



Journal of  
**Animal Production**

(College of Abouraihan – University of Tehran)

Vol. 18 ■ No. 3 ■ Autumn 2016

## Effect of metabolizable protein in the diet peri parturition on performance, blood parameters and immune response Afshari ewes

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Received: 22 July 2015

Accepted: 9 August 2016

### Abstract

The aim of this study was to investigate the effects of different metabolizable protein levels in diet during the peri parturition on performance and blood parameters of Afshari ewes and lambs. 32 once lambing ewes in the last six weeks of pregnancy and the first six weeks of lactation with diets before and after parturition containing rates of NRC recommended and 20% higher one as low and high amount of metabolizable protein respectively requirements of ewe with two lambs as factorial experiment in a completely randomized design were fed. Dry matter intake, body weight, body condition score ewes and their changes, weight lamb in the first and third weeks, and daily weight gain of lambs were not affected by treatments. Amount and composition of the colostrum were not affected by the treatments, but milk yield increasing was observed at low metabolizable protein before and after lambing treatment ( $P = 0.007$ ) as compared to other treatments. Urea ( $P = 0.0001$ ) and cholesterol ( $P = 0.02$ ) of plasma were significantly higher in high metabolizable protein than the low metabolizable protein in late gestation. Reducing insulin resistance ( $P = 0.03$ ) and increasing insulin sensitivity ( $P = 0.01$ ) were observed in the treatment low metabolizable protein before and after lambing. No significant difference was observed on the numbers of white blood cells, red blood cells and other blood cells between the treatments. The results of this study, the percentage of metabolizable protein by the NRC for Afshari ewes during late gestation and early lactation is advisable.

**Keywords:** Calcium oxide, Digestibility, Gamma ray, Gas production, Sodium hydroxide, Soybean straw