

Effect of Addition Different Levels of Parsley Leaves Powder (*Petroselinum sativum*) to the Ration on Some Blood Serum Biochemical Traits of Broiler Ross 308

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Abstract

This study was conducted at Poultry Farm of Animal Resources Dept., College of Agriculture, University of AL-Qasim Green to investigate Study the effect of addition different levels of Parsley leaves powder (*Petroselinum sativum*) to the ration on some blood serum biochemical traits of broiler Ross 308. Use the 180 broiler chicks Ross 308 day-old were randomly assigned to four treatments (by 3 replicates per treatment 15 chicks per replicate), and treatments were as follows : Treatment for the first (control) without adding Parsley leaves powder into the ration, the second treatment: Add Parsley leaves powder by 500 mg / kg feed, third-treatment: Add Parsley leaves powder by a 1000 mg / kg feed and treatment fourth: Add Parsley leaves powder by a 1500 mg / kg feed. The experiment included a study of the following characteristics : total protein concentration, albumin, globulin and the concentration of glucose . The results indicated that the addition of Parsley leaves by 1000 and 1500 mg / kg feed to broiler diet led to a significant improvement ($p<0.05$) in total protein concentration, albumin, and globulin and significant decrease ($p<0.05$) in concentration of glucose .It concluded from this experience, that the addition of Parsley leaves by 1000 and 1500 mg / kg feed to the ration can lead to improve in some blood serum biochemical traits of broiler Ross 308.

Keywords: Parsley Leaves powder, blood serum biochemical traits, broiler

Introduction

It was expected after the proliferation of chemical manufacturers and variety of drugs that fall disease and increase control of it, but what happened is the opposite of modern diseases has been known to man were not known before and began chronic diseases emerge and spread may be attributed to the fact that many industrial drugs acting on immunosuppression as well from the side effects of long-term, which began to appear finally, while there are many highly effective plants in the therapeutic uses so that every plant or herb is composed of an effective variety of materials placed rates so do not have a serious negative side effects on human health. So I started a medicinal plant occupies a distinctive and significant position in the global agricultural production to the content of the natural chemicals of interest to a large and important impact in the physiological and therapeutic activity for humans and animals. Scientific studies have proven that the products derived from these plants have the ability to cure a variety of ailments and the removal of their symptoms, and that one of these plants is Parsley *Petroselinum sativum* plant leaf Parsley also named in most of the Arab countries and called Parsley in English. Parsley leaves contain essential oils more than roots and volatile oils in the leaves contain mineral salts, iron, calcium, phosphorus and vitamin A, C. Grown at present scientific knowledge of the importance of Parsley therapeutic and medicinal as well as nutritional importance and confirmed the latest experiments that Parsley is one of the antagonists to oxidize cells that protect them from cancer and develop the immune system has is because it contains a high content of vitamin C equivalent to four times the rate of the lemon, and the high levels of Flavonoid and special material Apigenin, which works to reduce the division of cancer cells so it helps to treat the disease and reduce its spread (Nielsen et al., 1999). Experiments carried out by a group of researchers that is extracted from plant oil Parsley antagonist is an antioxidant and inhibitory of free radicals has been proven (Zhang et al., 2006). Numerous studies have tried to disclose the secret of Parsley until he found the Parsley leaves contains a volatile oil called Myristicin it is very important. The most important compounds Apiole constitutes this oil, along with vitamins A and (B, B2, B3, B4) B vitamin C, iron salts, calcium and iodine active principle of the plant (Razzaghi-Abyaneh et al., 2007). Extracts have shown Parsley leaves highly effective as antibiotics for negative bacteria and cationic dye Cram and some fungi (Ojala et al., 2000) and do not stop importance Parsley at this point but extends that he treats other diseases, such as anemia, to the abundance of iron containing folic acid in the plant as well as effective in melt fat and is useful in the secretion of bile in the liver and is a diuretic for Paul (Whitehouse et al., 1999). As for its impact on poultry and he had a positive effect on blood traits in birds Iraqi geese (Al-Daraji et al., 2012), where there was a significant improvement in blood traits, especially lymphocytes responsible for immune ratio, and in the study of Rabia (2010) on broiler chickens explained the addition of 3 g / kg of Parsley seeds to the diet broiler chickens have

registered a significant decrease in the concentration of cholesterol and improved significantly in the qualities of productivity and the absence of significant differences in quality attributes of sacrifice, as well as the characteristics of blood biochemical between experimental treatments, while he found all of the Tahan and Bayram (2011) when used Parsley plant added to the diet significantly improved productivity in some of the qualities of quail. Also had Parsley leaves plant a positive role in improving the qualities of blood biochemical (Al-Daraji et al., 2012), where the importance of the Parsley leaves added to the diet Iraqi geese to improve the total protein and albumin and globulin lower cholesterol triglycerides in comparison with control. Due to the above, the objective of this study was to determine the effect of adding leaves Parsley powder into the ration on some blood biochemical traits of broiler chicks.

Materials and methods

This study was carried out at the poultry farm of Animal Resource college of Agriculture, University of AL-Qasim Green from 13/2/2016 to 18/3/2016. used a 180 chick broiler chickens and an average weight of 40 g / chick. It has been raising chicks in cages ground, and random chicks were distributed on four treatments each of which consists of three replications, with each duplicate contained 15 chicks. It has been providing feed for the birds freely and fed the birds on a ration (Table 1). Treatment for the first (control) without adding Parsley Leaves powder into the ration, the second treatment: Add Parsley leaves powder by 500 mg / kg feed, third-treatment: Add Parsley leaves powder by a 1000 mg / kg feed and treatment fourth: Add Parsley leaves powder by a 1500 mg / kg feed. The experiment included a study of the following characteristics : Total protein concentration, albumin, globulin and the concentration of glucose , as was the collection of blood in the fifth week of the six birds of each treatment (2 birds from each repeater) wildy as the collection of blood from a vein brachial where the use of pipelines container inhibitor coagulant Potassium EDTA to prevent blood clotting, and he was placed in a centrifuge on the speed of 3000 r / min for 15 minutes and for the purpose of blood plasma separation was keeping the plasma in the frozen temperature -20 ° m until conducting laboratory tests, which included focus glucose, total protein, albumin, which was measured by the glucose concentration in the blood plasma and through the use of (several) solutions measure ready (kit) from the production of English Randox company was estimated concentration using optical method mentioned by Asatoor and King (1954). The estimate of total protein, albumin and globulin in the blood serum with an estimated total protein in the blood serum by using the method of Purity Biuret method. As the existing copper works in the installation of the detector to interact with the peptide bonds of the amino acids in the protein as it gave a violet color intensity is measured a wavelength (450nm) to a spectrophotometer . Data were subjected to an ANOVA using the General Linear Models (GLM) procedures of SAS (2010). Significant treatment means were separated by using the multiple range test of Duncan (Duncan, 1955) .

Table 1. Composition of experimental ration

Ingredients (%)	Starter 1 – 21 days of age	Grower 22 – 35 days of age
Yellow corn	30	30
Wheat	27.7	35.5
Soybean meal	28	20
Protein concentaverage(1)	10	10
Sunflower oil	3	3
Limestone	1	1.2
Salt	0.3	0.3
Total	100	100
Calculated chemical structure (2) (%)		
Crude protein	22.74	20.16
ME, Kcal / Kg feed	3078	3125.2
Lysine	1.02	0.95
Methionine	0.53	0.48
Calcium	0.97	1.0
Available phosphorus	0.41	0.48

1 Life Company / Jordanian origin contain 44% protein 0.2800 kilo price 0.12% fat, 25% ash, 5% calcium, 2.9% phosphorus, 2.55% Mithaaonin + Sistine, 2.8% lysine.

2Chemical structure was calculated according to the analysis of diet material found in NRC (1994).

Results and discussion

Notes from the table (2) the effect of adding different levels of Parsley *Petroselinum sativum* leaves powder to the ration on some blood serum biochemical (5 weeks), where he observed superiority of the third treatment (add

a plant leaf powder Parsley by 1000 mg / kg feed) and treatment fourth (add Parsley leaves powder by 1500 mg / kg feed) was significantly ($P < 0.05$) on the first treatment (control) and the second treatment (add a plant leaf powder Parsley by 500 mg / kg feed) where recorded (3.82 and 4.08 g / 100 ml) respectively, while the first treatment recorded (control) and the second the following values (3.01 and 3.11 g / 100 ml), respectively, either in the recipe concentration of albumin g / 100 ml note the continued superiority of the third and fourth treatments was significantly ($P < 0.05$) on treatment the first (control) where recorded (1.94 and 2.06 g / 100 ml), respectively, while the first treatment recorded (control) is the lowest concentration of the two albumin, and was (1.54 g / 100 ml) the second treatment did not, there were no significant differences between them and the experimental treatments were recorded (1.72 g / 100 ml). As for the recipe concentration globulin we note also higher than the third-treatment and treatment fourth significantly ($P < 0.05$) on the first treatment (control) and the second treatment, where recorded (1.88 and 2.02 g / 100 ml), respectively, while the first treatment recorded and second values (1.47 and 1.39 g / 100 ml), respectively, and the same table shows that there were significant differences in the concentration of sugar glucose in the blood serum of treatments Add Parsley leaf powder and control treatment where the third and fourth treatments the lowest recorded concentration of glucose significantly ($P < 0.05$) compare to the first treatment (control) and recorded (166.12 and 163.56 mg / 100 ml), respectively, while the first highest treatment recorded concentration of glucose and recorded (188.52 mg / 100 ml) the second treatment did not, there were no significant differences between them and the experimental treatments and recorded (174.26 mg / 100 ml).

Table (2) Effect of addition different levels of Parsley leaves powder (*petroselinum sativum*) to the ration on some blood serum biochemical (5 weeks)

Fourth treatment 1500 mg / kg feed	treatment Third 1000 mg / kg feed	Second treatment 500 mg / kg feed	treatment First) control(Treatments Characteristics
$\pm 4.080.03$ a	$\pm 3.820.01$ a	$\pm 3.110.04$ b	0.07 ± 3.01 b	Total protein gm / 100 ml
$\pm 2.060.06$ a	$\pm 1.940.03$ a	$\pm 1.720.02$ ab	$\pm 1.540.08$ b	Albumin gm / 100 ml
2.02 ± 0.01 a	1.88 ± 0.09 a	1.39 ± 0.05 b	1.47 ± 0.02 b	Globulin gm / 100 ml
163.56 ± 2.19 b	166.12 ± 2.27 b	174.26 ± 2.11 ab	188.52 ± 3.41 a	glucose mg / 100 ml

The reason may be due to the positive results that have been obtained to what may contain Parsley leaves into effective compounds where is a good source of iron, which enters in the manufacture of red blood cells in addition to containing Parsley vitamin C leaves which works on iron absorption (Duke et al., 2009) and thus it works to reduce the vulnerability of birds to any type of stress by increasing the secretion of the hormone Thairoxin and thus increase the speed of metabolism and increased biochemical reactions in the body rates and then build muscle tissue in the body, which results in maintaining a high rate of total protein and albumin in the blood serum of birds treatments in comparison with control features as broad leaf Parsley its content of nutrients such as iron, calcium, sodium and potassium as well as vitamins such as A, C and Riboflavin and amino acids, which is the active principle of the plant Razzaghi-Abyaneh) et al., 2007) . The globulin concentration may return improvement in Parsley (third and fourth treatment) to the medicinal properties owned by Parsley plant, which plays an important role in increasing the level of globulin immune serum This reflects its ability to enhance cellular immunity and raise the body's immunity and maintain the health status (Richmond and Mackley ,2000).

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