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Short Communications

Note on Response of Pearl Millet 'HB-3' to Different Row Spacings under Dry Farming Conditions

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Pearl millet (*Pennisetum typhoides* S & H) is one of the important cereal crops of dry farming region of Gujarat State. Optimum row spacing is one of the important factors determining crop production under dry farming conditions as it is closely related to plant population. An investigation was, therefore, conducted at Dry Farming Research Station, Jamkhambhalia, during *kharif* season from the year 1973 to 1976 under rainfed conditions to study the effect of different row spacings on the yield of pearl millet 'HB-3'. The soil of the experimental site was sandy clay loam in texture. The surface 0-30 cm soil contained 40 per cent sand, 22 per cent silt and 38 per cent clay. The pH of the soil was 7.5 and E.C. was 0.30 mmohs/cm. Organic carbon, available P_2O_5 and available K_2O were 0.35 per cent, 18 kg/ha and 431 kg/ha, respectively. The seed rate was kept at 4 kg/ha. An uniform basal dose of farm yard manure was applied at the rate of 6.5 tonnes/ha. The inorganic fertilizers were drilled in furrows uniformly in all treatments at the rate of 75 kg N and 37.5 kg P_2O_5/ha. During the crop growing period, two interculturings were done.

Five row spacings (30, 45, 60, 75 and 90 cm) were included in the study. The plants were thinned keeping intra-row spacing of 10 cm in all the treatments. The experiment was laid out in randomized block design with four replications. The net plot area was 10.00 m x 7.2 m. The crop was sown with the onset of monsoon and harvested at full maturity stage. The weather was more or less normal for the growth of pearl millet crop. The total annual rainfall was 368, 213, 814 and 415 mm during the years 1973, 1974, 1975 and 1976, respectively. Due to the attack of downy mildew disease, grain yield was reduced during the last two years of experimentation.

The data on effects of different treatments on the yield of pearl millet grain presented in Table 1 showed that treatment differences were significant during all the years of experimentation, except during the year 1975-76. Pooled data showed that the row spacing of 60 cm gave significantly the highest grain yield of 12.53 q/ha. Grain yield was the lowest (10.22 q/ha) when the row spacing was the maximum (90 cm) and this yield was statistically at par with the grain yield obtained under

TABLE 1

Effect of different row spacings on grain yield of pearl millet 'HB-3'.

Row spacing cm	*Grain gield, 9/ha*				
	1973-74	*1974-75*	*1975-76*	*1976-77*	*Mean*
30	18.53	9.35	6.94	6.98	10.44
45	20.07	10.88	7.03	7.50	11.37
60	21.29	12.56	7.93	8.37	12.53
75	19.99	10.78	6.18	6.49	10.86
90	18.13	9.30	6.98	6.49	10.22
S.Em. ±	0.62	0.35	0.51	0.18	0.21
C.D. 5%	1.91	1.07	N.S.	0.56	0.60
C.V. %	24	6	14	5	

row spacing of 30 cm. Grain yield obtained with 45 cm row spacing was significantly higher than that obtained with 30 cm and 90 cm row spacings but the yield differences due to 45 cm and 75 cm row spacings failed to reach the level of significance. Results of individual years also indicated that the highest grain yield was obtained with the row spacing of 60 cm.

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