Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/
The 1st International Conference on Sciences and Arts (ICMSA 2017)
المؤتمر الدولي الاول للعلوم والاداب
3 مايو 2017 - اربيل – العراق
http://sriweb.org/erbil/

Effect H_2O_2 And Diffrient Levels of *Heliotropium pacciferum* Plant Powders on Some Production Performance And Blood Biochemecal Properties in Broiler

Dr.Ayyub J.Abdl-Rahmaan Al-Bayaty,[a] MSc.Shurooq Hameed,[b] MSc.Hala Hameed,[c]

[a,b,.c,]College of Women Education-Tikrit Univeresity,Iraq.

ayyubayyup@gmail.com

Abstract

A study was conducted over the period from 6 June to10 Julay 2016 at the special poultry farm in Kifri city-Kurdistan Region- Iraq to invested the effect of using H_2O_2 to induse oxidative strees and different levels of of *Heliotropium pacciferum* plant powder in the ration on some production performance and blood serum biochemical properties of broiler.One hundred and eighty,one-day-old chicks(ROSS) were used and randomly with three repplications distributed into six treatment,each containing 10 chicks.The treatments were,control,H_2O_2 with drinking water and the third, fourth,fifth, sixth treatment were leavels of plant powders (2.5, 5, 7.5 and 10) gm/kg forage sequently gived as ad libitum.

The results shwoed significant effect for plant powder leavels on live body weight reached, (1840.44±26.0)gm, and dressing percentage(62.59%) were birds gaved 7.5gm/kg, while higher percentage of mortality rate were birds gived H2O2 reached (8.16%). Also significant effect observed on biochemical blood serum properties when birds gived diffrien leavels of plant powder,the treatment with H_2O_2 gaved high value of colestrol and less value of HDL

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

reached (194.83±8.32 , 29.60 ±1.86 0) mg/dl concequently however the treatment 7.5gm/kg gaved less value from triglyceride and VLDL reached (74.04± 13.82 ,14.8 ±0.76 0)mg/dl concequently and high value from LDL reached(69.88 ±0.76) mg/dl .
Key words:Alkaloid,pacciferum,chicken,oxidative stress.

Introduction

The Genus Heliotropium include 22-320 species,its plant has scorpion inflorescene(Al-mosawi,1987) with medicinal and economical value in the world(Abbas,1991&Othmam,1989),it contain alkaloids and glycosides materials such the species *H.lasocarpium* which grow in desert regions wihe sandy and clay soils and on farms(Al-Blesh,2012).

The poultries consider one of the important animal protein source,There for many applicated researches done on this field to find substitute remedy for diseases and food problems(Aleas&Alabed,2010) and all the researches concentrate aboute plants and medicinal herbs because it doesnt has any side effect(Abraheem&Puttrs,2008;An-niaumy,2009;AOA,1999) instead of synthetic drugs wich has side effect transport to human by animal(Abraheem&Gsaan,2009).

Eating feed which grantee the life for us, produse in same time material causes oxidity has negative effect on the body.The food enter to metabolism attacked by free radical consisting in atoms or molecules has more of free unstable electron on the external orbit it is constantly in research for missing electron which pulle from adjacent molecules and this cause destroying natural cell molecules of body(Bo-Alkhandool,2011).There are many type of free radical such as Active oxygen (ROS) may be radicals or non radicals in many shaped such as super oxide anion O^{-}_{2} ,single oxygen $O^{1}_{2,}$ Hydrogen peroxide(H_2O_2),Hydroxyl radical(OH) and Nitrate oxide(NO) (Shama,2015).the source of this radicales may be internal produced by Mitochondria or NADPH oxidase enzyme and NOS enzyme (Adams *et al*.,2001) or it comes from external source such as food , smocking , toxicity of ozon layer and exposes to rays (Rakove et al.,1991;Gilbert&Colton,1999).

The balance between active oxygen type production ant anti oxidative give grantee for continoues natural physiology body processes(Ozgan *et al*.,2006) and the over oxygen types production lead damage on molecule leavel causes damage for tissues and hapning mor diseases(Bin-Salama,2012).

The researches fined in the plant from active new molecules and crut matereals which used in pharmacology for synthetic drived drugs from plants(Medjdoub,2006) this plants produse many compounds by secondry metabolim processes(Mohammad,2013)such as phenols,terpenoids,steroids and alkaloids(Zegheb,2013) and propably this compounds being abig source of difference medicinal factors (Boukri,2014) this secondry compounds reach over 2000 (Kanoun,2011).

Alkaloids are one of the imporant secondry compounds is which consist of more than 200 and its concentrate about 15% from dry weight of plant (Mauro,2006) distinctive with higher toxicity because of higher biological activity and vigor of physiological effect(Abo-

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
http://arab.kmshare.net/

Zaid,2006) and more uses from another compounds (Husain,1981 , Mukherjee et al.,2001).now yet the number of drived alkaloids reach more than 2000 alkaloids (Alshamaa.1989),therefor the direction was about medicinal plants and herbs such as using seed powder emolusion aqueous of *Avena sativa* L.,*Anithemis nobilis* L. and *Capsicum conicum* (Putrs,2007) ,boiling aqueous extraction of Cyperus longus L tubbers(Al-niaumy,2009),*Nigella sativa* L. powder(Al-khufajee,2005) Glycyrrhiza glabra L and Diopyrus kaki L extracts(Husain et al.,2010) and extracts of Chicory local leaves(Al-Ethary,2012).

Material and methods

The study was conducted over the period from 6 June to10 Julay 2016 at the special poultry farm in Kifri city-Kurddistan Region- Iraq to invested the effect of using different leavels of of *Heliotropium pacciferum* plant powders in the ration on some production performance and blood serum biochemical properties of broiler and using H_2O_2 to induse oxidative strees.One hundred and eighty,one-day-old chicks(ROSS) were used and randomly with three replicaties distributed into six treatment,each containing 10 chicks.The treatments were,control,H_2O_2 with drinking water and the third, fourth,fifth, sixth treatment were leavels of plant powders 2.5,5,7.5 and 10 gm/kg mash sequently gived as (ad libitum) on initiar mash from age (1-10) day,and from age (11-24) day gaved on growth mash and on age (25-35) day gaved definitive mash table(1) according to Ross 308 guide for 2007.

Table 1.percentage of enterning forage material with chemical material.

Mashesmaterial	Primary mash(1-10)day%	Growth mash% (11-24)day	Definitive mash(25-35)day
Corn	40	56.5	59.5
Wheat	11	-	-
Soy bean48%	38	32	29
Vegetable oli(sunflower)	5	5.5	5.5
Protein	5	5	5
Gypssium rock	0.7	0.7	0.7
Salt	0.3	0.3	0.3
Total	100	100	100
Calculated chemical composition			
Crut protein%	24.90	22.16	20.97
Energy(kg/kcal)	3055	3152	3179
Licin%	1.32	1.20	1.12
Mithionin%	0.52	0.50	0.48
Mithionin+Cystin%	1.10	1.12	1.13
Calsium%	1.15	1.17	1.16
Phosphor%	0.36	0.33	0.32

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

-Studed chracterisctics:-

Active plant ingrediants:

Diagnosis of plant active ingrediants done by High Performance Liquid Chromotography (HPLC) apparatus .The plant dried at the shade and milled then 10gm from the sample put in 50 ml boiled water (90-100C^0) for 3 hours then extracted whattman papers no.1 the extraction collected and put in closed glass tube in order measuring the concentration of active ingriadents by HPLC apparatus which supplied by Shimadzu company (Japan) type,LC-10A 2000 supplied with spectrum scale (Spectro photo meter – spd – 10A – UV),Asample size 20µl injected on Fast liquid chramotographic column (LC) with diamention(50×4.6mm I.D) by the injector type (Rheodyn-712)and the data recorded by calculator which drawed the pick area and retention time.Astandard solution of *Heliotropium lasiocarpium* plant used and sperated py HPLC apparatus and identification the pick area and retention time of standard solution and comparing it with the pick area and retention time of studed plant sample at the same condition .

Table 2. chromatographics separate condition

Column	Revers phase column(50×4.6mm I.D)
Mobile phase	Distill water :Ethanol 70%
	2 :80v/v
Following rate	10 ml/min
Type of detector	Ultra violate ray 254 nm
Tmperature	30 C^0
Fast of recorder paper	10 ml/min
Size of injected sample	50 mg/ml

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

Concentration of compounds in the sample calculated by the aquation:

$$\text{Conc. Compound in the sample} = \frac{\text{pick area of compound}}{\text{pick area of standard sample}} \times \text{standard pattern conc.} \times \text{delution factor}$$

Productivity characteristics:

1-Live body weight: At the end of experiment bird weight taken and fllowing aquation applied to know bird weight rate on one replicate:

$$\text{Bird weight rate} = \frac{\text{Total of birds weight in repplication}}{\text{No.birds in repplication}}$$

2-Mortality rate: daily mortality recorded and calculated as percentage over experiment period for all repplicate and fllowing aquation applied to know mortality rate:

$$\text{Mortality rate percentage} = \frac{\text{Total mortality on aweek}}{\text{No.of total bird}}$$

3-Dressing percentage: six birds, three male and three female were taken frm each repplicate inorder calculate dressing percentage at the end of fifth week .live weight were taken then slaughtered intestines removed and interior eating parts separated the heart,liver and gizzard and dressing percentage calculated accordind the aquation below:

$$\text{Dressing percentage without eating parts} = \frac{\text{Cleaned slaughter weight(gm)}}{\text{Live weight(gm)}}$$

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

Biochemical blood parameters:

At 35 day four birds were taken from each repplicate and blood were pulled from brachial vein of the bird and collected in test tube without deterrent coagulate. (EDTA) and fllowing tests done in laboratories Kifri hospitale and biology department laboratories - education college for pure science-Tkrit University ,the tests included:

-Cholestrol estimation:cholesrol measured by using equipment test (kit) produced by spinereact,S,A,Espain according the method which depends to enzymatic analysis of triglycerides into glycerol,where mixed enzymatic reagent(R2 compsed of (Peroxidase,Cholestroloxidase,Cholestrol esterase and Aminophenozone at concentrate 1250u/l,300u/l,300u/l and 0.4 mmol/l concequently) with same size from reagent buffer (R1) composed of (Pipes Ph 6.9,Phenol and Sodium chadate surfactant at concentrate 90 mol/l,26mmol/l and 3.7mmol/l concequently) and the two solutions shaked to prepar working solution,then taked three test tube and put in each one 1.0 ml from working solution then addition10µ from blood serum on one of tubes and 1µ from standard solution (Cholestrol 200mg/dlµ or 5.17 mmol/l) to second tube,then shak slowly and left it in water path on $37C^0$ for five minutes ,the reading for on absortion done on the wave length 500 nm and cholesterol concentration measured using aquation below:

$$\text{Cholestrol conc.(mg/dl)} = \frac{\text{A sample}}{\text{A standard}} \times \text{n(200mg/dl or 5.17mmol/l)}$$

-Determination of serum triglyceride: triglyceride measured by using equipment test (kit) produced by Italian company (Giesse Diagnesticsns)according to the method depen on enzymatic analysis of triglyceride to the glycerol by taken three test tube and addition on them blood serum ,standard solution TG (glycerol) and distill water concequently then addition 1 ml from solution declare (TG) composed of (Good buffer,Magnesium chloride,Adenosine tri phosphate,4-Aminoati pyrine,Toos,Lioprotein Lipase,Glycerol Chinase,Glycerol-3-phosphate oxidase and Peroxidase) at concentrate 100mmol/l,15mmol/l,4mmol/l,1 mmol/l,0.1mmol/l,2500µ/l,1000 µ/l,5500 µ/l and1800 µ/l concequently and after slow shaking tubes left at laboratories temperature for 15 minutes and reading absorption on wave length 505 nm then triglycereds calculated according the aquation below:

$$\text{Triglycereds conc.mg/dl} = \frac{\text{Asample}}{\text{Astandard}} \times \text{standard conc.(200mg/dl)}$$

Blood serum HDL cholesterol:measured by using equipment test (kit) produced by Italian company (Giesse Diagnesticsns)by taken 50 µ/l from each of blood serum,standard solution and distill water concequently on three test tube and addition 1 ml from working

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
http://arab.kmshare.net/

solution(cholesterol Enzymatic solution) and shaking it then but it on the water path at 37 C^0 for 5 minute and reading the absorption at the wave length 500 nm by using the aquation below:

$$\text{HDL cholesterol (mg/dl)} = \frac{A_{sample}}{A_{standard}} \times 500 \times 1.1$$

500:mean standard solution conc.

1.1:mean dilution factor

Blood serum LDL cholesterol: measured by using the form below (Freiedwold et al.,1972):

LDL (mg/dl)=Total cholesterol-HDL cholesterol-Triglyceride

Blood serum VLDL cholesterol: measured by using the form below (Freiedwold *et al*.,1972):

$$\text{VLDL (mg/dl)} = \frac{\text{Triglycerides}}{5}$$

The data analyside statisticaly by using complete Randomized Design (CRD) and leastsignificant diffrenece compared between means by using Duncan multiple test(Duncan,1955) at the leavel 5% by using statistical program (SAS) 2001.

Results and Discution

Figure (1) and table (3) shows retention time and pick area of standard solution which injected to the HPLC apparatus and figure (2) with table (4) shows type of alkaloids compounds on the studed plant pattern with retention time ,pick area and its concentration, the compounds were indicine,supinine,indicine-N-oxide,heleurine,heliotrine and lendilofidine with concentrate reached(23.27%,5.66%,2.87%,2.34,48.05%,17.78 %) concequently

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

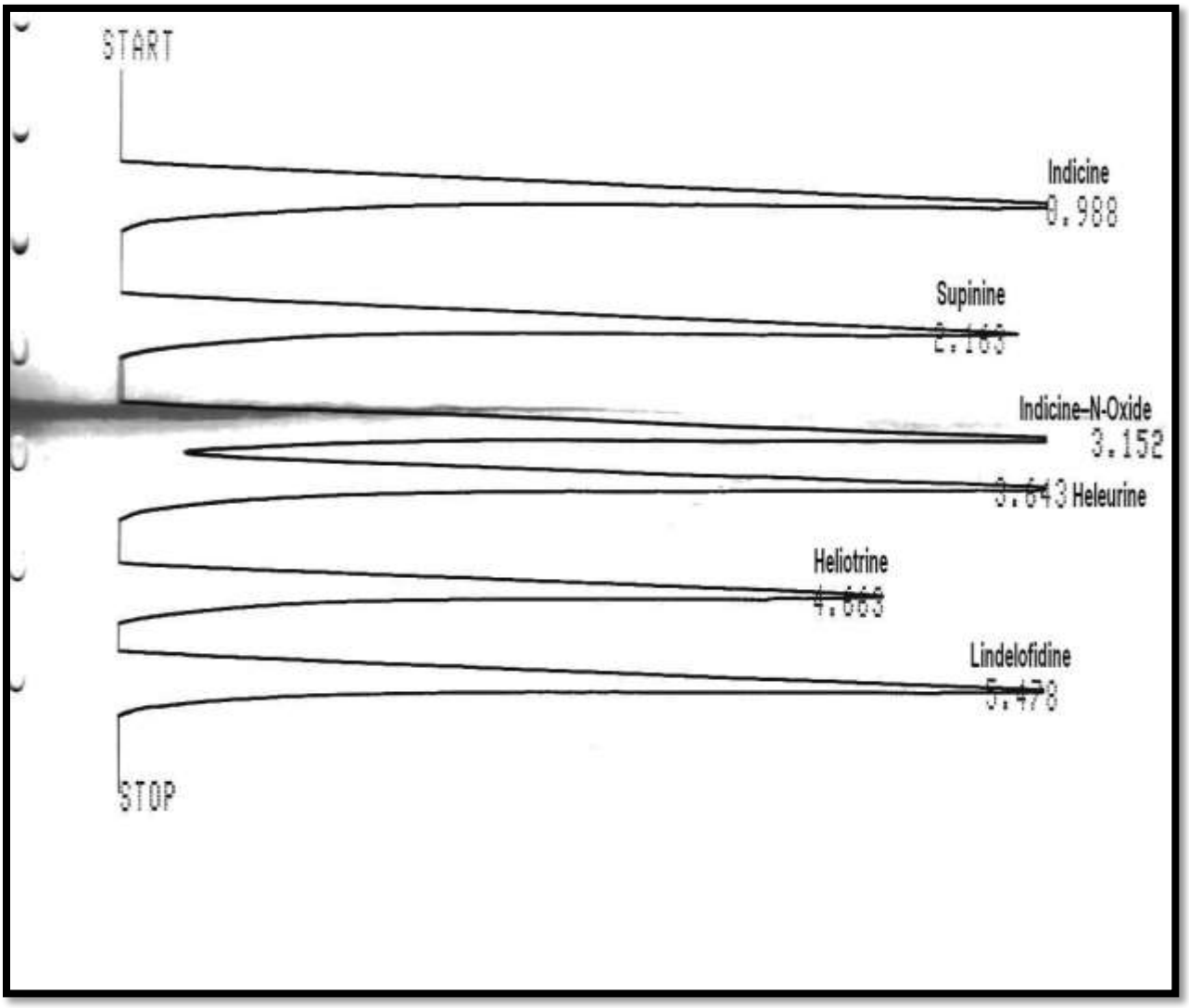

Fig.1. Retention time and pick area of H.bacciferum(standard solution)

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
http://arab.kmshare.net/

Table 3.Values retention time,pick area and concentration of H bacciferum(standard solution

Seq.	Chemical component	Retention type	Pick area	Concentration
1	Indicine	0.988	39148	50mg/ml
2	Supining	2.16	32824	50mg/ml
3	Indicine-N-oxide	3.15	36977	50mg/ml
4	Heleurine	3.64	36748	50mg/ml
5	Heliotrine	4.66	27478	50mg/ml
6	Lindelofidine	5.47	34983	50mg/ml

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

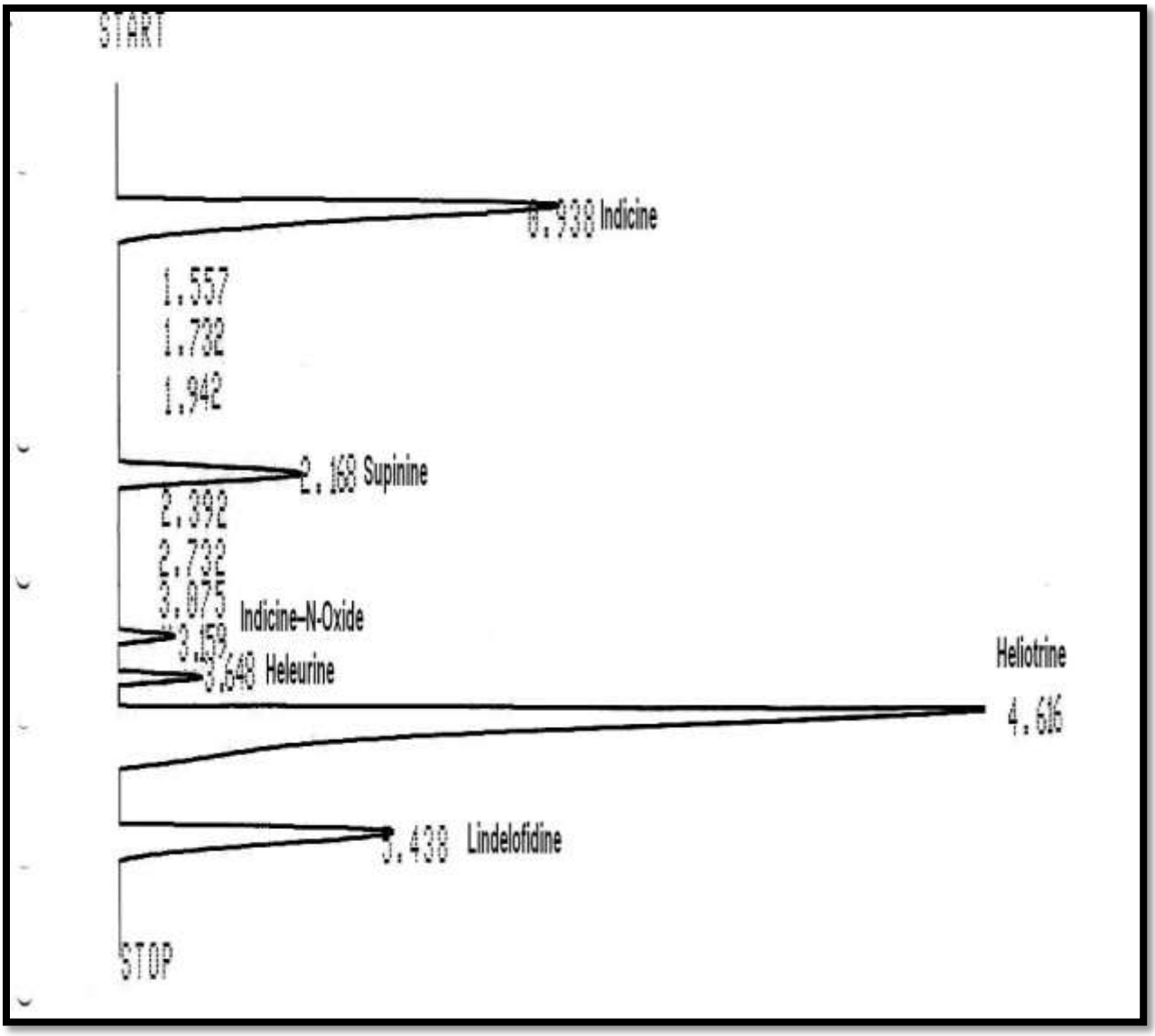

Fig.2. Retention time and pick area of *H.bacciferum(*plant sample*)*

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

Table(4) Values retention time , pick area and concentration of H.bacciferum

Alkaloids	Pick area of Plant compounds	Pick area of standard compounds	Standard conc. (mg/ml)	Compounds conc.(mg/ml)	Compounds percentage(%)
Indcine	12950	39148	50	66.15	23.27
Supinine	2642	32824	50	16.09	5.66
Indicine-N-oxide	1510	36977	50	8.16	2.87
Heleurine	1227	36748	50	6.67	2.34
Heliotrine	18761	27478	50	136.55	48.05
lindelofidine	8842	34983	50	50.55	17.78

Table (5) shows effect of treatments on the some broiler productivity properties.The highest live body weight reached(1840.44±26)gm when broiler gaved(7.5) gm /kg from plant powder with mash, while least value were (1667.15±21.71)gm when broiler gaved H_2O_2 with drinking water,the same table shows least value of mortality rate when broiler gaved defferent leavel from plant powders with mash while highest value reached(8.16±0.72%) when broiler gaved H_2O_2 with drinking water.From same table we saw high value of dressing percentage reach(62.59±0.07%) when broiler gaved(7.5)gm/kg from plant powder with mash and low value reach(52.86±0.33%) in the H_2O_2treatment. 1840.44±26.0a1974.33

Table 5.Effect of difference treatmentS on the productivity properties.

Treat. Properties	Control	H2O2	plant powder levels(mg/kg)mash			
			2.5	5	7.5	10
Live body weight (gm)	1811.33±21.71b	1667.15±15.088c	1821.33±11.355b	1840.44±26.0b	1974.33±46.4a	1836.33±11.2b
Mortality rate(%)	4.33±16.0b	8.16±0.7a	22.33±0.00c	2.33±0.03c	2.00±0.03c	2.33±0.08c
Dresseing percentage(%)	57.43±0.33b	52.86±0.12c	57.74±0.11b	58.34±0.03b	62.59±0.07a	58.22±0.11b

***the value refer to the rate±stander error**

***similar letters in one class means no significant difference at level(0.05>p)**

From table (6) we saw asignificant effect of plant powders and H2O2 on biochemical properties ,the least percentage of cholesterol were in the H2O2 treatment reached (194.83±8.32) mg/dl while highest percentage were (170.71±15.99)mg/dl when broiler gaved (2.5gm/kg)plant powder,the same treatment showed highest level from triglyceride reached (120.02±11.42) mg/dl while least percentage were (74.04± 13.82) mg/dl when added (7.5)gm

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

from plant powder with(1 kg) mash .the same table appeared least percentage of HDL were (29.60 ±1.86) mg/dl while highest value of LDL reached (53.21± 9.54)) mg/dl were used (7.5mg)plant powder with mash.The same treatment gaved lest percentage fromVLDL were(14.8 ±0.76)mg/dl while high value were (24.0± 1.66)mg/dl at the H2O2 treatment .

Table 6. values of some biochemical properties(mg/dl) affected by different treatments on blood serum of broiler

Treat. Properties	Control	H2O2	plant powder levels(mg/kg)mash			
			2.5	5	7.5	10
Cholestrol	175.4±8.26b	194.83±8.32a	170.71±15.99 b	174.0± 3.83b	175.22± 3.83b	179.04 ±6.60b
Triglycerides	107.60± 9.94b	120.02±11.42 a	99.20± 6.22b	85.25 ±3.39b	74.04± 13.82c	94.25 ±25.51b
HDL	35.06± 3.78a	29.60 ±1.86b	34.73± 3.26a	34.94± 3.16a	31.30 ±2.07b	35.61± 6.8a
LDL	31.74± 2.83e	45.21 ±4.80c	36.78 ±9.54d	53.21± 9.54b	69.88 ±0.76a	49.18± 1.32c
VLDL	21.52 ±1.65b	24.0± 1.66a	19.84 ±3.19c	17.17± 0.09cd	14.8 ±0.76e	18.85 ±1.32c

***the value refer to the rate±stander error**

***similar letters in one class means no significant difference at level(0.05>p)**

Th high value of livebody ,dressing percentage and less value of mortality and improving other biochemical properties may atrribute to the role of plant extract in scavenging free radical from cells whereas more study proofe dthat some of eatable plant or some of its isolated ingrediants has antioxidant properties(Tsao et al,2004) and antioxidant material which available in fruits and vegetables may be responsible about scavenging effect of free radicals(Halliwell,1994) the natural antioxidant in foods do as redactance factors (Parasakthy et al,1996)and the high physiological effect of alkaloids(Abo-Zaid,2005),also role of alkaloids in reducing due to its potential antioxidant (Blazorics et al,2003) and role of plant extracts in reducing synthsed lipids in liver tusses and leassing enzymes level which assist fatty acids synthetic (Al-Ehari,2012) .The rich plant extracts with antioxidants do to inhibition harmful oxidation for lever tussues by scavenging of generated free radical DNA and then leasssing cholesrol generation by inhibition Hydroxymethyl gultry-CoA reductase enzyme and increasing throw yellow acids with stool where convert big amount from cholesterol into yellow acids ,destroy cholesterol ,inhibition lipid absorption and inhibition lever cholesrol generetion

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

(Belal,2011) ,also the results above may attribute to the content of plant powder vitamins such as E ,C and carotenoids which has role in forming antioxidant system (Surai et,al,2009) and participation enzyme of glutathione peroxidase with vitamin E and C in prokenfree radical reaction chains (Al-Drajee and Rad,2012) and role of alkaloids in scavenging DPPH radical (Benabdesselem,et al,2007) and free radicals (Gilani et al,2005).The results agree with other studies such as Al-Hamadany and Abdula-Rahem (2009)whom refer to significant leas on peroxynitrait radical by using garlic powder in chicken forage,also agree with Abraheem(2009) whom see negative effect for abstracts of roots,steams and leaves of alkaloids materials,and with results showed effect of alkaloids in scavenging free radicals activity(Tiony et al,2013).

Refrences:

[1] Green,P.;Claxton,R.;Smicox,S.;Mr.;Walsh,and Leeuwenburg,C.(2001).Reaction Carbony Formation by Oxidative and Non Oxidative Pathway.Front Bio Sci.:A17-24.

[2] Al-Blesh M. A.(2012).Classificational and Comparative study of the genus Heliotopium L. in mid.

[3] -Al-Drajee,H.J. and Razuki,R.H.(2012). The use of rocket salad (Eruca sativa) seeds powder for improve seminal plasma traits of laying breeder males,Kufa J.of Aric Sci.4(1):1-11.

[4] Aditya A. Tiong S.H.; Chung Y. L.and HazrinaH.(2013). Antidiabetic and Antioxidant Properties of Alkaloids from Catharanthus roseus (L.) G. DonMolecules 2013, 18, 9770-9784; doi:10.3390/molecules18089770.

[5] -Al-Ethary,A.ch.s.(2012).Study the effect of chicory local leaves extract in the level of the sugar lipids profile Mice Plasma treamented of carbon tetrachloride Diala,J. of Agric Sci.4(1):17-25.

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

[6] Al-Hamadany,A.H., & Abdulrahman,N.A.(2009). Effect of adding garlic powder Allium Sativa L.to ration of broilers experimentally infected with Newcastle diseases virus.Iraqi J.for veterinary Sci.Addima No.(1):257- 269.

[7] -Al-Kufajee,F.R.(2005) Effect addition of Nigella sativa L. on broiler performance exposed to high heatstress.Theses Ms.Cpleege of Agric.Univ. of Baghdad.

[8] Al-Mosawi,A.H.(1987).Plant Taxanomy science, First print,Dar Al-Kutub for prints and publishing.Univ. of Mousl.

[9] -Al-Naimy,S.N.(2009). Effect of Cyperus rotundus tubers boiled extract on some physiological and biochemical parameters aspects in broiler Iraqi .J.of veterinary science. 23(2):293-298.

[10] -Al-Shamaa,A.(1989).Druga and Medicinal plant chemical.Dar Al-kutub,Mousl,Iraq. and north of Iraq,theses Ph.D.College of Education,Univ of Tikrit.

[11] -Belal,N.M.(2011).Heptoprotective effect of feeding celery leaves mixed with chicory leaves and barly to hyper cholestrolemic rats .Asia J.of Clinical Nuttrittion 3(1):14-24.

[12] -Benabdesslem,F.F.;Khenteach,S.and Bougoffa,Kh.(2007).Antioxidal activites of alkaloids of two Algerian species of Fumarin:Fumaria capreolata and Fumaria bastardii.A.C.G. publition Rec.Nat prod 1:2-3:28-35.

[13] -Bin –Salama,(2012).Anti oxidant activity and inhibitor for axanthin oxidative enzyme fo leaves extract of Hetria cheirifolia. Athesis Msc,Univ.of Farahat Abbas.Algeria.

[14] -Bo-Alkhandol.R.(2011).Protective role of flavonoidic extracts against liver inflambles induced by paracetamol on rats. these Ms,Univ.of Mintory kusentina,Algeria.

[15] -Boukri,N.H,(2014).Contribution a1 etude phytochimque des extritesdes espices contents dans.Athesis Msc.KasdiUniv.Algeria .

[16] Friedwald,W.T.;Levy,R.I. and Fredrickson,D.S.(1972).Estimation of the concentration of low density lipoprotein cholesterol in plasma without use of preoeration altracentrifuge.Clin. Chem.,18:499-502.

[17] -Gilani,A.H;Basher,K.H.;Janaby,k.h.and Khan.A.(2005).Pharmacological basis for the use of Fumaria indica in constipation and diarrhea J.Ethanopharmacology,96:585-589.

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

[18]-Gilbert,H.S.;Stump,D.D. and Roth,E.F.(1984).Amethod to correct for errors caused by generation of interfering compounds during erythrocyte lipid peroxidation.Analyt.Biochem.,137:282- 286.

[19] Hallwell,B.;Aeschbach,R.;Loliger,J. and Aruma,O.(1995).The characterization of anti oxidant food chem.Toxicol.33:601-617.

[20]-Husain,F.T.(1981).Medicnal plants.Sowing anits components,Dar Al-Mareekh ,Reaad,Sudia Arabia.

[21] Husain,R.F.,Moyed,S.Sh., & Abdel-Amer,N.G.(2010)Effect of glycyrrrhiza global and Diospyros kaki fruits in Inhibitis the Chromosomal Aberration Resulted From Sodium Sulfate treatment in Human Lymphocyte,Iraqi J.of Scie. (51)3:428-436.

[22]-Kanoun,K.(2011). Contribution a1 etude phytochimque et activite antioxidante des extractis de *Myrtus communis* L.Diplom de magister.Univ.Aboubekr Belkaid.Algeria.

[23]-Mauro,N.M.(2006).Synthesis d,alcaloides biologiquement actifs:la (+)anatoxine a et la (±)Camptothecine,thesis phD,Univ.Joseph fourier.

[24]-Medjdoub,H(2006).Etude phyto chimique et ectivite biologique de *Zygophyllum geslini* Coss. produits naturles.these Ms,Univ.Abou bekr Belkaid.Algeria.

[25]-Mohammed,Z.(2013). Etude phyto chimique et ectivite biologique de quliques plants medicinales dela region et sud oust de 1, Algeria ,these phD.Univ.Abou bekr.

[26]-Mukherjee,S.and Mitra,A.(2009).Health effect of palm oil.J.Hum.Ecol.25(3)197-203.

[27] Othman,M.(1981).). Classificational study of the genus *Arnebia* L.in Iraq,Thses Ms.Colleg e Agric,Univ. of Mousl.

[28]-Ozgen,u.;Mavi,A.,Terze,Z., & Yildrem,A.(2006).Antioxidant properties of some medicinal Lamiceae (Labiatae) species. Pharm Bio.44:107-112.

[29] Parasakthy,K.;Shanthi,S.;Deepalkshmi,P. and Niranjali,SD.(1996).The antioxidant effect of eugenol and carbon tetrachloride induced erythrocyte damage in rats.J,Nutr.Biochem.7:23-28.

Global Proceedings Repository
American Research Foundation
ISSN 2476-017X
Available online at http://proceedings.sriweb.org
شبكة المؤتمرات العربية
http://arab.kmshare.net/

[30] Rakova,A.L.;Drygin,A,N.;Shrapov,V.A.and Kozbemjakin,L.A.(1991).Ultraviolet irradiation of outlogus blood in the complex treatment of patients with dibetes melli Ciir.Clin-med- inosk.69(8):95-99.

[31] -Shama,B.(2015).Comparative study for antioxidant activity in Alchoholic and aques exracts of *Zyophyllum album* L. these Ms,Univ.of Al-Shaheed Hama lakhdar wadi.Algeria.

[32] Tsao,A.S,;Kim,E.S.and Hong,W.K.(2004).Chemoprevention of Cancer.CAC Cancer J. Clin.54:150-180

C.V. of the first author

Ayyub J.Abdl-rhmaan Al-Bayaty is an assistant professor at the University of Tikrit-Iraq.He received his BS degree in field crop science from the University of Baghdad in 1993 and MS degree in same science from Tikrit University in 2006,and his phD degree in Biology-**Botany-Medicinal plant and Physiology** from Tikrit University in 2012.He is the outhor of more than journal. He works now at the collegeof Education-Dept.Biology-Tikrit University-Iraq.