Yield, quality and economics of fodder jowar varieties under different nitrogen management practices in North Coastal Andhra Pradesh

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ABSTRACT

A field experiment was conducted during *kharif*, 2025 at the Agricultural College, Naira, Andhra Pradesh, to evaluate the performance of fodder jowar [*Sorghum bicolor* (L.) Moench] varieties under different nitrogen management practices with respect to yield, quality and economics. The experiment was laid out in a split plot design with three replications comprising three fodder jowar varieties, viz., CSH-24 MF, CSH-43 MF and Pant Chari-6 as main plot treatments and four nitrogen levels (0, 60, 80 and 100 kg N ha^{-1}) as sub plot treatments. Among the varieties, CSH-43 MF recorded significantly higher green fodder yield (48,490 kg ha^{-1}), dry fodder yield (12,695 kg ha^{-1}), gross returns (¹ 96,884 ha^{-1}), net returns (¹ 58,268 ha^{-1}) and benefit:cost ratio (2.51), whereas Pant Chari-6 recorded the lowest green fodder yield, dry fodder yield and economic returns. Varietal differences in crude protein content were non-significant; however, Pant Chari-6 recorded significantly higher crude fibre content (30.77%), while CSH-43 MF recorded lower crude fibre content (27.09%) and higher total ash content (8.36%). Application of 100 kg N ha^{-1} resulted in significantly higher green fodder yield (54,760 kg ha^{-1}), dry fodder yield (13,998 kg ha^{-1}), crude protein content (9.21%), total ash content (8.60%) and lower crude fibre content (26.02%), recording higher gross returns (¹ 107,930 ha^{-1}), net returns (¹ 69,537 ha^{-1}) and benefit:cost ratio (2.81). The treatment combination of CSH-43 MF supplied with 100 kg N ha{ ¹ was found superior for achieving higher fodder productivity, improved forage quality and greater profitability under the rainfed conditions of North Coastal Andhra Pradesh.

Key Words: *Fodder sorghum, Forage quality, Green fodder yield, Nitrogen management, Profitabil ity and Rainfed conditions*