



Research article

Shade tolerance, yield and nutritive value of selected forage crops in typical homegarden of central Kerala

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Abstract

This study aimed to assess the forage yield, nutritive value and shade tolerance of three cereal fodders viz., maize, sorghum, and pearl millet in comparison to popularly grown fodder grass hybrid napier in partially shaded homegarden and under open conditions with full light, during the lean periods of *rabi* and *summer* season in randomized block design with three replications. Fodder crops in open areas exhibited higher yield than in homegarden. In open field, maize recorded significantly higher cumulative green fodder yield, while in homegarden the yield of maize (57.16 t ha^{-1} and 73.50 t ha^{-1}) and hybrid napier (60.42 t ha^{-1} in *rabi* and 73.51 t ha^{-1} in *summer*) was comparable. Pearl millet showed moderate performance under shade, whereas sorghum had very poor yields. The shade tolerance of fodder grasses in homegarden was in order of hybrid napier > maize > pearl millet > sorghum. Crops in homesteads exhibited higher crude protein and lower crude fibre content, whereas dry matter and ash content was higher in open field. Quality attributes and B:C ratio were better in maize than other crops. The study indicated that fodder maize, variety African tall could be successfully and cost effectively cultivated in partially shaded homegardens to enhance quality forage production. Maize also exhibited comparable yield and better quality than hybrid napier, the conventional grass grown in homegarden.

Keywords: Cereal fodders, Fodder yields, Homegarden, Nutritive value, Shade tolerance