

## NUTRITIVE VALUE OF ENSILING OF KOCHIA SCOPARIA

*Melika Hamedi, Abdolmansour Tahmasbi, Abasali Naserian, Mohammad Kafi*  
*Department of Animal Science, Faculty of Agriculture, Ferdowsi University of Mashhad*  
*Corresponding Author: [mk.hamedi@yahoo.com](mailto:mk.hamedi@yahoo.com)*

**Objective:** The production of halophytes using saline waters and soils, and then feeding livestock with them, is one of the most sustainable ways of conserving desert ecosystems and food production for people living in these areas. Kochia is grown on dry pastures, rangelands and cropland with alkaline soils. It will grow on land, where other crops will not. Protein content ranges from 11 to 22%, and decreases as the plant matures. The aim of this experiment was to investigate the use of Kochia for animal feed.

**Materials and Methods:** This trial was conducted in department of animal science, faculty of agriculture, Ferdowsi university of Mashhad. Kochia was ensiled in plastic bags, after 60 days silage were opened and sampling were taken. Samples were dried at 60 °C in oven for 48 hours, and then grounded through a 1mm screen for chemical analysis. DM, OM, ADF, CP and Ash were determined using standard methods. Data was analyzed using SAS 9.1 and means were compared using Duncan test ( $P < 0.05$ ).

**Result and Discussions:** The chemical composition of silage of kochia for DM, OM, ADF, Ash, CP and pH were 24.54, 85, 18.81, 15, 13.86 and 5 respectively. The chemical composition of kochia hay for DM, OM, ADF, Ash and CP were corresponding with 33.3, 85.89, 14.11, 29.7 and 10 (g/Kg of DM). In comparison between kochia and alfalfa (DM, OM, ADF, Ash and CP were 25.26, 88.75, 11.33 and 23.24 respectively) its can concluded that this forage have potential nutrition value although the nutrition value of kochia is slightly lower than that of alfalfa. Ash of kochia silage was higher than kochia hay ( $p < 0.05$ ). In the present study CP content of kochia hay was higher than some previous reports (Riasi et al., 2008) and the CP of kochia silage was higher than the hay 13.82 vs.10.03 ( $p < 0.05$ ). In general plant nutrient composition is highly depend to its physiological condition e.g. Protein content of Kochia ranges from 11 to 22%, and decreases as the plant matures. The OM of silage was lower than the kochia hay ( $p < 0.05$ ). There was no difference ( $p < 0.05$ ) between ADF content of kochia hay and its silage. In addition to, ADF content of kochia hay was lower than some previous reports (Riasi et al., 2008) that may attribute to stage of harvesting. Due to the potential of production capacity, desirable digestibility and crude protein content in the presence of salinity and other desert stresses, such as high temperature and drought, make this plant suitable as a forage crop in harsh environmental conditions. Kochia was comparable with alfalfa, and can used for animal nutrition, due to its chemical composition and the ability to grow in arid areas. This result indicated that Kochia has valuable nutrient composition and due to adaptation growth in arid, it can uses as forage for ruminant.



The 1st International Conference on New Ideas in Agriculture  
Islamic Azad University Khorasgan Branch  
26-27 Jan. 2014, Isfahan, Iran

