



EFFECT OF CONSUMING GARLIC AND YANSONE PRECIPITATES ON THE SOME BLOOD FEATURES AND WEIGHT OF LOCAL IRAQI SHEEP

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Abstract

This paper investigated the influences of some biologic and lazenic traits on the use of garlic and yansone powders, which were given to samples of local Iraqi sheep for the season 2018-2019. These features included the amount of Hb, the volume of blood corpuscles (P.C.V) and the number of white blood cells (W.B.C). 20 sheep were sampled and sheep were distributed evenly to four equal groups with 5 sheep for each treatment fed sheep in the first treatment on a diet that did not contain any addition while the second group was fed on a diet containing garlic powder 10 grams per 10 kg feed of the same type of feed For the first treatment. The third treatment was fed on a diet containing 20 grams of garlic powder per 10 kg of feed of the same type of feed for the first and second treatments. The fourth treatment was fed on a diet containing garlic powder 30 grams per 10 kg of feed of the same quality of feed provided for the previous treatments. The duration of the experiment was six weeks at a dose of one day. After that, sheep were measured in each group. Blood samples were collected, tests were conducted and the sheep were left for one week after that. The yansone powder was given in the feed for the same weight as the garlic powder for six weeks at a rate of one dose per day. Sheep weights were measured in each group and blood samples were collected and tests were conducted. The results of the study showed that with the use of garlic and yansone powder, there was a significant increase in P (0.05) in the concentration of hemoglobin, blood cell volume, white blood cell count and body weight. The introduction of sheep has a positive effect on the health of animals and thus reduce the proportion of diseases that affect and resistance in addition to it will increase the body weight. The experiment was designed randomly and was statistically analyzed using SPSS analysis at a probability level (P00.05).

Keywords: biologic, lazenic, garlic, yansone, sheep.

Introduction

There are some individuals who depend on raising some heads of sheep to meet their domestic needs of meat, milk and dairy products, or for the work of a small project that reduces the unemployment rate between the sheep and the livestock. Diseases that affect sheep Before deciding to raise sheep to any goal, it is necessary to know how to care for them, and protect them from diseases that can affect the cost of the establishment or person amounts to address them, and the most prominent of these diseases include: internal parasites such as worms that It attacks the stomach, intestines, tapeworm, hepatic, pulmonary, and water sacs in the intestines, and this type of parasite if neglected to observe its symptoms and treatment can lead to death of cattle. The parasites that live on the body of sheep are lice, scabies and ticks. This type of parasite is not very dangerous to death. Infectious diseases, which spread among the sheep and the spread of fire in the wild and may result in the outbreak of epidemics that result in the death of sheep and the decline in production, the most important sheep pox, fever or the common name of anthrax, foot and mouth and diseases of Clitridium (Samanya *et al.*, 2002). The three previous categories are among the most common diseases affecting sheep and the most common, and the State provides free veterinary care to livestock owners, so that the annual vaccines against these diseases so that the body of the antibodies of each of them in case of infection is a feasible way In the vaccination of sheep from internal parasites and infectious diseases, and external parasites is treated by cutting the wool and sheep hair to get rid of insects that live parasitic on their bodies and feed on sucking their blood, and if the female sheep pregnant postpone her herd After birth and placed in a special place alone so as not to recur infected sheep treated. The benefits of garlic for the sheep annual

mutations given to sheep should be supported by giving the herd some natural materials in order to strengthen and improve their health and thus increase the production of sheep from meat, milk, milk and cheese as well as wool (Yusriza, 2003). The most important of these substances, garlic, which is used for sheep because of the benefits of the most important: Contains materials that strengthen the immunity of sheep and increase their resistance to diseases. Garlic increases sexual desire for stallions, which means more and better production. Garlic is useful in cases of low calcium levels in sheep. Garlic is used as a treatment to flush out worms from the stomach and intestines. Garlic protects the sheep from cases of septicemia and intestinal poisoning (Durand, 2001).

Medicinal plants contain many active compounds with different effects and are either present in Plant or metabolic products and divide these substances as a poisonous type, killer or useful and nutritious (Any *et al.*, 2002) and some plant extracts have a stimulating effect of the digestive system of animals And poultry as it improves the function of organs, especially the liver and this leads to the increase of digestive enzymes and increase. To benefit from the food intake and fill the body's need of food ingredients (Jamroz & Kamel, 2002). The feed additives and natural preparation of the ingredients that affect the improvement of growth as well as food conversion in sheep so plants and herbs were used (Hassan & Muhamad, 2007). In recent years animal feed plant extracts have been used in many treatments (Al-Shahat, 1986). Despite the progress of medicine and pharmacy only the presence of Attarists and practitioners of herbal treatment and the adoption of people so it urges to study this aspect and determine their effects Positive (Mohammed, 1997). Increasing the population's steady growth and the high standard of living of the consumer led to the increasing

demand for meat (Aljaili *et al.* 1985). Therefore, the increase in red meat production is required through the use of modern scientific methods in feeding on cheap feed materials for the purpose of introducing standard fattening changes and producing heavy weight. The increase in weight is only the result of the body composition of the two groups of muscle formation and fat deposition (Shams al-Din and Qusay, 1997). Many researchers used different dates in the process of fattening the lambs including (Shams al-Din and Qusay, 1992) which experimented with fattening of the lambs in three periods (4, 8 and 12 weeks) to study the characteristics of the final weight and the circumference of the chest and the intestine and the height of the body at the front, The length of the body and the height of the body at the posterior and thickness of the body in the front and back when feeding the intestines on the concentrated diets mixed with the incubator and feeding periods 30, 50, 70 and 90 days and results were in favor of the longest period of fattening (Al-Talib *et al.*, 2006), (AL-Jassim *et al.*, 1999) changes in the proportions of parts of the body extend the age of lambs in Growth elongates animal body and increases its depth and thus increasing the most valuable parts, especially the cotton area, disability and chest circumference, which determines the construction of physical animal. Naziroglu (Naziroglu *et al.*, 1997) and others confirmed the existence of a positive relationship between body weight and deportation during the growth and development of the animal stage. In order to reduce the cost of production of one unit of meat Al- Zubaidi (Al-Zubaidi and Khudair, 2012) introduced the treatment of wheat straw is either physical or chemical for the purpose of improving its value. Shaker and others (Shaker *et al.*, 2009), or the addition of residues of restaurants and chicken feathers, replacing a portion of barley in lamb fodder. Khoshnaw (Khoshnaw and Ali 2009) adding biological enhancers for poor fodder for the purpose of activating the activity of flora rumen to increase the digestion and absorption of food (Issawi *et al.*, 2011). Alyaa (Alyaa, 2019) studied the influence of the harmala (*Peganum harmala*) plant powder and the pomegranate (*Punica granatum*) peel powder on the treatment of the chicken meat with diarrhea and on the increase of the weight of the chicken when used in the feed. It found improvement in the chicken weight by using powders.

The aims of this study are indicated the effect of using two types of medicinal plants, which namely garlic and yansone powders on the blood characteristics and body weight of Local sheep in Iraq , garlic has an effect on cholesterol in the blood, which reduces its rate and also has a role In the treatment of cancer cells where it urges cells to form immunity against cancer when treated with extract (Jubouri and Ali, 1994).

Materials and Methods

The study used 20 sheep samples and distributed the sheep evenly to four equal groups with 5 sheep per treatment. Sheep fed the first treatment on a diet that did not contain any addition as shown in Table 1, while the second group was fed on a diet containing garlic powder 10 grams per 10 kg of feed of the same quality of feed provided for the first treatment. The third treatment was fed on a diet containing 20 grams of garlic powder per 10 kg of feed of the same type of feed for the first and second treatments. The fourth treatment was fed on a diet containing garlic powder 30 grams per 10 kg of feed of the same quality of feed provided for the first, two and

three trials duration of the experiment six weeks by one dose per day after which sheep were measured in each group and blood samples were collected and left sheep for one week The yansone powder was then given in the feed for the same weight as the garlic powder for six weeks at a rate of one dose per day, after which sheep were measured in each group and blood samples were collected and tests were conducted.

Results

Table 2 shows the garlic powder mixed with the feed given to local Iraqi sheep according to the mixing amounts taken in the experiment (10, 20 and 30 g per 10 kg feed) at the P (5) probability level and the control group indicating differences (P <0.05), (Hb) values were increased as values of (8.7, 9.3, 10 gm/100 ml) were recorded relative to control which recorded 7.2 gm/100 ml. This was due to the fact that these plants were related to increased blood values and the results were evident through improved animal health and increased activity Braun, L. & Cohen, M. (2007) [20], while the volume of blood cells was increased with increased concentration of the garlic powder as (25%, 30%, 31.4%) compared with control which recorded 24%. This may be due to the fact that garlic Contains substances that have a stimulating effect on the digestive system and thus increase the digestive enzymes and benefit (Varely *et al.*, 1980). As for the white blood cell count, mean white blood cell average values (2887, 2742, 2632 x 10/L) were compared with control (2465 x 10/L).

Table 3 shows the yansone powder mixed with the feed given to local Iraqi sheep according to the mixing amounts taken in the experiment (10, 20 and 30 g per 10 kg feed) at the P (5) probability level and the control group indicating differences (P <0.05), (Hb) values were increased as values of (9.8, 9.2, 9.7 gm/100 ml) were recorded relative to control which recorded 7.2 gm/100 ml. Table (4) shows the effect of the use of garlic powder mixed with the feed given to the local Iraqi sheep according to the mixing percentages taken in the experiment (10, 20 and 30 g per 10 kg feed) on the weight of the sheep for the groups that were fed with the garlic powder with the diet where the weights increasing (5.65, 6.25, 7.35) respectively, while for control is (4.25). Table (5) shows the effect of using mixed yansone powder with the feed given to local Iraqi sheep according to the mixing percentages taken in the experiment (10, 20 and 30 g per 10 kg feed) on the weight of the sheep for the groups that were fed with yansone powder with the diet where the weights (6.33, 7.45, 8.55) respectively compared to control group is (4.25).

Discussion

The volume of blood cells was increased with increased concentration of the garlic powder as (25%, 30%, 31.4%) compared with control which recorded 24%. This may be due to the fact that garlic Contains substances that have a stimulating effect on the digestive system and thus increase the digestive enzymes and benefit [21]. As for the white blood cell count, mean white blood cell average values (2887, 2742, 2632 x 10/L) were compared with control (2465 x 10/L). The volume of blood cells was increased with increased concentration of the garlic powder as (29%, 32%, 34%) compared with control which recorded 24%. This may be due to the fact that yansone contains substances that have a stimulating effect on the digestive system and thus increase the digestive enzymes and benefit [21]. As for the white

blood cell count, mean white blood cell average values (3828, 3740, 2705 x 10/L) were compared with control (2482 x 10/L). The weights of sheep increasing are due to the fact that garlic contains substances that have a stimulating effect on the digestive system, thus increasing the digestive enzymes and making full use of the feed, thus increasing the weight of the sheep (Al-Zubaidi and Khudair, 2010), (Abd, Hamidaid *et al.*, 2009).

Conclusions

The effect of mixing the garlic and yansone powder with the feeding diet of local Iraqi sheep was studied on some physiological traits and weight gain in the province of Babylon-Iraq for the season 2018-2019 in the winter season and the following conclusions were obtained.

1. Increase the values of hemoglobin (HB) in blood when using garlic and yansone powder in comparison with control and also increase the values of hemoglobin (HB) in the blood when increasing the amount of powder in feed
2. Increase the values of blood cell volume in blood using garlic and yansone powder in feed fodder compared to control, as well as increasing the volume values of blood cells in the blood when increasing the amount of powder in feed
3. Increase the number of white blood cells in the use of garlic and yansone powder in the fodder mixture compared to control and increased the number of white blood cells in the blood when increasing the amount of powder in feed
4. Increase the weight of sheep when using garlic and yansone powder with fodder mixture compared to control and increase the number of white blood cells in the blood when the amount of powder in the fodder feed.

Table 1 : Feeding ratios used in this study

| Feeding material | Percentage% |
|------------------------|-------------|
| Malted barley | 32 |
| A coarse, crushed corn | 36.5 |
| Wheat bran | 28 |
| Urea | 1 |
| salt | 1 |
| limestone | 1.5 |
| Total | 100 |

Table 2 : The effect of garlic powder on some blood traits of local Iraqi sheep

| Powder (gm)/10 kg feed | Hb (gm/100 ml) | PCV % | Wbc x 10/L |
|------------------------|----------------|-------|------------|
| 10 | 8.7 | 25 | 2887 |
| 20 | 9.3 | 30 | 2742 |
| 30 | 10 | 31.4 | 2632 |
| Control | 7.2 | 24 | 2465 |

Table 3 : The effect of yansone powder on some of the blood characteristics of local Iraqi sheep

| Powder (gm)/10 kg feed | Hb (gm/100 ml) | PCV % | Wbc x 10/L |
|------------------------|----------------|-------|------------|
| 10 | 8.9 | 29 | 3828 |
| 20 | 9.2 | 32 | 3740 |
| 30 | 9.7 | 34 | 2705 |
| Control | 7.2 | 24 | 2482 |

Table 4 : The effect of garlic powder on weight increasing of local Iraqi sheep.

| Powder (gm)/10 kg feed | Weight increasing (kg) |
|------------------------|------------------------|
| 10 | 5.65 |
| 20 | 6.25 |
| 30 | 7.35 |
| Control | 4.25 |

Table 5 : The effect of yansone powder on weight increasing of local Iraqi sheep

| Powder (gm)/10 kg feed | Weight increasing (kg) |
|------------------------|------------------------|
| 10 | 6.33 |
| 20 | 7.45 |
| 30 | 8.55 |
| Control | 4.25 |

References

- Abd, Hamidaid. Al-Zubaidi, Khudairwan and Lazem, J.S. (2009). Improving the nutritional value of the chemically poor feedstocks and their effect on the performance of the economically pregnant lambs. *Karbala Scientific University*, 7(3): 93-98.
- Aljaili, Z.F.; Atallah, S.; Salwa, L.A. (1985). Production and conservation of meat. Ministry of Higher Education and Scientific Research. Institute of Baghdad, Iraq.
- AL-Jassim, A.F. and AL-Saigh, M.N.R. (1999). Some aspect of post-natal Growth of arabi sheep Live weight and body organs *Indian Anim. Sci.*, 69(8): 604-608.
- Al-Zubaidi, K.A. (2012). Effect of dry and green coarse feed on the efficiency of food conversion and increase in weight of pregnant women in Fayhaa station. Second Scientific Conference - Faculty of Agriculture - Karbala University.
- Al-Shahat, N.A.Z. (1986). Plants and Medicinal Plants in the Arab World for Pharmaceutical Industries, *Journal (39,47, 70) House of the Sea - Beirut. Pharmacological Scientific Research.*
- Al-Talib, A.A.; Osama Abdul-Ghani Abdul Aziz. (2006). Effects of periods of fattening on body weight and measurements and the prediction of alkaline alkaline increases in domestic calves. - *Alravidin Agriculture Journal*: 34(1): 20-32.
- Alyaa, J.H. (2019). Effect of Adding Pomegranate (*Punica granatum*) Husks and Harmala (*Plganum harmala*) at fixed Rates to Feed on the Productive Qualities and Treatment of diarrhea for Chicken Meat *Plant Archives*, 19(1): 327-333.
- Al-Zubaidi, K.A. (2010). The effect of using different percentages of Iraqi quintile in the diets of ewes on milk production and the growth of lambs until the age of weaning.
- Ani and Wajih, Y.M. (2002). Extraction of some active compounds in thyme powder Separating them and studying their vital effectiveness. Ph.D. thesis, Faculty of Science, Anbar University. *Prosopis farcta*.
- Braun, L. and Cohen, M. (2007). Licorice. In: *Herbs and Natural Supplements*. 2nd ed. Elsevier Australia. 786-807.
- Durand, F.C. (2001). Establishment of cellulolytic bacterial and development of fermentative activities in the rumen of gnotobiotically- reared lambs receiving the microbial additive *Saccharmyces Service*. 1: 1077.

- Hassan, S.A. and Muhamad, S.M.N. (2007). Effect of barley straw treatment with urea on chemical composition, *In vitro* digestibility, pH and phenolic compound, Aerobic and un anaerobic bacteria. 6th Scientific Conf. for Agric. Res. Iraq, 12(3): 136-144.
- Issawi, A.J.A. and the Minister, Anmar Abdul Ghani Majid (2011). Effect of the addition of the bio-enhancer and the black bean to the pregnancy of the intestinal lambs on some measurements of the body and testicle.
- Jamroz, D. and Kamel, C. (2002). Plant extracts enhance broiler performance. *J. Anim. Sci.*, 80 (Suppl): 41
- Jubouri and Ali Awad. (1994). *Natural Pharmacology*. College of Pharmacy - University of Baghdad.
- Khushnaw, A.H.H. (2009). Effect of substituting the residue of part of the barley in the characteristics of the carcass of the acidic calves. Salahuddin University - Agriculture College - Erbil. Volume (9).
- Mohammed, M.H.Q. (1997). A pause and reflection on the work of the Attar and Medicinal Herbs, magazine Arab medicine. Year Sixteen. Issue 2 p: 1
- Naziroglu, M.; Corah, A.L.; Cay, M. and Celik (1997). Effect of vitamin E and selenium on Some rumen parameters in lambs. *Acta. Vet. Hung*; 45: 447-456.
- Samanya, M. and Yamauch, K. (2002). Histological alterations of intestinal villi in chickens fed dried *Bacillus subtilis* var *natto*. *Comp. Biochem. Physiol. Part. A physical*, 133: 95-104.
- Shams al-Din, Q.Z.I. (1997). The effect of the length of feeding and the use of different levels and sources of nitrogen in different diets of different levels in the performance of local lambs. Ph.D. thesis. Faculty of Agriculture and Forestry, University of Mosul.
- Shams al-Din, Q.Z. (1992). The effect of the system and the length of the feeding period on the growth of some of the characteristics of the calamities of the weight loss. Proceedings of the third scientific conference of the educational education - agricultural research: 18.
- Shaker, A.H. and Jamal, A.T. (2009). Effect of physical and washing Form of chemical treated barley straw on nutritive .*The Iraqi Journal of Agi. Sci.*, 40(1): 148-157.
- Varely, H.; Gownlock, A.H. and Bell, M. (1980). *Practical Clinical Biochemistry*. 5th ed. William Heinemann Medical Books Ltd., London.
- Yusrizal, T.C. (2003). Effect of adding chicory fruetans in feed on broiler growth performance, serum cholesterol and intestinal length. *International Journal of Poultry Sci.* 2 : 214-219.