

The Effect of the Pellet and Crushed Diets and Addition of Different Levels of Malic Acid on the Performance and Carcass Characteristics of Male Arabi Lambs

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Abstract:

This study has been carried out in the animal field of the College of Agriculture, University of Basrah, for the period 1/12/2020 to 1/3/2021. Twenty-four male lambs of Arabi breed were randomly distributed to six treatments (4 lambs for each treatment), to investigate the effect of two type of diet (pellet and crushed) with the level of malic acid and the on some production traits such as live weights, total and daily weight gain, feed intake, feed efficiency and some of carcass characteristics such as hot carcass, dressing percentage, major cuts (neck, shoulder, rib, loin, leg and fat-tail) as well as carcass waste organs. The treatments were as follows: (T1) crushed condensed diet without the addition of malic acid (0). (T2) crushed condensed diet with the addition of malic acid as 4 g/kg feed. (T3) crushed condensed diet with added malic acid as 8 g/kg feed. (T4) without adding malicious acid (0). (T5) pellet feed with added malic acid as a 4 g/kg feed. (T6) pellet feed with added malic acid for 8 g/kg feed. The results indicated the pellet diet and the level of 4g of malic acid/kg of feed treatments were a significant increase ($P < 0.05$) in the live body weights, total and daily gain weight, dressing percentage, feed efficiency, hot carcass weight and some weights of cuts compared to crushed diet and of 0g of malic acid/kg of feed treatments.

Keywords: Malic acid, Carcass characteristics, Male Arabi lambs, Pellet and crushed diets.

Introduction

Livestock farming is a major source of national income, sheep are one of the main sources of red meat, milk and wool in Iraq. Appropriate feeding strategies are essential through feed additives that help stabilize the rumen environment, prevent gastrointestinal disturbances, and optimal growth of the microbiota that is critical to the health and performance of ruminants (Sahoo and Jena, 2014).

Researchers used bio-promoters and yeasts or the so-called direct-fed microbial nutrition, which are known contain live cells or biological derivatives of some microorganisms that believed to have important benefits for improving the digestion coefficient of nutrients (Krehbiel *et al.*, 2003; Shwayel and Rasheed, 2016). For example, Helal and Abdel-Rahman (2010) indicated that yeast added at 0.5% with 4% of bentonite to the diets of Awassi lactating ewes may improve