

## **Impact of Dietary L-Threonine Supplementation on Performance and Health of Broiler Chickens, a Review**

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**Abstract :** During last decades, intensive selection for higher growth rate in broiler chickens has accelerated daily body weight gain, which this has changed/increased the trends and amounts of nutrient requirements in the diet. As a result, considerable studies have been focused on the better determination of protein/amino acids requirements in modern broiler diets. One approach to minimize dietary crude protein inclusion levels is substitution of some of the dietary crude protein with synthetic amino acids. In addition, using synthetic forms of limiting essential amino acids in the diet could help better coincidence of dietary protein with ideal protein concept, which this in turn, minimizes nitrogen dissipation and environmental pollution. Threonine is usually considered as the third limiting amino acid in broiler diets. Recent studies have been demonstrated that dietary supplemental threonine would optimize growth performance, immune system, intestinal morphology, as well as oxidative defense in broiler chickens. In this review, threonine metabolism and its effects in relation with different aspects of broiler performance have been discussed.

**Keywords :** immune system, intestine, performance, requirement, threonine

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