## Abstract

This Study was carried out the poultry farm , of the Animal Resources This study was carried out in the Poultry Farm of Animal Resources، Department / college of Agriculture / University of Tikrit، from 18 December،2012 to 21February،2013. The aim of this study is to investigate effect of (*Rosmarinus officinal's*) on hematology، serum biochemistry antioxidant status and testis histological changes، seventy two mature male of (*Cutornixcutornix*) ، eight weeks old were used in the experiment and were divided into six groups 12 birds/ treatment. These groups were as follows first control (basal diet).while the second، third، fourth، fifth and sixth groups got (basal diet supplemented with rosemary 1، 2، 4، 8، 16 gm/kg diet respectively. Each group was feed adlibitum its own diet for a period at 4 and 8 weeks. The results showed:

* Simple fluctuation in body weight and feed intake of all groups along the experimental periods.

* Apparent T4 (4gm/Kg diet) significant increasing ($p<0.05$) in total Red Blood Cells (RBC) count Through The experimental periods ،whenever noted significantly decreasing ($p<0.05$) in Packed Cell Volume (PCV)، Mean Corpuscular Volume (MCV) and Mean Corpuscular Hemoglobin (MCH) with using Rosemary 2mg/kg diet (T3).

* we noted significant decreasing in total number of White Blood Cells (WBC) when using Rosemary 1 and 4gm/kg diet compared to the control group.

* In blood biochemical treats noted significantly decreasing in glucose، cholesterol، total protein، uric acid concentration and AST،ALT activity when using different levels of Rosemary powder the experimental period 4week and 8 weeks.

* Significant increasing noted in testosterone hormone concentration ،foam gland and germinal layer area with adding 1gm/km diet of Rosemary at eight week of treatments.

* Noted significantly improvement of anti oxidant status in liver، testes tissue and scrum by increasing Glutathione (GSH) level and decreasing

## Abstract

malondialdyhied (MDA) level. upon using Rosemary powder، at 1 and 2 gm/km diet(T2 and T3) respectively.