بسم الله الرحمن الرحيم


# شبكة المعلومـــــات الجامعية

# التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

# جامعة عين شمس

## التوثيق الالكتروني والميكروفيلم

## ﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

## يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

**To be kept away from dust in dry cool place of**
**15 – 25c and relative humidity 20-40 %**

# بعض الوثائق الأصلية تالفة


# بالرسالة صفحات

# لم ترد بالأصـــل

# EFFECT OF SOME NATURAL ANTIOXIDANTS ON LAMBS PERFORMANCE

BY

**AMAL ABD EL-KAREEM OTHMAN IBRAHIM**

B. Sc. ANIMAL PRODUCTION, FACULTY OF AGRICULTURE
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# EFFECT OF SOME NATURAL ANTIOXIDANTS ON LAMBS PERFORMANCE

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## ABSTRACT

This experiment was carried out at Seds Experimental Station and Animal Nutrition Section, Animal Production Research Institute, Agriculture Research center to study the effect of some medicinal plants (fennel, rosemary, thyme) and citric acid as antioxidant on lamb performance.

The results could be summarized as follows:

1- The best additive effect was thyme followed by rosemary on reducing the peroxide number by (31%, 30%) respectively and lowest was citric acid (21%). The best additive in reduced the thiobarbutric acid was thyme (52%), fennel (52%) and the lowest value was recorded with citric acid (34%). Values of thiobarbutric acid and peroxide number were increased with time advanced of cotton seed meal and olive cake.

2- Digestibility coefficients of DM were significantly higher with R3 rosemary and R4 thyme (81.6, 81.6) than control and citric acid being 79.3% and 79.8 %respectively. All additives improved OM, CF digestibilities compared with the control rations. CP digestibility was higher in R3 (rosemary) 72.9% than R1 (control) and R4 (thyme) 69.5 and 69.5% respectively and lower than R5 and R2 68.3 and 68.7% respectively.

3- Additives increased TDN and DCP % than the control. The highest TDN value was recorded with R4 (thyme) 85.5%, while the lowest value was found by control group 84.4%. For DCP the highest value recorded with R3 (rosemary) while the lowest value recorded with R2 (fennel).

4- Compared to the control group, lambs fed R4 (thyme) followed by R3 (rosemary) exhibited higher final live body weight 47 and 45 kg respectively and the best body


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weight was 21.8 kg for R3 (rosemary) and R4 (thyme). R3 (rosemary) and R4 (Thyme) showed significantly higher average daily gain 0.208 Kg/h/day than R2 (fennel) 0.164 Kg/h/day. The best feed conversion was found by R3 (rosemary) and R4 (Thyme) groups. There was an increase of feed intake in R4 (thyme) followed by R5 (fennel) 1245, 1213 g/h/day respectively and least was R5 (citric acid) 1172g/h/day.

5- Carcass cuts, the best fasting weight was found with R3 (thyme) 44 kg compared with R2 (fennel) and R5 (citric acid) 38.8 and 36.7 kg respectively. Regarding other carcass cuts there were no significant differences except neck wt was higher for R4 (thyme) 1.9 kg and less was R5 (citric acid) 1.3 kg, while brisket weight was higher for R3 (rosemary) 1.2 kg and the less was R5 (fennel) 0.8 kg.

6- Tail fat weight was 0.936, 0.981, 1.56, 1.53 and 1.00 kg for control, fennel, rosemary, thyme and citric acid respectively. The fat percentage relative to slaughter weight was 4.148, 3.929, 5.506, 5.646 and 5.436 for control, fennel, rosemary, and thyme and citric acid additives respectively.

7- Blood serum of total lipid was significantly higher in R2 (fennel) than R5 (Citric acid) after 30 days of feeding experimental rations, while, at the end of the experiment a significant increase in total cholesterol for R4 (thyme) than R5 (Citric) and R3 (rosemary) was found.

From the previous results it can be concluded that:

The possibility of using natural additives such as fennel, rosemary, thyme and citric acid as a chemical antioxidant to control lipid oxidation in extruded full fat soybean seeds rations to increase storage time. Adding thyme and rosemary showed good effects on animal performance e.g. increasing feed digestibility, heavier body weight, better feed conversion and good economic efficiency.