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Response of lentil (*Lens culinaris*) genotypes to spacing in flood-prone area

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A field experiment was conducted during the winter season of 1988–89 in flood-prone area of Rapti river in eastern Uttar Pradesh, located at Patnaghat, Gorakhpur. The experimental soil was alluvial sandy loam having pH 7.6, and total nitrogen, available phosphorus and potassium 343.76, 23.92 and 251.73 kg/ha respectively. Seven genotypes of lentil (*Lens culinaris* Medikus) ('Pant L 406', 'Pant L 209', 'Pant L 639', 'HUL 8' 'HUL 31', 'T 36' and 'Local') and 3 row spacings (20, 25 and 30 cm) were tested in completely randomized block design replicated 3 times. The crop was sown on 12 November 1988 and harvested on 18 March 1989.

Yield attributes (plant population/m^2, branches/plant, pods/plant, grains/plant and 1,000-grain weight) as well as the grain yield varied significantly because of various

Table 1. Yield and yield attributes as affected by genotypes of lentil at yarious spacings

Treatment	Branches/ plant	Pods/ plant	Grains/ plant	1,000-grain weight	Yield (q/ha)
Genotype					
'Pant L 406'	11.76	85.00	78.66	17.86	17.02
'Pant L 209'	12.03	93.00	85.85	18.11	18.39
'Pant L 639'	11.86	83.33	76.65	17.85	17.13
'HUL 8'	10.63	73.66	72.00	17.01	13.87
'HUL 39'	10.55	71.66	72.33	16.92	13.10
'T 36'	11.18	78.66	75.60	17.26	16.60
'Local'	9.73	68.66	54.00	13.24	10.03
CD (P = 0.05)	0.76	1.46	1.28	0.52	0.93
Spacing (cm)					
20	10.81	76.00	71.71	16.81	14.47
25	11.22	79.71	74.06	16.91	15.58
30	11.29	81.71	75.28	16.98	15.45
CD (P = 0.05)	NS	0.96	0.83	NS	0.80

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Table 2. Simple correlation between yield and yield attributes of lentil

Character	Yield	Branches/ plant	Pods/ plant	Plant population/m^2	Grains/ plant	1,000-grain weight
Yield	1.00					
Branches/plant	0.96*	1.00				
Pods/plant	0.91*	0.94*	1.00			
Plant population/m^2	0.89*	0.86*	0.72*	1.00		
Grains/plant	0.90*	0.70*	0.66*	0.75*	1.00	
1,000-grain weight	0.92*	0.90*	0.85*	0.76*	0.95*	1.00

genotypes tested during the course of investigation (Table 1). Among the genotypes tested, 'Pant L 209' gave the maximum grain yield (18.39), followed by 'Pant L 639' (17.02). Minimum grain yield of 10.03 q/ha was recorded where local variety was sown. This evidently has resulted from significant improvement in yield attributes, viz. plant population, branches/plant, pods/plant, grains/plant and 1,000-grain weight.

Further, a significant variation in yield as well as yield attributes were noted except in plant population/m^2, branches/plant and 1,000-grain weight because of various spacings. However, wider row spacings of 25 and 30 cm recorded higher number of branches/plant, pods/plant and 1,000-grain weight, which in turn resulted in higher yield than narrow spacings (Saharia, 1980; Tripathi and Singh, 1987).

Grain yield was positively correlated with number of branches/plant, pods/plant, plant population, grains/plant and 1,000-grain weight (Table 2).

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