Effects of Metafix with or without Monensin on performance and blood metabolites in Farahani lambs

Ali Asadi¹, Ali Kiani²*, Arash Azarfar³ and Ehsan Valipoor¹

¹, ², ³ Former M. Sc. Students and Associate Professors, Department of Animal Science, Agriculture Faculty, Lorestan University, Iran

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ABSTRACT

In this research, effects of adding Methafix (containing malate and fumarate as organic acids) with or without Monensin in diet of fattening Farahani lamb's on performance, and plasma concentration of some metabolites and minerals were investigated. Twenty-four male lambs (4-6 months old, 35.9 ±7.4 kg) were randomly assigned to: 1) control diet (control), 2) control with 24 mg of Monensin/kg of DM (Monensin), 3) control with 4 g of Methafix/kg DM (Metafix) and 4) control with 24 mg of Monensin + 4 g of Methafix/kg DM (Monensin+Metafix). Lambs' performance and blood glucose, urea, total protein, calcium, phosphorous, sodium and potassium metabolites were determined in two biweekly periods at the beginning (first) and end (second) of fattening period. Except for feed efficiency, parameters of performance were not affected by treatments (P>0.05). Blood urea, total protein, sodium and potassium were not affected by treatments (P>0.05). Metafix increased blood concentration of calcium in comparison to control and Monensin (P<0.05). At the first period of finishing average daily gain was significantly higher than that in the second period (286 vs. 154 g. d⁻¹, P<0.05). Lambs had showed lower blood glucose but higher blood urea and total protein at the end of fattening period compared to the first period. In conclusion, Monensin supplementation of diet improved feed efficiency of lambs, but no synergistic effects were found between Monensin and Methafix in relation to performance and blood metabolites during fattening period in Farahani lambs.

Keywords: acidosis, dicarboxylic acids, ionospheres, ruminants.