture
CF	Crude fiber
CP	Crude protein
DCP	Digestible crude protein
DM	Dry matter
DMI	Dry matter intake
DY	Dired yeast
DL	Deciliter
DE	Digestible energy
EE	Ether extract
FE	Feed extract
FE	Feed energy
Fig	Figure
G/H/D	Gram/Head/Day
GL	Globulin
HR	High roughage
HC	High concentrate diet
IU	International Unit
IU/L	International Unit per liter

LBW	Live Body Weight.
ME	Metabolizable Energy
Meq/100 ml	Milleqaivalent/100 milliliter
LE	Egyptian Pound
mg/ml	Milligram per milliliter
mg/dl	Milligram per deciliter
MY	Milk yield
M.C	*Matricaria chamomila*
NS	Nigella Sativa
NFE	Nitrogen free extract
NR	Nutritive ratio
NRE	National Research Council
NH_3-N	Ammonia nitrogen
OM	Organic matter
RL	Rumen liquor
TP	Total protein
TDN	Total Digestible Nutrients
TNR	Total Mixed Ration
VFA'S	Volatile Fatty Acids
WG	Weight Gain.
YC	Yeast culture

SUMMARY

This study was conducted at Sakha Experimental Station, Animal Production Research Institute, Ministry of Agriculture, in cooperation with the department of Animal Production, Faculty of Agriculture, Kafr elsheikh University.

This study aimed to investigate the effect of feeding concentrate feed mixtures supplemented with dried Yeast (Sccharomyces Cerevisia) at the rate of 50 mg/1 Kg live body weight /day or Matricala Chamomile(MC) at the rate of 50 mg/1 Kg live body weight or 100 mg/1 Kg live body weight per day on body weigh changes.

Nutrients digestibility's, Nutritive values of tested diets and growth performance of growing lambs.

Some rumen fermentation and total volatile fatty acids.

Blood constituents, physical semen characteristics of the lambs.

Ewes:

Forty pregnant crossbred ewes(1/2 Fin. x1/2 Rahmani) at the late pregnancy(2 months before lambing) with an average body weight of 53.50 Kg and age of 2 years were used in this study.

Ewes were distributed unto four similar groups (10 ewes each group) and feeding at four rations:

I Ration(1) : Consisted of concentrate mixture(control).

I Ration(2) : Consisted of concentrate mixture(supplemented) with 50mg dried yeast/Kg L.B.W/day.

I Ration(3) : Consisted of concentrate mixture(supplemented) with 50mg Matricala Chamomile (M.C)/Kg L.B.W/day.

I Ration(4) : Consisted of concentrate mixture(supplemented) with 100mg Matricala Chamomile (M.C)/Kg L.B.W/day.

Wheat straw was offered at 1% from the animal live body weight as a sole source of roughage for all groups.

Lambs:

After lambing newly born male and female lambs were taken to study growth performance (12lambs from each group, 6 males and 6 females) with an average live body weight of 19-20 Kg and feeding at the same rations tested before.

Blood samples were taken from lambs at the beginning of the experiment, then after the months at the end of the experiment and study the effect of feeding at the blood constituents(Glucose-Total protein-Albumin- Globulin-Total lipids- Cholesterol-AST-ALT- Testosterone) and study the effect of this treatment on productive and productive performance for lambs.

The results obtained are summarized as follows:

I. Animal performance

- **Growth rate:**

Average rate daily gains of lambs were 122. 140, 140, and 127 g/day for groups(1,2,3,and 4) fed on rations 2,3, and 4 gained 15.14, 14.78 and 4.62%, respectively in comparison with lambs in group(1) control.

- The conversion feed efficiency(Kg TDN/KG gain) were 5.64, 5.09, 5.40, and 5.78 Kg TDN/Kg gain for group 1,2,3, and 4 respectively.

- **Economic efficiency**:

  The results showed that the average of feed cost to produce 1 Kg live body weight were 6.18, 5.50, 5.44, and 6.08 Egyptian Pounds respectively, for groups 1,2,3, and 4.

  The Economic Efficiency improved by(20.25, 22.78, and 3.16%) for groups 2,3, and 4 respectively compared with group (1) control.

II. Blood Parameters

- **Total Protein.**

  Concentration of total protein values for groups(1,2,3, and 4) were 6.56, 7.00, 6.80, and 7.32(g%) respectively, the highest value in treatment 4(100 mg (M.C)/Kg L.B.W/day).

  Values of albumin were 3.31, 3.89, 3.77, and 3.52(g%) for groups (1,2,3,and 4) respectively, the highest value in treatment 4(100 mg (M.C)/Kg L.B.W/day).their were no significant difference between treatments.

- **Glucose concentration in blood.**

  The results showed that was no significantly differences between treatments(1,2,3, and4) the mean values were 66.36, 67.97, 67.01, and 67.38(mg%) respectively.

- **Total lipids and Cholesterol concentration**

The results showed that was no significantly differences between all treatments, the mean values were 398.02, 403.78, 382.32, and 38028(mg%) for groups(1,2,3, and 4).

- **Activity of transaminase AST & ALT.**

The results showed that was no significantly differences between all treatments in AST concentration, the values were 39.74, 41.51, 41.34, and 40.85(IU/L)

Generally the results obtained from this study showed that all values of blood parameters within the normal ranges of lambs.

III. Digestibility Trials

Four digestibility trails were carried out by using twelve cross-bred(Finn. X Rhamani) male lambs with average body weight of 50 Kg, three in each treatment to determine the nutritive value of the tested rations.

The experimental animal were fed on four experimental rations(1,2,3, and 4).

Wheat straw was offered as 1% from the animal live body weight as a sole source of roughage for all groups.

The results obtained are summarized as follows:

Feeding on ration 4 (100 mg M.C/1Kg L.B.W/day) and ration 2(50 mg DY/1Kg L.B.W/day) increased DM intake from the experimental rations.

Adding of M.C. 4(100 mg M.C/1Kg L.B.W/day) and DY(2) (50 mg M.C/1Kg L.B.W/day) increased significantly DM, OM and NFE digestibility.

Adding of M.C. 4 and DY (2) increased significantly TDN on DM bases.The values of (TDN)were52.63,55.17,56.03 and56.26 for treatments(1,2,3 and4) respectively.

The Nitrogen balance(NB) was positive for all treatments(1,2,3, and 4) the average value of (NB) were 5.63, 6.39, 6.75, and 6.96 respectively.

IV. Rumen Parameters:

Over all mean of pH values were 6.15, 5.86, 6.14, and 6.21 for treatments(1,2,3, and 4) respectively.

The differences among treatments 1,3, and 4 were not significant, but the lowest value was observed in treatment (2) dried yeast.

The over all mean of the ruminal NH3-N concentration were 16.58, 18.19, 14.80, and 14.96(mg/100 ml R.L) for treatments(1,2,3, and4) respectively.

The lowest significant($P < 0.05$) values of ammonia-N concentration obtained with treatment 3 and 4.

The over all mean of total volatile fatty acids values were 11.50, 13.52, 10.62, and 10.09 for treatments(1,2,3, and4) respectively.

The highest significant($P<0.05$) value of TV FA's concentration obtained with treatment (2) dried yeast (13.52 mg/100ml R.L.)