ABSTRACT
VIII. ABSTRACT

The objective of this study was to assess the potential of converting maize stover into silage, and the impact of drying stover on chemical composition and dry matter intake. The effect of feeding stover silage and dried maize stover on the lactational performance of crossbred dairy cows was studied, and demonstration of ensiling the maize stover through farmer-participatory approach was taken up. Silage prepared from maize (NAC 6004) fodder dough-stage (MdoS) (75th day) and maize stover (MstS) (100th day), with or without jaggery and lactobacillus culture were compared by conducting feeding trials in a 2x3 factorial design.

The chemical composition of maize stover showed decline from the day of harvest (day 0) until day 7 of sun drying. However, did not exert any influence on the DMI.

Eight crossbred cows in mid lactation were divided into two groups of four each and fed either MstS or MstD as main roughage in their diet. The study was conducted in two periods of 4 weeks each (Including 5d metabolic trial in each period) in a switch over design. The results indicated that the mean total DMI (kg/d) (P<0.0001), milk yield (P<0.007) and milk constituents were significantly higher in MstS when compared to MstD fed cows. The digestibility of nutrient and N-balance (g/d) were non-significant. Similar trend with higher levels of significance were observed in farmer-participatory studies conducted in three private farms viz., one low production (LP-C-2 cows), one medium production (MP-C-3 cows) farm of crossbred cows and one medium production buffalo (MP-B-3 buffaloes) farm.

The results of the study indicated that maize stover harvested soon after physiological maturity /grain harvest can be converted into silage of acceptable quality with higher DMI, and that higher milk production, and better milk quality can be achieved by feeding MstS as compared to MstD. Sun drying of maize stover lowers its nutritional value, conservation of maize stover in the form of silage is a better option than in the conventional dry form.