

Abstract

The objective of this study was to determine chemical compositions, phenolic compounds and nutritive value of *Prosopis cineraria* and *Prosopis juliflora* in different growth stages. For this purpose fresh leaves and twigs collected in phonological stages of vegetative growth, flowering and seed ripping from three regions of Jiroft county at early April until end October. After collecting of samples, they dried in shade and milled base on standard method. Chemical compositions (dry matter (DM), organic matter(OM), ASH, crude protein (CP), cell wall (NDF) and cell wall without hemicelluse (ADF) and phenolic compounds (total phenolic (TPH), total tannin (TT) and condensed tannins (CT)) were determined . For dry matter degradability trial, two ruminal fistulated bulls were used. Nylon bags which were approximately (10×17cm) containing 5 g samples (2 mm screen) were incubated in the rumen of fistulated bulls with and without polyethylene glycol (PEG) for 0, 3, 6, 12, 24, 48, 72 and 96h. The gas production was recorded after 2, 4, 6, 8, 12, 24, 48, 72 and 96 h of incubation with and without PEG and the equation of $P=B(1-e^{-ct})$ was used to describe the kinetics of gas production. The data was analyzed using factorial design with SAS software. Results showed that CP content was higher in *P. cineraria* than *P. juliflora* and decreased with growing of trees. But NDF content in both species increased with progress of growth. Phenolic compounds of *P. cineraria* were higher than *P. juliflora*. DM disappearance were significantly different among treatments. Adding of PEG improved DM disappearance in *P. cineraria*. Gas production volume was high in treatments with PEG. There was positive correlation with CP and negative correlation with NDF and ADF. Adding of PEG caused that nutritive value improved . So, phenolic compound can decrease nutritive value in *Prosopis* species. Overall, *Prosopis* leaves can be suitable for feeding at small ruminant and it is better that before feeding of leaves and twigs, they be detanning with ash or PEG.

Keywords:

Prosopis cineraria, *Prosopis juliflora*, Nutritive value , *In vitro*, *In situ*