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Study the Effect of Adding Different Levels of Garlic and Onion Extract Vinegar to Drinking Water in Some Productive Qualities for Meat Chickens

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Abstract: conducted his experience is in an animal farm, college Agriculture University Karbala From 15/3/2021 until 20/4/2021. Moreover, I aimed the current study to demonstrate the effect of using different levels of onion garlic and vinegar extract on some production traits, which were used in the experiment of 240 unsexed one-day-old chicks of the breed Ross 308 In four-story batteries; each floor contains a cage with different dimensions 1×1.5 m, and the chicks were distributed randomly 60 A chick for every treatment for treatments T2, T3 and T4Add the extract to itIn three concentrations (1ml,3mlAnd5 ml/liter) respectively To drinking water. The results of the experiment indicated a significant improvement ($p \leq 0.05$)In the productive qualities of onion, Garlic, and vinegar extract treatments, the treatment has T4 significant improvement ($p \leq 0.05$) In carcass characteristics with a significant decrease ($p \leq 0.05$) In terms of percentage of losses, so was the treatment T4 significant improvement ($p \leq 0.05$) in carcass characteristics with a significant decrease ($p \leq 0.05$) In percentage of deaths.

Keywords: gurlic, onion, vinegar

Introduction

Modern commercial breeds of broiler chickens are characterized by high growth speed, which has led to a decrease in the performance of the immune system, making them more susceptible to disease infections. This has led to the excessive use of antibiotics, which in turn has led to consumer health problems and the emergence of resistant pathogenic bacterial strains. For antibiotics (Let al., 2013).

Recent studies have shown that there are risks from the widespread use of antibiotics and the severe effects they cause not only on animals but they may leave residues, even in small amounts, in their tissues, organs, and products, which affects the health of the person consuming those products (Leeet al., 2004).

Medicinal plants currently occupy a significant place in industrial production as a primary source of medicinal drugs because they are the rich plant source of active substances with a therapeutic effect and many diseases, which have been used on a commercial scale as raw materials in the preparation of medicines in all their forms. Tipuet al., 2006).

The World Health Organization has determined that 80% of medicinal plants are of medical benefit and that their plant extracts have many essential uses as growth stimulants (Cabuket al. 2003) or as antibacterials (Saeed And Tariq, 2007) And as antioxidants (Wangensteenet al. 2004) In addition, plant extracts stimulate the digestive system to increase the secretion of digestive enzymes secreted by the pancreas and liver to enhance digestion and absorption (Srinivasan, 2005).

the Garlic:-

Garlic is scientifically known as:(Allium sativum) It is a biennial medicinal herbaceous plant, and it is considered its native countryEast AsiaIt was then introduced to the Mediterranean region and is currently cultivated worldwide. Fleming, 2000). Garlic has been known for its health and therapeutic benefits since ancient times, as it has been used in many ways by ancient CivilizationsAnd folk medicines, such as Arabic medicine, Chinese medicine, and ancient Indian medicine (BayanAnd others2014) it has Greek physicians Galen considered it a general antidote for all diseases. (Mahan et al. 2004) it is used as a spice, BenefitIn the prevention and treatment of many infectious diseases (Ermst; Martin, 2003) asIt contains a group of vitamins, including ascorbic acid and thiamine And riboflavin and vitamin E toIn addition to some mineral elements including calcium And phosphorusIron, zinc, manganese and selenium (Lawson, 1996)It also contains on Acids Amino Sulfur And materials Like Sex hormones And materials Similar With insulin And hormones Prostoclandins. Fresh Garlic contains a good percentage of protein at 6.39%, carbohydrates 33.06%, and fiber 3.5%. Garlic contains cysteine and its derivatives and gamma-glutamyl peptides (Lancaster Randle, 2002). One of the most essential organic sulfur compounds found in Garlic, and the most important of them are robots, Allinand of the active antimicrobial substances for bacterial activity. The medicinal efficacy and properties of Garlic are due to its antibiotic, growth-inhibiting properties. Garlic has excellent benefits in stimulating the body's immune system, especially cellular immunity (Szigeti. 1998)

Onions:-

Scientifically known as (Allium cepa) is a perennial or biennial plant. Central Asia is considered its original homeland, from which it was introduced to the Mediterranean region. It is currently cultivated all over the world (Fleming, 2000) both onions and Garlic belong to the family (Allium), both of which contain sulfur-containing compounds, which give them their pungent smell. It also contains many flavonoids and phenolic compounds, which have antioxidant activity and antifungal activity (Zielinska et al. 2008)

Vinegar.

One of the available food products locally That contains a high concentration of acetic acid and produced from fermentation anaerobic aFor alcohol unless Thilly By yeast vinegar helps when added scale down (Phillippe, 1996) Also an additionetc Drinking water provided to broilers Meat through its ability to kill or inhibit the growth of various microorganisms without causing harm (Al-Ani et al.,2005).

Materials and Methods

The chicks were raised on four batteries with three floors, and the area of one floor is 1. Each cage contains 10Chicks. It was completed with electric greenhouses heating the hall. All conditions for raising broilers were provided, with feed and water provided. A continuous lighting system was used 24 hours a day during the first three days of the chicks' lives, with one hour of darkness being given throughout the days of rearing to accustom the chicks and prevent their disturbance—when cutElectrophoresis. The chicks were fed ready-made diets (fodder tablets).Pellet)It consists of three stages: The first stage is starter bush (in the rate of Crude protein 22-23 % and 3010 And a card (KK represented energy) has been used from 1-14 days old. The second bush (Crude protein 21-22 % and

a 3100 KK metabolic energy) was used from 15-28 days. The third feeding (Crude protein18-19% and Card3150 kK metabolic energy) was used from the 29th until the experience .executed the study using a completely randomized design card) it was compared to averages by tes Duncan.

Prepare the onion, Garlic, and vinegar extract.

Onions, Garlic, and vinegar were obtained from local markets and mashed using a small electric masher, each separately, and then placed in a blender with vinegar in a ratio of 1 kg onion, 1 kg garlic with a liter of vinegar at a concentration of 5%. After that, the extract was filtered using a piece of gauze, and the extract was ready. To use.

Results and Discussion

1-Effect of using the extractions, Garlic, and vinegarAverage weekly live body weight of broilers

Show Table (1) Effect of using the extract Onions, Garlic, and vinegar At a rateTWeekly body weights of broilers, Notes from the table Existence Significant differences between all experimental treatments when the first week of the chicks' life AndIn the second week show all treatments exstract Onions, Garlic, and vinegar significant superiority (P≤0.05) Compared to the control treatment, at the third and fourth weeks of the birds' life, it was significantly superior (P≤0.05)Treatment T4 compared to the treatment T2 and superior significantly (P≤0.05) Compared to the control treatment, at the same ages, the results did not show any significant differences between the two treatments T3 and T4On one side and between T2 and T3 on the other hand, at the marketing age (35 days) the treatment was demonstrated T4 signinficant superiority (P≤0.05) compared to the treatment T3 Which in turn excelled morally (P≤0.05) compared to the treatment T2 Significantly superior to the control treatment.

Table (1) The effect of using the extraction, Garlic, and vinegar Average weekly body weight (g) of broilers ± standard error.

Treatments	the agent weeks				
	1	2	3	4	5
T1	± 0.77 115.85	± 1.74 b 300.21	± 2.4 bc 450.01	± 8.82 c 1150.40	± 13.02 c 1846.59
T2	116.08 ±0.79	±2.09a 55ر305	616.10 ±5.08 a	± 8.55 b 1208.17	± 12.71b 1940.05
T3	116.15 ±0.83	± 1.96 308.96	± 5.12 ab 612.05	±9.04ab 1213.26	± 12.65 ab 1960.51
T4	116.21 ±0.69	± 1.84 307.34	± 4.79 a 623.77	± 9.63a 12220.45	± 13.14 a 1978.02
signinficant	NS	*	*	*	*

T1 First treatment: Control treatment. T2 Second treatment: AdditionOnion extract, Garlic, and vinegarAt a level/liter of water.T3 Third treatment: Onion and Garlic extractAt a level/liter of water.T4 Fourth treatment: additionOnion and Garlic extractAt a level/liter of water.NS indicates no

significant differences between the means of the treatments. *Different letters within one column indicate the presence of significant differences between the groups at the 0.05 probability level.

2-Effect of using aqueous extractions, Garlic, and vinegar in the average weekly weight gain of broiler chickens.

It is clear fromschedule (2) Effect of using the extractOnions, Garlic and vinegar In the average weekly weight gain of broilers, there was noanySignificant differences between all treatments in the first week From the age of the chicksIn the second week, it appeared to improvement (P≤0.05) In favor of treatments extract Onions, Garlic and vinegar Compared to the control treatment In the third and fourth weeks, the T4 treatment was significantly (P≤0.05) superior to treatment T2 signinficant superior (P≤0.05) On the treatment T3 Superior signinficant (P≤0.05)On the treatmentT2Which in turn outperformed morally (P≤0.05) on treatment control While there were no significant differences between the two treatments T4 and T3 Oon the one hand, between the two treatments T3 and T2 on the other hand, in the fifth week and the cumulative weight gain was significantly superior (P≤0.05) In favor of the treatmentT4Which outperformed the two treatments T3And T2And the two They excelled In turn, morally (P≤0.05) on treatmentthe control.

Table (2) Effect of useAbstractOnions, Garlic, and vinegar Average weekly weight gain (g) of broilers ± standard error.

Treatments	Age bar weeks					The rate of cumulative weight gain is 1-35 days
	1	2	3	4	5	
T1	75.35±0.59	184.36±0.92 b	249.99±1.63c	600.20±3.76c	696.19±4.35 d	1806.09±12.67 d
T2	75.58±0.62	189.47±1.04 a	284.99±1.74b	659.80±3.55b	689.71±4.20 c	1900.55±13.22 c
T3	77.15±0.75	206.16±1.11 a	303.84±2.01a b	639.61±3.88a b	694.75±5.03 b	1921.51±12.39 b
T4	76.21±0.69	233.91±0.97 a	319.98±1.72a	630.53±3.63a	694.82±4.79 a	1955.45±12.52 a
signinficant	NS	*	*	*	*	*

T1 First treatment: Control treatment. T2 Second treatment: Adding onion, Garlic, and vinegar extract at 2 ml/liter of water. T3 Third treatment: Adding onion and garlic extract at 3 ml/liter of water. T4 Fourth treatment: Adding onion and garlic extract at 5 ml/liter of water. NS indicates no significant differences between the means of the treatments. *Different letters within one column indicate the presence of significant differences between the groups at the 0.05 probability level.

The increase in body weight and the weight gain in the extract treatments of onion, Garlic, and vinegar may be attributed to the active ingredients Hexisting Hin Onions and Garlic, Which increase appetite, which increases feed consumption and thus improves body weight(Hamady et al.,2015), Or it may be due to its antimicrobial property, which improves digestive properties (Dala and Shibun,2014). This result agreed with what he observed (2011) indicated that improving the general

health of broilers through the use of plant extracts improves body weight and weight gain. There is a positive correlation between the general health of broilers and body weight, as the metabolic processes in the digestive system will be activated, facilitating digestion and absorption. Thus, its positive results will be reflected in broilers. (Abdul Rahman and others, 2013)This result is consistent with what you recommended for a boy (2014). When using Abstrac onions, Garlic, and vinegar**,** There was a significant improvement in the average bird weights, as well as an improvement in the health status of the chicks. The next is consideredAbstractOnions, Garlic, and vinegar oppositeavitalanaturalSo, yet has effectiveness against pathogenic bacteria and harmful microorganisms, thus reducing the number of harmful microorganisms in comparison the living microbes and beneficial bacteria that improve digestion efficiency and facilitating the absorption process stimulate some enzymes secreted by the stomach to facilitate the digestion process(GhazalehAnd others,2013).

3-Effect of using the extractAbstractOnions, Garlic, and vinegar In the average weekly feed consumption.

The table indicates(3)To the effect of useAbstractOnions, Garlic and vinegar In the average weekly feed consumption of broiler chickens, there were no significant differences between all treatments during the first week of the chicks' life, and in the second week the signinficant superiority appeared (P≤0.05)In all treatments AbstractOnions, Garlic and vinegar In the control treatment, in the third, fourth, and fifth weeks of the birds' life, there was a signinficant improvement (P≤0.05)In the rate of feed consumption in favor of the treatmentT4It excelled signinficant (P≤0.05) on the treatment T2 which in turn was significantly superior (P≤0.05)on the control treatment, while no significant differences appeared between the two treatments T4 and T3 on the one hand, between the two treatments T3 and T2 On the other hand, as for the cumulative feed consumption rateIt was signinficant superiority (P≤0.05) in favor of the fourth treatment, while the third treatment outperformed the second treatment, which in turn outperformed the control treatment significantly.

Table (2) Effect of useAbstractOnions, Garlic, and vinegar Average weekly feed consumption (g) for broilers ± standard error.

Treatments	the agent weeks					Cumulative feed consumption
	1	2	3	4	5	
T1	117.40±0.88	312.70±1.90b	514.91±3.66b	981.26±7.66b	1310.85±10.55c	3230.22±26.32d
T2	118.05±0.72	314.04±2.02a	526.70±4.92a	1014.91±8.04a	1336.51±10.20b	3317.83±27.01c
T3	118.11±0.80	314.66±1.83a	529.11±3.79a	1016.22±7.92a	1355.28±11.04ab	3324.42±26.84b
T4	118.17±0.77	314.80±1.88a	529.50±3.92a	1018.10±7.81a	1355.70±10.36a	3331.47±26.77a
signinficant	NS	*	*	*	*	*

T1 First treatment: Control treatment. T2 Second treatment: AdditionOnion extract, Garlic, and vinegarAt a level/liter of water.T3 Third treatment: Onion and Garlic extractAt a level/liter of water.T4 Fourth treatment: additionOnion and Garlic extractAt a level/liter of water.NS indicates no

significant differences between the means of the treatments. *Different letters within one column indicate the presence of significant differences between the groups at the 0.05 probability level.

The signinficant improvement in treatments AbstractOnions, Garlic, and vinegar In feed consumption due to active compounds such as alkaloids, which work to increase the appetite of birds, which increases feed consumption (Hamady et al.,2015: Meyer and Vann, 2008) that Garlic and onions are rich in pectin compounds, which have an influential role in increasing appetite, which increases food intake. Alternatively, it may be due to the ability of Garlic and onions to increase the effectiveness of digestive enzymes in the birds' digestive system, which prompts birds to increase feed consumption.(Dala and Shibun,2014).

Effect of using Garlic and onions And vinegarinFactorFeed conversion for broilers

Show Schedule (4) Effect of use exstract Onions, Garlic, and vinegar in feed conversion ratio for broilers observed nothing significant differences in all treatments aqueous extract, in the first week of life, and in the second week and the third from the age of the chicks it was the excellence the signinficant (P≤0.05) in all treatments exstract Onions, Garlic, and vinegar In the control treatment, in the fourth and fifth weeks there was signinficant superiority (P≤0.05) in favor of the treatment T4 which out weighed the treatment T2 in turn, she excelled signinficant (P≤0.05) on the control treatment. In contrast, no significant differences appeared between the two treatments T4 and T3 on the one hand and between the two treatments T3, T2 on the other hand, so did signinficant superiority (P≤0.05) in the food conversion factor rate for the benefit of all treatments exstract Onions, Garlic, and vinegar On treatment control.

Table (4) Effect of useAbstractOnions, garlic, and vinegar Feed conversion factor (g feed/g weight gain) for broilers ± standard error.

Treatments	Yam. ,Age does not matter					Food conversion factor rate
	7	14	21	28	35	
T1	0.924±0.02	1.874±0.02 a	2.059± 0.02 b	1.78±0.02a	1.91±0.02a	1.80±0.02a
T2	0.921±0.02	1.821±0.01 ab	1.849±0.01 b	1.73±0.01b	1.84±0.01b	1.75±0.01b
T3	0.953±0.01	1.700±0.02 ab	1.739±0.02 b	1.72±0.01bc	1.82±0.02bc	1.74±0.01b
T4	0.936±0.01	1.713±0.01 b	1.736±0.01a	1.70±0.01c	1.80±0.01c	1.73±0.01b
significant	NS	*	*	*	*	*

T1 First treatment: Control treatment. T2 Second treatment: AdditionOnion extract, Garlic, and vinegarAt a level/liter of water.T3 Third treatment: Onion and Garlic extractAt a level/liter of water.T4 Fourth treatment: additionOnion and Garlic extractAt a level/liter of water.NS indicates no significant differences between the means of the treatments. *Different letters within one column indicate the presence of significant differences between the groups at the 0.05 probability level.

It may be attributed to improvement in the feed conversion ratio in treatments exstract Onions, Garlic, and vinegar Its property inhibits the growth of pathogenic microorganisms in the digestive

tract, in addition to its support for beneficial microorganisms, which stimulates the improvement of the secretion of digestive enzymes and thus improves the efficiency of digestion to benefit from the food consumed, which improves the food conversion factor (Salehet al., 2017). The plant extracts the impact, and the inhibitor will not the biologyMicroscopicThe patientsThus, increasing the numbers of beneficial microorganisms and then increasing the secretions of digestive enzymes that give better digestive efficiency to the food consumed, and this has a positive impact on the food conversion factor (Naji, 2006). This result agreed with what he reached.(KempaiahAndSrinivasan,2002)It increases the secretion of digestive enzymes, which improves the functional HMachineZM and hence improves the coefficient conversion.

5- Effect of using the extraction, Garlic, and vinegar In mortality rate and production index of broiler chickens.

Show who schedule (5) effect of use exstract Onions, Garlic and vinegar In the mortality rate and production index of broiler chickens, Noting that treatments exstract onions, Garlic and vinegar may beIt showed a significant impact (P≤0.05) in reducing the percentage of losses in all treatmentsAbstractCompared to the control treatment There was also a significant increase (P≤0.05) in the value of the productive index for treatment T4 compared to the rest of the treatments during duration experiment and no significant differences between the two treatments T3 and T2 And the two turn, they excelled significant (P≤0.05) on treatment controls the value of productive evidence.

Table (5) Impacts of extraction, Garlic, and vinegar On the mortality rate (%) and the productive index of broilers.

Treatments	Production guide	Percentage of losses (%)
T1	265.91 0.82 c±	9.88 0.17 a ±
T2	310.42 1.01 b±	5.44 0.09 b±
T3	311.06 0.75 b±	5.43 0.11 b±
T4	319.13 0.62 a±	3.21 0.13 c±
significant	*	*

T1 First treatment: Control treatment. T2 Second treatment: AdditionOnion extract, Garlic, and vinegarAt a level/liter of water.T3 Third treatment: Onion and garlic extractAt a level/liter of water.T4 Fourth treatment: additionOnion and Garlic extractAt a level/liter of water.. * Different letters within one column indicate the presence of significant differences between the groups at the probability level0.05.

The reason may be attributed to reducing the percentage of losses in treatments AbstractOnions, Garlic, and vinegar. They contain secondnWhich have an influential role in preventing injury, breaking down the cell membrane pathogenic bacteria, and pain blocking and fall there! For some enzymes inside living cells, bacteria which isZRory Hwon't MAnd Ha and its activity As well as the deposition of proteins present in the cell membrane or existing inside He has the cell osmosis via Membrane, And forming bondsHydrogenbetweenTotalsHyroxyl FenoliHThe heatHWhich reflects positively on the vitality and health of birds, Reduced mortality rate this result agreed with what was reached by Maaleh and Hussein (2012), who notedthatExtractPomegranate peelYPlaying an essential role in reducing the mortality rate, This improvement in the characteristics of productive performance is reflected positively on the values of the production index for broilers. I

agreed with what he found Rajaniand others (2011) showed that high levels of ionization work to kill pathogenic bacteria through a change like the bacterial cell protein, which causes its killing, while indicatedReddy Others (2007) stated that Garlic and onions contain flavonoids and phenols that act as antimicrobial agents as a result of the synergistic action of these compounds, which leads to the inhibitory action of pathogenic bacteria.

Conclusion

There is a significant improvement for treatments exstract Onions, Garlic, and vinegar was in favor of adding abstract onions, Garlic, and vinegar At a level of 5 ml/liter in drinking water productive traits such as body weight, weight gain, feed consumption, and feed conversion ratio, the productive evidence is using the extract onions, Garlic, and vinegar To drinking water for broiler chickens.

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