

ORIGINAL ARTICLE

Performance Evaluation of Coriander Genotypes for Seed Yield in Northern Transitional Zone of Karnataka

Krishna D. Kurubetta *, J. Venkatesh, R. K. Mesta, M. H. Tatagar and M. Abdul Kareem

* Assistant Professor of Agronomy, Horticulture Research and Extension Station, Devihosur-581110, Haveri, Karnataka.

E-mail: krishna.kurubetta@uhsbagalkot.edu.in

ABSTRACT

The pooled experimental results for the years 2009, 2010, 2011, 2012, 2013 and 2014 (six years) revealed that the coriander genotypes differed significantly for the seed yield. The genotype DCC 46 recorded significantly higher seed yield 1303 kg/ha compared check variety DWR-1. However, it is found on par with the other genotypes of DCC 15, DCC 69, DCC 70, DCC 76 and DCC 81. The highest per cent increase in seed yield (58 %) over the check variety of coriander was noticed with coriander genotype DCC 46 followed by DCC 81, DCC 76, DCC 70, DCC 15 and DCC 69.

Key words : Coriander, Genotypes, Genotypic evaluation, Seed yield.

Received 21.09.2017 Accepted 22.11.2017

© 2017 AELS, INDIA

INTRODUCTION

Coriander (*Coriandrum sativum* Linn.) is an annual spice herb that belongs to the family Umbelliferae/Apiaceae. India is the largest producer, consumer and exporter of spices in the world. Coriander is one of the oldest known and most widely used seed spice by mankind throughout the world. In India, it is mainly grown in Rajasthan, Madhya Pradesh, Andhra Pradesh and Tamil Nadu with an area of 5.91 lakh ha having a production of 3.38 mt [6]. In Karnataka it is mainly grown as seed spice during *rabi* season under vertizols of northern parts. The area under coriander production is increasing as a result the suitable variety of high yielding is the major constraint. Keeping this back ground in view the present investigation on the evaluation of coriander genotypes for seed yield in northern transitional zone of Karnataka was under taken.

MATERIALS AND METHODS

A field experiment was conducted in *rabi* season during 2009, 2010, 2011, 2012, 2013 and 2014 on medium deep black soils at Horticultural Research and Extension Station, Devihosur, Haveri, which is located at latitude of 14.47°N, longitude of 75.2°E and with an altitude of 563.0 m above mean sea level (MSL). The experiment was laid out in randomized complete block design with three replications. The seeds were sown at a row spacing of 30 cm and 8-10 cm between the plants. Totally six genotypes of high seed yielding were selected from the 91 genotypes of coriander genotypic evaluation study which is operating at the station. These genotypes namely DCC 15, DCC 46, DCC 69, DCC 70, DCC 76 and DCC 81. The released coriander variety of the state DWR-1 was taken as check variety for the study.

RESULTS AND DISCUSSION

The pooled data (Table 2) for the years 2009, 2010, 2011, 2012, 2013 and 2014 (six years) revealed that the coriander genotypes differed significantly for the seed yield. The genotype DCC 46 recorded significantly higher seed yield 1303 kg/ha compared check variety DWR-1. However, it is found on par with the other genotypes of DCC 15, DCC 69, DCC 70, DCC 76 and DCC 81. The highest per cent increase in seed yield (58 %) over the check variety of was noticed with coriander genotype DCC 46 followed by DCC 81, DCC 76, DCC 70, DCC 15 and DCC 69. Similar findings were also reported by Sharma [5], Sankar & Khadar [4], and Jain *et al.* [2] in coriander.

The pooled data (Table 1) of six years for the growth and yield parameters also differed significantly for the days to fifty per cent flowering, number of umbels per plant, number of seeds per plant, 100 seed weight and seed yield per plant. Days to fifty percent flowering (Fig. 1) was least (54 days) in DWR-1

followed by DCC-46 (55 days). The highest number of primary branches of 4.4 was noticed with DCC 76 and the highest seed yield per plant was noticed with DCC 46 (Fig. 2). Similar findings have also been reported by Rao *et al.* [3] and Jain *et al.* [1] in coriander.

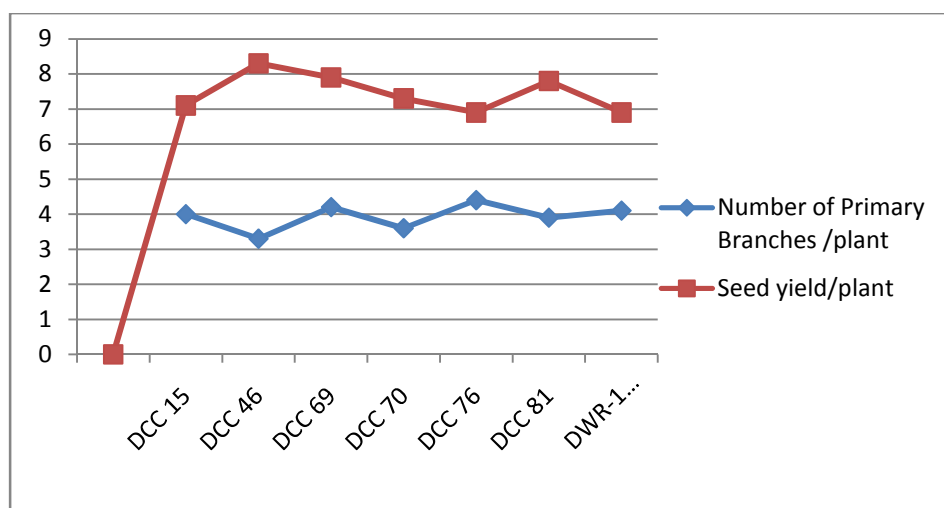
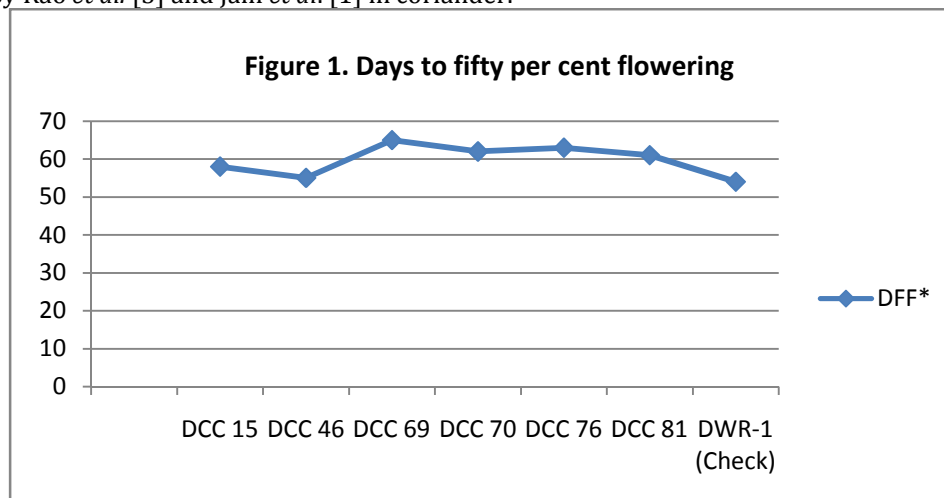


Figure 2. Number of primary branches and seed yield

Table 1. Performance of Coriander genotypes For Growth Parameters (Six years pooled)

Sl. No.	Genotype	Plant Height (cm)	DFF*	Number of Primary Branches /plant	Number of Umbels /plant	Number of Seeds / plant	100 seed weight (gm)	Seed yield/ plant (gm)
1	DCC 15	57.8	58	4.0	36.9	514	1.38	7.1
2	DCC 46	64.1	55	3.3	35.7	540	1.54	8.3
3	DCC 69	64.6	65	4.2	30.8	505	1.56	7.9
4	DCC 70	62.4	62	3.6	29.7	523	1.39	7.3
5	DCC 76	64.6	63	4.4	32.8	451	1.53	6.9
6	DCC 81	62.3	61	3.9	33.4	502	1.55	7.8
7	DWR-1 (Check)	54.2	54	4.1	26.1	526	1.31	6.9
Mean		60.7	59.6	3.8	30.5	512.3	1.45	7.4
S Em ±		4.0	1.1	0.90	2.66	17.9	0.05	0.38
CV (%)		9.2	5.3	7.5	10.2	14.0	4.2	9.60
CD (5%)		NS	2.9	NS	8.2	52.0	0.14	1.2

*DFF - Days to fifty per cent flowering

Table 2. Performance of Coriander genotypes For the seed yield (Pooled)

Sl. No.	Genotype	Yield (kg/ha)							Per cent increase over DWR 1
		2009	2010	2011	2012	2013	2014	Mean	
1	DCC 15	1181	1466	1189	1230	1010	943	1170	40.8
2	DCC 46	1061	1882	1286	1380	1155	1054	1303	56.8
3	DCC 69	1157	1544	1173	1160	1004	910	1158	39.4
4	DCC 70	983	1533	1359	1170	1050	938	1172	41.1
5	DCC 76	1235	1444	1254	1250	1092	925	1200	44.4
6	DCC 81	1159	1658	1084	1258	1103	1035	1216	46.3
7	DWR-1(Check)	813	1107	1069	560	828	610	831	0.0
S.Em+/-		102.0	120.5	68.2	70.1	95.3	78.5	89.1	
C. D @ 5%		290.0	361.0	200.0	209.0	276	228	261	
C.V (%)		13.5	10.0	8.6	7.8	9.3	11.5	10	

REFERENCES

- Jain, U. K., Singh, D. and Amrita (2003). Correlation and path analysis for certain biometric traits in coriander. *Prog. Agric.* 3 : 86-88.
- Jain, U. K., Singh, D. and Jain, S. K. (2002). Assessment of genetic variability in coriander. *Ann. Pl. Soil Res.* 4: 329-330.
- Rao, T. C., Karnakar Babu, M. and Bavaji, T. N., (1981). Path coefficient analysis of seed yield in coriander. *Indian J. Agric. Sci.* 51 : 726- 758.
- Sanker, K. B. and Khader, M. A. (1991) Correlation studies and path analysis for yield and yield components in coriander. *South Indian Hort.* 36 : 384-386.
- Sharma, K. C. (1984). Correlation and path coefficient analysis in coriander (*Coriandrum sativum* L.). *MSc (Ag) Thesis*, Sukhadia University, Jobner.
- Singh, S. J. and Singh, S. K. (2013). Genetic variability analysis in coriander (*Coriandrum sativum* Linn.), *Journal of Spices and Aromatic Crops*, Vol. 22 (1) : 81-84.

CITE THIS ARTICLE

K D. Kurubetta, J. Venkatesh, R. K. Mesta, M. H. Tatagar and M. Abdul Kareem. Performance Evaluation of Coriander Genotypes for Seed Yield in Northern Transitional Zone of Karnataka. *Res. J. Chem. Env. Sci.* Vol 5 [6] December 2017. 13-15