ABSTRACT

Quality of Lablab (*Lablab purpureus*) Forage Preserved as Hay or Silage

Anthony Juma Wangila, Charles Karuku Gachuiri, James Wanjohi Muthomi and John Okeyo Ojiem

Shortage of livestock feeds during the dry season is a major constraint to livestock production in Kenya. This scenario is due to dependence on rain fed forage production resulting in shortages during the dry season and excess during the wet season. This situation can be ameliorated through conservation, but losses occur when forages are conserved. The main objective of this study was to assess the effects of on-farm conservation methods on quality of lablab fodder. Fodder from eight varieties of lablab;DL1002, Ngwara Nyeupe, Echo-Cream, Black Rongai, Eldo-Kt-Cream, Eldo-Kt-Black1, Brown Rongai and Eldo-Kt-Black2 were conserved on-farm either as hay or silage. The conserved and fresh fodder were analyzed for dry matter content, crude protein, ash content, neutral detergent fibre (NDF), acid detergent fibre (ADF), acid detergent lignin (ADL) and in vitro dry matter digestibility (IVDMD). Lablab silage was analyzed for pH and total ammonia nitrogen. Crude protein content declined significantly; by 4.2 g/100 g when fodder was conserved as hay and by 6.0 g/100 g in silage. The NDF content increased significantly by 7.6 g/100g in lablab hay but declined by 4.2 g/100 g in silage while ADF increased by 6.1 g/100 g in hay and declined by 5.0 g/100 g in silage. A significant decline of 3.2 g/100 g of lignin was observed in silage with no difference in the hay. The IVDMD declined significantly by2.8 g/100 g in lablab hay and increased by 4.5 g/100 g in silage. The pH of lablab silage ranged from 4.37 to 4.89 while total ammonia nitrogen ranged from 27 to 41 g/100 g for different lablab varieties. Conservation of lablab as silage was found to be a superior on-farm method compared to hay making.

Key words: Forage quality, Hay, *Lablab purpureus*, Silage, Varieties