

EFFECT OF ROW SPACINGS AND SEED RATES OF THE YIELD OF DEWGRAM

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Dewgram [*Vigna aconitifolia* (Jacq.) Marechel] is grown mainly on marginal soils of semi-arid and arid regions of India. In Rajasthan, it occupies 1.2 million ha area with annual production of 0.3 million tonnes (Anon., 1984). The average yield (2.47q/ha) is very low due to the lack of improved varieties and production technology. Hence an experiment was conducted to find out suitable row spacing and optimum seed rate to increase its yield.

The experiment was conducted in kharif, 1978 and 1979, on sandy loam soils of low fertility at the Agronomy Farm of S.K.N. College of Agriculture, Jobner. The treatments consisted of four row spacings (30, 40, 50 and 60 cm) and four seed rates (6, 8, 10 and 12 kg/ha). The experiment was laid out in the split-plot design with six replications: the row spacings in main plots, and the seed rates in subplots. Yields of grain and straw (kg/ha) and test weight (1000 grain weight) are given in table 1.

Grain yield was significantly affected by row spacing in both the years (Table 1). In 1978, the highest yield was obtained with 50 cm row spacing (495 kg) closely followed by 40 cm row spacing (465 kg) and both were significantly superior to 30 and 60 cm row spacings. In 1979, the highest grain yield recorded with 40 cm row spacing (620 kg) was significantly superior to all other treatments. The highest mean yield in the two years (543 kg) was obtained by the 40 cm row spacing. However, straw yield was higher from closer row spacings (30 and 40 cm) and the test weight was highest from the wider row spacings (50 and 60 cm) than from other spacings (Table 1).

Seed rate significantly affected the grain and straw yields but test weight remained uninfluenced (Table 1). In 1978, the highest grain yield (497 kg) was recorded with seed rate of 8 kg/ha, followed by 456 kg with 10 kg seeds/ha; both the seed rates were significantly superior to the seed rates of 6 and 12 kg/ha but on a par with each other. In 1979, differences in the yields from the seed rates of 8 and 10 kg and 10 and 12 kg seed/ha were not significant. Mean grain yield of the two years was the highest (516 kg) with 10 kg seeds/ha, closely followed by 511 kg from 8 kg seed/ha.

Straw yield increased significantly with increase in seed rate except that differences between 10 and 12 kg seed/ha were not significant in 1979 (Table 1). Seed rates did not affect the test weight significantly in both the years.

REFERENCES

- Anonymous. 1984. Directorate of Economics and Statistics, Govt. of Rajasthan, Jaipur.

Table 1. Grain and straw yield and test weight of dewgram with different row spacings and seed rates

Treatment	Grain (kg/ha)		Straw (kg/ha)		Test weight (g/1000 grain)		
	1978	1979	Mean	1978	1979	Mean	Mean
Row spacing (cm)							
30	321	472	397	1593	1800	1697	25.58
40	465	620	543	1552	1775	1664	26.93
50	495	548	523	1381	1719	1550	28.64
60	415	465	440	1423	1706	1565	28.12
CD 5%	35	27	—	108	NS	—	2.05
Seed rate (kg/ha)							
6	352	411	383	1284	1533	1409	97.97
8	497	525	511	1475	1718	1597	27.69
10	456	575	516	1523	1868	1696	26.34
12	391	595	493	1668	1882	1775	27.28
CD 5%	47	53	—	90	114	—	NS

NS — Non-significant