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Note on Performance of Pearlmillet (*Pennisetum glaucum*) Entries with Nitrogen in Rainfed Condition of Western Rajasthan

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ABSTRACT

An experiment conducted at Bikaner on response of pearlmillet entries with nitrogen levels in arid rainfed condition during 1993-94 showed that increase in nitrogen doses up to 30 kg N/ha gave positive increase in plant height and dry matter yield significantly. The differences in dry matter yield at 30 kg N/ha was significantly higher over N_0, N_{10} and N_{20} kg /ha doses. Pearlmillet entries PA_{102} and PA_{105} produced higher dry matter yield over PA_{101} and PA_{104} at all the nitrogen levels.

Pearlmillet (*Pennsisetum glaucum*) is one of the most important crop of western Rajasthan, grown under rainfed condition. The application of nitrogenous fertilizer to perlmillet is very meagre. Therefore, the producitivity is also very low. The production potential of the newly developed pearlmillet hybrids is remarkably high (Gill, 1980). The nutrient absorption potential of these varieties and hybrids is also high. Nitrogen is most important nutrient needed for pearlmillet specially in arid zone sandy soils where its content in soils is very low. Therfore, the present investigation was carried out to study the response of pearlmillet entries to different nitrogen doses in arid rainfed condition.

A field experiment was carried out during *kharif* season of 1993-94 at Research Farm of CAZRI, Regional Reserach Station, Bikaner on sandy loam soil. Four pearlmillet entries viz. PA_{101}, PA_{102}, PA_{104} and PA_{105} were tested under four nitrogen levels ie. 0(control), 10, 20 and 30 kg N /ha comprising of 16 treatments which were tested under randomized block design with three replications. The crop was grown completely under rainfed condition and no irrigation was given to the crop. The soil was low in organic carbon, poor in nitrogen and normal in phosphorus and potassium content. The crop was sown at the onset of monsoon on 20th July, 1993. All the fertilizers were given as a basal dose at the time of sowing.

The increase in nitrogen doses gave an increasing trend in plant height, number of tillers per plant, ear length and dry matter yield in all the pearlmillet entries (Table 1). Highest plant height of 116.60, 156.10, 100.60 and 111.90 cm was recorded in PA_{101}, PA_{102},