

Original Article

## Evaluation of the Effect of Peppermint Extract and Probiotics on Biochemical Factors in the Blood of Ascites-Induced Chickens

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### Abstract

Ascites syndrome occurs in growing broiler chickens in all parts of the world, which is one of the important causes of losses in many flocks, and its prevalence has been seen mostly in meat herds. The most important factor in the occurrence of ascites syndrome is the lack of oxygen in body tissues (hypoxia). Increasing the growth rate requires increasing the volume of blood flowing in the body to deliver nutrients to the organs and expel gases and metabolic products. Therefore, this experiment was conducted to compare the effect of peppermint extract and probiotics on the biochemical factors of the blood of chickens caused by ascites. The treatments were divided into 8 groups of 7 male chickens with 3 repetitions in each group at 21 days. The experimental treatments included control and treatments of peppermint, probiotic, peppermint and probiotic, induced ascites, induced ascites and peppermint, induced ascites and probiotics, induced ascites and peppermint and probiotics. At the end of 42 days, the blood factors of uric acid, triglyceride, glucose, cholesterol, ALT, ALP, and AST were measured by blood sampling. The experimental treatments significantly affected the investigated traits ( $P < 0.05$ ). Considering that in the treatment of induced ascites+ peppermint compared to the treatment of induced ascites, weight gain was significant, and in the blood factors of cholesterol, triglyceride, uric acid, glucose, and functional liver enzymes including ALT, AST, ALP recorded a significant decrease. Therefore, the effectiveness of peppermint extract in improving induced ascites in chickens was determined. Peppermint extract had a positive effect on induced ascites and improved the performance indicators of broiler chickens, and this extract can be used as a preventive of ascites.

**Keywords:** Peppermint extract, Induced ascites, Broiler, Probiotic

### 1. Introduction

One of the food sectors that can increase production by eliminating dependence on other countries and gaining currency through exports is the sector of production and supply of livestock and poultry (1).

Examining the amount of chicken meat production in developed countries shows that they have a considerable income due to the importance of this food item. United States, Brazil, the European Union, and China, with 19,710, 13,800, 12,740, and 12,000 (1,000