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Response of direction of sowing on coriander (*Coriandrum sativum* L.) varieties in Baran district of Rajasthan

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ABSTRACT

Coriander is one of the most important seed spice grown in India. In Baran district of Rajasthan coriander covers 77420 ha area with the total production of 824523 quintal. The productivity of coriander is low i.e.10.65 q/ha. In this district coriander is cultivated by farmers for seed purpose and its price is influenced by its seed size in local market. Bold seeded varieties fetches higher price in market. Yield of the crop is influenced by the varieties. The causes of the low productivity, particularly in Rajasthan, may be due to the lack of improved varieties possessing wider adaptability, non adoption of the improved agronomic practices and growing under limited irrigation condition. Therefore, there is a need to select the varieties possessing high yielding potential and resistant to diseases. The present impact study was aimed to identify the suitable bold seeded variety for the Baran district of Rajasthan.

Key words : Coriander, Sowing directions, Disease infestation

INTRODUCTION

Coriander is one of the most important seed spice grown in India. In Baran district of Rajasthan coriander covers 77420 ha area with the total production of 824523 quintal. The productivity of coriander is low i.e.10.65 q/ha. In this district coriander is cultivated by farmers for seed purpose and its price is influenced by its seed size in local market. Bold seeded varieties fetches higher price in market. Yield of the crop is influenced by the varieties (Jaiswal *et al.,* 3).The causes of the low productivity, particularly in Rajasthan, may be due to the lack of improved varieties possessing wider adaptability, non adoption of the improved agronomic practices and growing under limited irrigation condition.

Therefore, there is a need to select the varieties possessing high yielding potential and resistant to diseases. The present impact study was aimed to identify the suitable bold seeded variety for the Baran district of Rajasthan.

MATERIALS AND METHODS

A study was conducted in different villages i.e. Rooppura, Patonda, Udpuriya, Doti, Narsinghpura, Sahrod, Bhawargarh, Ranibarod and Bansthuni of Krishi Vigyan Kendra, Anta during the year 2009-10 in collaboration of National Research Centre for Seed Spices Ajmer.

The variety of coriander RCr 435, RCr 436 were sown in east to west and north to south direction besides control (local variety) in each villages of 18 farmers on 5 -10 November 2009.The effect of these treatments was observed on vegetative growth, disease incidence and production by adopting standard procedure. All cultural operations like nutrient, insect and intercultural management were done as per recommended schedule of N.R.C.S.S., Ajmer guideline. The experiment was laid in a randomized block design with eighteen replications.

RESULTS AND DISCUSSION

The vegetative growth of coriander was maximum in all varieties of coriander in east to west direction of sowing. Vegetative growth in term of height is lowest (61.58 cm) in coriander varieties RCr 436 sown in north to south direction (Table 1).Lower height of plant was due to the maximum penetration of light radiation in north to south direction sown crop. Height of the plant is related to the number of nodes. The numbers of node were maximum in dwarf plant that result maximum number of branches.

The yield of coriander was highest (14.97q/ha) in variety RCr436 sown in north to south direction followed by variety RCr 435 (13.34q/ha) and control deshi variety (11.28 q/ha). Average yield of coriander sown in east to west direction is low in the entire tested in programme (Table 2). In north to south sown variety RCr 436 have maximum number of nodes, umbel lets, branches and seed. Positive associations coupled with high direct effect on yield were recorded for number of seeds/plants, harvest index, number nodes and umbel lets/plants, hence, these characters are reliable and may be considered for future

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Table 1. Effect of direction of sowing on height (cm) of coriander varieties

Treatment (Variety-Direction of sowing)	Rooppura	Patonda	Udpuriya	Doti	Narsinghpura	Sahrod	Bhawargarh	Ranibarod	Bansthuni	Mean
Control(E-W)	74.35	76.75	75.78	75.55	75.68	72.28	77.78	72.58	72.57	74.81
Control(N-S)	65.34	68.2	65.38	67.78	68.87	67.89	69.23	68.82	67.89	67.71
RCr-435 (E- W)	76.79	76.28	77.27	71.81	71.25	73.48	73.88	73.77	72.58	74.12
RCr-435 (N- S)	58.75	59.7	59.81	58.62	58.89	59.24	59.44	59.47	59.75	59.29
RCr-436 (E-W)	72.82	73.12	73.44	72.74	72.28	72.84	73.78	73.88	73.54	73.16
RCr-436(N- S)	60.34	61.33	61.42	62.34	60.78	60.77	62.34	62.25	62.67	61.58
CD at 5%	2.42	2.41	2.32	2.47	2.11	2.45	2.40	2.09	2.07	

Table 2. Effect of direction of sowing on yield (q/ha) of coriander varieties

Treatment (Variety-Direction of sowing)	Rooppura	Patonda	Udpuriya	Doti	Narsinghpura	Sahrod	Bhawargarh	Ranibarod	Bansthuni	Mean
Control(E-W)	10.2	10.5	11.1	10.8	10.7	11.2	10.6	10.9	11.1	10.78
Control(N-S)	10.6	11.4	11.7	11.8	10.9	11.3	10.9	11.4	11.6	11.28
RCr-435 (E- W)	12.7	12.1	12.6	12.3	12.1	12.2	13	12.7	12.5	12.46
RCr 435 (N- S)	12.9	13.2	13.8	13.3	13	12.9	13.4	13.7	13.9	13.34
RCr-436(E- W)	13.7	13.9	14.1	13.7	13.1	13	13.6	13.8	13.8	13.63
RCr 436(N- S)	14.9	15.1	14.7	14.9	14.4	15.3	15.6	15.1	14.8	14.97
CD at 5%	1.24	1.11	1.42	0.99	1.08	1.43	1.42	1.56	1.57	

crop improvement programme (Sharma and Sharma, 4; Bhandari and Gupta 2 and Ali *et.al.*, 1).

The varieties RCr 435 and RCr 436 sown in north to south direction is free from disease incidence but the incidence of disease in variety RCr436 is found (0.53%) in east to west direction sown coriander at Rooppura, Patonda and Udpuria village (Table 3). Direct penetration of sun radiation in north to south direction sown crop is unfavorable for the disease infestation. The control variety was heavily infested with stem gall (56.71-73.14%) either sown in east to west or north to south direction.

SUMMARY

The variety RCr 436 is found suitable for cultivation in Baran district of Rajasthan due to the resistant of disease infestation and high yield (13.63-14.97 q/ha). The sowing of coriander in north to south direction is recommended for harvesting the maximum yield.

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Table 3. Effect of direction of sowing on per cent disease infestation of coriander varieties

Treatment (Variety-Direction of sowing)	Rooppura	Patonda	Udpuriya	Doti	Narsinghpura	Sahrod	Bhawargarh	Ranibarod	Bansthuni	Mean
Control(E-W)	78.41	78.47	76.37	71.12	70.75	71.45	70.42	70.83	70.48	73.14
Control(N-S)	60.72	62.06	61.14	54.41	58.41	51.14	52.42	54.48	55.62	56.71
RCr-435 (E- W)	2.31	1.21	1.32	0	0	0	0	0	0	0.53
RCr-435 (N- S)	0	0	0	0	0	0	0	0	0	0
RCr-436 (E- W)	0	0	0	0	0	0	0	0	0	0
RCr-436 (N- S)	0	0	0	0	0	0	0	0	0	0
CD at 5%	NS	NS	NS	NS	NS	NS	NS	NS	NS	

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