



THE EFFECT OF USING *GYNURA PROCUMBENS* LEAF POWDER ON BIOCHEMICAL TRAITS AND ANTIOXIDANT STATUS OF BROILER CHICKENS ROSS308

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Abstract

This experiment was conducted in one of the poultry fields of the Department of Animal Production in the Faculty of Agriculture–University of Kirkuk, with the aim of influencing the use of different levels of powder leaves *Gynura procumbens* plant on the biochemical traits and antioxidant status of broiler meat for the period from 9/9/2019 to 10/14/2019, in this study, 192 broiler chickens type Ross308, unhealthy, were used at the age of one day. The chicks were distributed to 6 treatments, 32birds/treatment at 4 replications/ treatment and each repeater contained 8 birds. The calculation of transaction callati: the first transaction group control of free of addendum, the second, third, fourth, fifth and sixth levels added to the *Gynura procumbens* plant powder by 0.5 and 1, 1.5, 2 and 2.5 g/kg grass. The results of the experiment show a significant increase in the concentration of glucose, total protein concentration, albumin and globulin in favor of treatment with *Gynura procumbens* leaf powder compared to the control group. It is also noted that there are no significant differences in the concentration of cholesterol, high-density and low-density lipoproteins, as well as with respect to the enzymes carrying the amino group AST and ALT. While a decrease in the concentration of Malondialdehyde and an increase in the concentration of Glutathione in the blood serum are observed.

Keywords: *Gynura procumbens*, leaf powder, antioxidant

Introduction

We have become consumption of white meat, especially meat chicken meat and the day – consuming due to it contains protein by more than beef and sheep is characterized as well as low proportion of fat in which with a good percentage of salt mineral, vitamins (Abdul Aziz *et al.*, 2012). Because of genetic improvement of higher increase weighted which was at the expense of the immune which fell in which thus increasing use of medicines and vaccines with effect of the negative on the rights (Ahmed and Naji, 2007). As well as the global trend especially in America and European Union countries towards the prohibition of antibiotic use (FAO, 2019). And thus the need to find alternative sources of them for use in the fields. It is this plant belongs to the family Asteraceae (Choi *et al.*, 2016). Lies its effectiveness boasts on the Flavonoids, Saponins, Tannins, Terpenoids, Sterol glycosides (Akowuah *et al.*, 2002 and Zahra *et al.*, 2011)

Materials and Methods

Carried out this experience in the field of poultry of the Department of Animal Production-Faculty of Agriculture University of Kirkuk, the period of 9/9/2019 and up to 14/10/2019. And use of the 192 chick chicken meat day-old type Ross 308 purchased from hatchery my family Riva Kirkuk governorate, Where distributed chick randomly on the six transactions by 4 replicates per treatment of each duplicate 8 bird. Continued to provide the water and feed birds and freely (Ad libitum) within a period of experience on the basal diet the initiator and growth was transactions as follows :

Treatment of the first (T1) : Compatible comparison of free add

Second treatment (T2) : Add 0.5 kg/tons GP powder to the antique

Treatment of the third (T3): Add 1kg/tons GP powder to the antique

Fourth treatment (T4): Add 1.5 kg/tons GP powder to the antique

Treatment of the fifth (T5): Add 2 kg/tons GP powder to the antique

Treatment of the sixth (T6): Add 2.5 kg/tons GP powder to the antique

Table 1: The scales of the relevant materials in the formation of the factor used in the experiment with its combined chemical installation

Ingredient ,%	Starter 1-21 day	Grower 22-35day
Corn	54	63.5
Soybean meal(44%)	36.5	31
Premix ⁽¹⁾	5	2.5
Sun flower oil	2.6	3
Stone Clear	1.5	0
Dicalcium phosphate	0.4	0
Total	100	100
Chemical composition ²		
ME ,kcal/kg	2966	3153.65
CP ,%	22.65	20.28
Ca , %	0.93	0.70
Pb , %	0.48	0.77
Met, %	0.51	0.53
Met + Cys ,%	0.87	0.83
Lysine ,%	1.31	1.33

¹ The use of the Centre protease Brocon-5 product of the Company WAFI Hollander containing the 40 kg/tons CP,3.85 kg/tons Lysine, 3.7 Met, 4.12 kg/tons Met + Cys, 2183.7kcalME/kg,5kg/tons CF, 2.26kg/tons Crude Fibe, 3.53kg/tons Ca, 5.35 kg/tons Pb, 2.4 kg/tons Na, 200000 ul/kg Vit A, 6000ul/kg Vit D3, 600mg/kg Vit E, 50mg/kg Vit K3, 60 mg/kg Vit B1, 140mg/kg Vit B2, 700mg/kg Vit B12, 80mg/kg Vit B6, 800mg/kg Niacin,20mg/kg of folic acid, 2 mg/kg biotin and 6073.20 mg/kg colin-chloride. ²by the chemical composition according to analyses silo contained in the NRC (1994)

Qualities Biochemical & Antioxidant

At the end of experience and old 35 day pulled the blood samples of the Jugular vein tubes test does not contain anti-clotting ,and put this pipe in the centrifuge quickly 3000cycle /min for a period of 15 minutes, to separate the serum for the cell, was measured concentration of the Total protein,

Albumin, Globulin, Cholesterol, LDL & HDL based on the way to work that came with the kit and manufactured by the Company Biolabo French. As was measured Glucose by way to company producing crews Bio system Spain, as for the effectiveness of the enzyme AST& ALT equipped with by the company AGAPPE Switzerland. Malondialdehyde and Glutathione by way to (Guidet and Shah, 1989). Were analyzed data experience according to design random full were compared to the differences of the moral between the averages choose Duncan the polynomial use the statistical program ready SAS for the year 2004 in the statistical analysis.

Results and Discussion

Evidenced by the results in the table 2 the emergence of differences moral and in the level of glucose, where outperformed transactions T3, T4 and T5 moral, compared with the transaction control. The concentration of CH, HDL & LDL is not visible differences moral between the transactions experimental chicken meat. The results in Table 3 shows that the start a GP in the diets led to access high moral and in the concentration of the total protein treatment T4 and T5, as well as the concentration Globulin in the blood

serum .With regard to the concentration Albumin we note high moral transactions experimental compared to control. Results are described in Table 4 did not appear influential moral and when the age 42 Day in the level of concentration of enzymatic AST & ALT in the blood serum. Note of Table 5 for the level of MDA great height for the treatment of control compared to transactions other added to it GP, where recorded treatment T3 and T4 lowest. The proportion of Glutathione was found great height of the transaction T6 compared to control followed by the transactions other. That the results of our study vary with what pointed out to him (Hassan *et al.*, 2010). To draw water of GP and by 1000 mg/kg led significantly to reduce blood sugar level mice. While confirms the results (Nazri *et al.*, 2019) that the ethanol from GP dose 500 mg/kg work to reduce TC, LDL, TG and increased HDL, while (Wan Yusoff *et al.*, 2016) found no impact moral and in the level of TP, ALB, GLO, AST & ALT. That the results of our study of MDA & GLU consistent with the (Nazri *et al.*, 2019) that the dose 250 and 500 mg/kg of body weight in mice led to reduce the MDA using the GP .

Table 2 : The effect of the use of powder – sheets plant *Gynura procumbens* in the bush in the image of fat blood serum (mg/dl) chicken meat Ross 308 when the age 42 day.

Treatment ¹	Glucose	Cholesterol	HDL	LDL
T1	256.00± c ² 25.81	144.33± 21.05	66.67± 5.33	44.90± 9.42
T2	288.60± b 29.40 ³	141.00± 24.58	77.67± 6.93	52.13± 6.66
T3	311.00± a 53.72	139.33± 12.71	67.33± 4.97	49.00± 6.65
T4	309.33± a 27.26	131.00± 5.29	84.33± 17.89	51.40± 6.33
T5	312.67± a 46.39	124.00± 4.93	81.67± 2.96	38.27± 2.32
T6	260.00± c 28.04	119.67± 9.76	78.67± 12.54	50.07± 14.91

1. T1: The treatment of control, T2, T3, T4, T5, T6 Added to him *Gynura procumbens* by 0.5 , 1, 1.5 , 2 , 2.5 kg/tons respectively
2. a , b the characters different within the column indicates the differences moral between the transaction and control at the level ($p \leq 0.05$) according to test Duncan
3. Average ± the standard error

Table 3 : The effect of the use of powder – sheets plant *Gynura procumbens* in the bush on total protein, albumin ,globulin in the blood serum (mg/100 ml) chicken meat Ross 308 when the age 42 day.

Treatment ¹	Total protein	Albumin	Globulin
T1	3.0±0.05 ³ b ²	11.53 ±2.88 c	18.60± 2.96 c
T2	3.0± 0.01 b	12.66 ±2.06 ab	17.63±3.24 c
T3	2.8± 0.02 b	12.13 ±3.03 b	16.57±3.21 c
T4	4.7± 0.018 a	13.23 ±2.09 a	34.67±19.09 a
T5	3.7 ± 0.05 a	12.66 ±2.83 ab	24.67±7.78 b
T6	3.1± 0.05 b	12.90 ±3.41 a	18.10±6.49 c

1. T1: The treatment of control, T2, T3, T4, T5, T6 Added to him *Gynura procumbens* by 0.5, 1, 1.5, 2, 2.5 kg/tons respectively
2. a, b the characters different within the column indicates the differences moral between the transaction and control at the level ($p \leq 0.05$) according to test Duncan
3. Average ± the standard error

Table 4: The effect of the use of powder – sheets plant *Gynura procumbens* in the bush enzymes for the tanker of the Group amino (AST & ALT) in the blood serum chicken meat Ross 308 when the age 42 day.

Treatment ¹	AST(U/L)	ALT(U/L)
T1	24.4±41.52 ²	11.66±13.3
T2	23.3±3.51	10.66±6.6
T3	29.9±71.05	11.33±17.6
T4	27.7±66.12	8.00±5.7
T5	23.6 ±29.71	11.33±3.3
T6	27.5±29.20	9.33±17.6

1. T1: The treatment of control, T2, T3, T4, T5, T6 Added to him *Gynura procumbens* by 0.5, 1, 1.5, 2, 2.5 kg/tons respectively
2. Average ± the standard error

Table 5: The effect of the use of powder – sheets plant *Gynura procumbens* on the concentration of Malondialdehyde and Glutathione blood chicken meat Ross 308 when the age 42 day.

Treatment ¹	MDA(mg/l)	Glut(mg/dl)
T1	0.905 ± 0.005 ³ a ²	272±1.5 c
T2	0.835 ±0.015 bc	301±6.0 b
T3	0.775 ±0.015 c	303±3.0 b
T4	0.755 ±0.005 c	303±1.5 b
T5	0.795 ±0.005 dc	309±1.0 b
T6	0.855 ±0.025 b	324±2.0 a

1. T1: The treatment of control, T2, T3, T4, T5, T6 Added to him *Gynura procumbens* by 0.5, 1, 1.5, 2, 2.5 kg/tons respectively
2. a, b the characters different within the column indicates the differences moral between the transaction and control at the level ($p \leq 0.05$) according to test Duncan
3. Average ± the standard error

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