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Assessment of Genetic Variability and Divergence in Coriander (*Coriandrum sativum* L.) Germplasm Using Multivariate Statistical Approaches

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Abstract

The present investigation aimed to assess the genetic variation and divergence among coriander (*Coriandrum sativum* L.) genotypes using various multivariate statistical methods. The study was conducted in Randomized Block Design, evaluating ten key quantitative characters to identify promising genotypes. Correlation analysis revealed significant positive associations, notably between umbels per plant and seeds per umbel, as well as between biological yield and seed yield, suggesting their potential for indirect selection in breeding programs. Principal Component Analysis (PCA) identified four principal components that collectively accounted for 87.26% of the total variability, with PC1 contributing the highest proportion. This component was primarily influenced by plant height, number of branches per plant and oil content. Cluster analysis categorized the genotypes into four groups. Genotypes UD 619, UD 703 and RCr 728 showed close genetic affinity, while UD 603 stood out as a distinct genotype due to its notably high seed yield. Plant height and oil content exhibited high heritability coupled with a high genetic advance as percent of mean, indicating the predominance of additive gene action.

Key words: *Coriandrum sativum* L., genetic diversity, multivariate analysis, PCA and cluster analysis

Introduction

Coriander (*Coriandrum sativum* L.), commonly referred to as "Dhania", is a medicinal and aromatic plant belonging to the Apiaceae (Umbelliferae) family, with a chromosome number of 2n=22. It is widely considered native to the Mediterranean and Near Eastern regions (Bhandari and Gupta, 1993). This important spice crop is a culinary staple, grown throughout the sub-continent for its green leaves or seeds, and holds a prime position in flavoring food. In addition to its use in food and beverages, **coriander** is also utilized in the perfumery and pharmaceutical industries, as well as for the production of essential oils and oleoresins (Lal *et al*., 2023; Scandari *et al*., 2023). Additionally, coriander leaves are rich in flavonoids and carotenoids, which contribute to their nutritional and antioxidant value (Mahleyuddin *et al*., 2022). India is one of the leading producers of coriander, with a production of 869,443 metric tons from an area of 627,008 hectares (Spice Board of India, 2025). The major coriander-producing states include Madhya Pradesh, Gujarat, Rajasthan, Assam, West Bengal, Odisha, Uttar Pradesh and Andhra Pradesh. Despite its considerable economic, nutritional and medicinal significance, coriander remains an underutilized crop in terms of advanced genetic improvement. Genetic diversity within coriander germplasm is essential for the development of high-yielding, stress-tolerant and nutritionally enriched varieties. Genetic variability is the foundation of any crop improvement program, as it directly affects the effectiveness of selection. Breeding efforts have significantly contributed to improvements in grain characteristics, tolerance to biotic and abiotic stresses and overall yield potential. The extent of genetic improvement is determined by the amount of genetic variability and the relationship between heritable and non-heritable variation in traits. Understanding the association among yield-contributing characters is critical to developing effective selection strategies. Moreover, assessing genetic diversity is a prerequisite in plant breeding programs, particularly for selecting diverse parents for hybridization. Cluster analysis helps reveal the pattern of diversity among accessions, which can be further validated through principal component analysis (Tomar *et al*., 2014). Therefore, the present study was undertaken to evaluate genetic variability in coriander germplasm using genetic variability measures, correlation coefficient analysis, hierarchical cluster analysis and principal component analysis.

Materials and Methods

The present study was carried out during rabi- 2022-23, 2023-24 and 2024-25 at Sri Karan Narendra College of Agriculture, Jobner, Rajasthan. The material for this study consisted of ten coriander germplasm *viz:* UD-97, UD-291, UD-487, UD-603, UD-619, UD-620, UD-621, UD-703, RCr 436 and RCr 728. The experiment was laid out in Randomized Block Design with three replications, each having plot size of 3x2.4 m^2. Row to row and plant to plant spacing was kept 30×10 cm while, standard agronomic and plant protection practices as per package and practice were adopted to raise a healthy crop. Five plants per germplasm line were randomly selected and tagged to record data on seed yield and its attributing traits *viz*., plant height, branches/plant, umbels/plant, umbellets/umbel, seeds/umbel, days to maturity, biological yield/plant (g), seed yield/plant (g), test weight (g) and volatile oil content (%). Coriander germplasms were evaluated for genetic divergence (Mahalanobis, 1936) and clustering was done through Tocher's method (Rao, 1952). To complement this, Principal Component Analysis (PCA) was conducted following the methods of Pearson (1901) and Hotelling (1933), enabling identification of key traits contributing to variability and effective classification of germplasm. Genetic variability parameters assisted by *R-Studio* version 2025.

Results and Discussion

Analysis of the variance (ANOVA):

For ten important characters, ANOVA was carried out under a Randomized Block Design (RBD) with three replications. The pooled mean sum of squares due to replications was found to be non-significant, whereas the mean sum of squares due to genotypes was significant at the 5% and 1% levels for most of the characters, indicating presence of substantial genetic variability among the studied coriander genotypes (Table 1). In particular, highly significant differences were observed for seed yield/plant, plant height, seeds per umbel, days to maturity and test weight, suggesting ample scope for selection and genetic improvement. Among these, test weight and oil content recorded very high F-values, reflecting strong genetic control and potential usefulness as reliable selection criteria in future breeding programs. These findings are in conformity with the findings of Praneetha *et al* (2021) and Punia *et al* (2021).

Descriptive statistics

The descriptive statistics of ten important traits in coriander provide useful insights into the genetic variability among the studied genotypes (Table 2). Plant height averaged 85.28 cm and showed moderate variability (CV: 10.42%), with a slightly left-skewed distribution, suggesting that most plants were taller than the average. The number of branches per plant and umbels per plant also showed relatively low variation (CV around 9%) and slight negative skewness, indicating uniformity and consistency across genotypes for these traits. Umbellets per umbel had moderate variation and a slight right skew, meaning a few genotypes had lower values than the rest. Interestingly, seeds per umbel showed the highest variability (CV: 17.01%) and a strong positive skew, suggesting that while most genotypes had a moderate seed count, a few were significantly more productive. Days to maturity showed minimal variation (CV: 1.99%) and a slightly left-skewed pattern, indicating that the genotypes matured within a narrow time border. Biological yield and seed yield/plant both displayed moderate variability, with seed yield showing a wider range and stronger negative skewness, pointing to better performance in some genotypes. Test weight had a CV of 13.19% and was negatively skewed, indicating that higher seeds were more frequent among the genotypes. Volatile oil content, with an average of 0.27%, showed moderate variability and a strong negative skew, suggesting that most genotypes had higher volatile oil content than the mean. Similar results in coriander has been reported by Nagappa *et al.* (2017) and Selvi *et al.* (2025).

Genetic variability parameters:

The estimates of genetic variability parameters (Table 3) revealed that phenotypic coefficients of variation (PCV) were generally higher than genotypic coefficients of variation (GCV) for most characters, indicating the influence of environment on trait expression. Plant height, and oil content recorded high heritability coupled with high genetic advance as percent of mean (GAM), suggesting the predominance of additive gene action and greater scope for improvement through simple selection. Similar results are reported by Punia *et al.,* (2021), Praneetha *et al.,* (2021) and Chaya *et al.,* (2024).

Table 1: Analysis of the variance (ANOVA) for various characters in coriander

S.No.	Characters	Replications (df=2)	Treatments (df=9)	Error (df=18)
1	Plant height (cm)	261.628	236.760*	26.552
2	Branches/plant	1.241	1.878**	2.276
3	Umbels/plant	14.305	20.833	38.693
4	Umbellets/umbel	0.457	0.616**	0.298
5	Seeds/umbel	0.948	141.843*	50.174
6	Days to maturity	2.100	24.355*	5.988
7	Biological yield/plant (g)	0.179	0.148	0.239
8	Seed yield/plant (g)	137853.9	48087.02*	65626.67
9	Test weight (g)	4.278	16.098*	8.920
10	Oil content (%)	4.333	0.003*	0.001

*Significant at 5% level of significance
** Significant at 1% level of significance

Table 2: Descriptive statistical analysis for various characters in coriander (pooled)

	Plant height	Branches/plant	Umbels/plant	Umbellets/umbel	Seeds/umbel
Mean	85.28	8.92	30.00	4.91	40.44
Std. error	2.81	0.25	0.83	0.14	2.17
Min	67.20	7.67	25.80	4.27	32.33
Max	101.46	9.87	33.87	5.80	58.07
Variance	78.89	0.63	6.95	0.20	47.31
Stand. dev	8.88	0.79	2.64	0.45	6.88
Coeff. var	10.42	8.88	8.79	9.22	17.01
Skewness	-0.36	-0.47	-0.51	0.54	2.08
Kurtosis	2.00	-0.93	-0.44	0.32	5.55
	Days to maturity	**Biological yield /plant(g)**	**Seed yield/plant (g)**	**Test wt. (g)**	**Volatile oil content (%)**
Mean	143.40	1.98	910.40	14.40	0.27
Std. error	0.90	0.07	40.04	0.60	0.01
Min	137.67	1.55	619.33	10.10	0.21
Max	146.67	2.30	1103.33	16.45	0.30
Variance	8.11	0.05	16029.16	3.61	0.00
Stand. dev	2.85	0.22	126.61	1.90	0.03
Coeff. var	1.99	11.29	13.91	13.19	11.72
Skewness	-1.13	-0.69	-1.18	-1.20	-1.46
Kurtosis	0.44	0.24	3.03	2.12	0.86

Table 3: Genetic variability parameters for various characters of coriander

S.No.	Characters	Phenotypic coefficient of variation	Genotypic coefficient of variation	Heritability	Genetic Advance	Genetic advance as mean
1	Plant height	11.526	9.815	0.725	14.684	17.219
2	Branches/plant	12.008	6.792	0.319	0.7054	7.914
3	Umbels/plant	19.077	8.134	-0.181	-2.143	-7.145
4	Umbellets/umbel	12.417	7.141	0.330	0.415	8.462
5	Seeds/umbel	22.218	13.669	13.669	7.005	17.323
6	Days to maturity	2.426	1.725	0.505	3.624	2.527
7	Biological yield/plant	23.108	8.798	-0.145	-0.136	-6.899
8	Seed yield/plant	26.856	8.398	8.398	-49.259	-5.410
9	Test weight	24.546	8.866	0.795	3.347	8.642
10	Oil content	13.079	10.882	0.692	0.051	18.645

Correlation study:

The correlation study highlights relationships among the ten important traits studied in coriander (Table 4). A positive and significant correlation was found between plant height (PH) and branches per plant (BPP) (r = 0.722*), indicating that taller plants tend to have more branches. A very strong and highly significant correlation was also observed between umbellets per umbel (UPU) and seeds per umbel (SPU) (r = 0.872**), suggesting that an increase in umbellets per umbel can directly contribute to higher seed production. Days to maturity (DM) showed a positive association with traits like plant height (PH), number of branches (BPP) and umbels per plant (UPP), indicating that late-maturing plants tend to be more vigorous in their vegetative and reproductive growth. Biological yield (BY) exhibited a strong and significant positive correlation with seed yield (SY) (r = 0.735*), implying that improving one of these traits will likely enhance the other. Characters, volatile oil content (VOC) was positively correlated with plant height (r = 0.614), days to maturity (r = 0.493), and umbels per plant (r = 0.497), suggesting that taller, late-maturing plants with more umbels may also be richer in oil content.These relationships offer useful insights for selecting desirable traits in coriander breeding programs focused on yield and volatile oil improvement. Similar outcomes in coriander crop earlier reported by Meena *et al*. (2014), Sravanthi *et al*. (2014) and Kumar *et al*. (2022)

Principal Component Analysis (PCA):

Principal Component Analysis (PCA) was conducted to examine the contribution of ten agronomic and yield-related traits toward the total variability in coriander (Table- 5). The first four principal components (PC1 to PC4) exhibited eigenvalues greater than one and collectively contributed for 87.26% of the total variation, indicating their significant contribution to the total diversity among the genotypes. In respect of eigen value similar results were showed by Kumawat *et al.,* (2024). PC1 alone contributed 34.18% of the variation and was mainly influenced by traits including plant height, number of branches per plant, seeds per umbel, days to maturity, umbellets per umbel and oil content, indicating that these traits playing a major role in total diversity of PC1 (Fig 1). PC2 accounted for 21.96% of the variability and was mainly associated with traits *viz.,* straw yield, oil content, and umbellets per umbel, the latter showing a strong negative loading, suggesting an inverse relationship within this component (Fig 1). PC3 contributed 20.12% to the total variance and was positively correlated with days to maturity, number of umbels per plant and test weight, emphasizing the role of reproductive traits in genotype separation (Fig 1). PC4 explained 10.99% of the variation and was heavily influenced by number of umbels per plant and biomass yield (Fig 1). These results suggest that selection based on traits with high loadings in the first few principal components could be effective for improving yield and oil content in the coriander under agro-climatic condition of Rajasthan state.

Principal Component Analysis (PCA) was performed to study the 10 important traits among coriander genotypes and to understand their distribution based on their performance (Fig. 2). The biplot of the first two principal components reveals clear separation of traits and genotypes into distinct quadrants, helping to identify genotypes with desirable characteristics for breeding purpose. In the first quadrant, genotypes such as UD 291, UD 619, and UD 621 are clearly located close to traits like plant height (PH), branches per plant (BPP), days to maturity (DM), umbels per plant (UPP), and volatile oil content (VOC). These genotypes are promising for developing early mature, and essential oil rich genotypes in coriander crop. The second quadrant, where UD 703 is placed, is dominated by test weight (TW) and BY suggesting this genotype could contribute to improving higher seed yield. This is indicating this genotype will be useful in enhancing seed yield along with higher oil content. The fourth quadrant includes RCr 728, located in proximity to seeds per umbel (SPU) and umbellets per umbel (UPU). This indicates its strong reproductive performance, making it a potential donor for increasing seed yield in coriander. Additionally, this quadrant reflects favorable reproductive traits that could be targeted in future variety improvement programs. In coriander crop similar results showed by Selvi *et al.* (2025**),**

Clustering analysis:

The coriander genotypes were divided into 04 clusters using cluster analysis (Fig. 3). The dendrogram showed a clear picture of different coriander genotypes vary across several important traits. It shows how

Table 4: Analysis of Pearson's correlation coefficients among ten characterss in coriander

	PH	BPP	UPP	UPU	SPU	DM	BY	SY	TW	VOC
PH	1	0.722*	-0.082	0.047	0.22	0.505	0.004	0.384	-0.563	0.614
BPP	0.722*	1	0.228	0.241	0.375	0.401	-0.172	-0.069	-0.534	0.306
UPP	-0.082	0.228	1	-0.075	-0.039	0.241	0.002	-0.145	0.046	0.497
UPU	0.047	0.241	-0.075	1	0.872**	0.101	-0.226	-0.265	-0.6	-0.042
SPU	0.22	0.375	-0.039	0.872**	1	0.125	-0.019	0.006	-0.846**	0.018
DM	0.505	0.401	0.241	-0.101	0.125	1	-0.464	-0.004	-0.234	0.493
BY	0.004	-0.172	0.002	-0.226	-0.019	-0.464	1	0.735*	-0.193	0.001
SY	0.384	-0.069	-0.145	-0.265	0.006	-0.004	0.735*	1	-0.282	0.329
TW	-0.563	-0.534	0.046	-0.6	-0.846**	-0.234	-0.193	-0.282	1	-0.315
VOC	0.614	0.306	0.497	-0.042	0.018	0.493	0.001	0.329	-0.315	1

PH= Plant height, **BPP**= Branches/plant, **UPP=** Umbels/plant, **UPU=** Umbelets/umbel, **SPU**= Seeds/umbel, **DM**= Days to maturity, **BY**= Biological yield, **SY**=Seed yield, **TW**=Test weight, **VOC**=Volatile oil content

Table 5: Principal component analysis for various characters of coriander

Traits	PC1	PC2	PC3	PC4
EV*	3.418	2.196	2.012	1.099
PV**	34.184	21.955	20.123	10.993
CPV***	34.184	56.139	76.262	87.255
PH	0.427	0.271	-0.007	-0.369
BPP	0.414	0.022	0.162	-0.095
UPP	0.088	0.194	0.297	0.788
UPU	0.276	-0.523	-0.094	0.178
SPU	0.383	-0.397	-0.195	0.147
DM	0.292	0.202	0.397	-0.198
BY	-0.044	0.259	-0.591	0.263
StY	0.105	0.414	-0.491	-0.064
TW	-0.469	0.129	0.265	-0.038
VOC	0.312	0.401	0.142	0.258

*EV (eigen value)
**PV (percentage of variance)
***CPV (cumulative percentage of variance)

PH= Plant height, **BPP**= Branches/plant, **UPP=** Umbels/plant, **UPU=** Umbelets/umbel, **SPU**= Seeds/umbel **DM**= Days to maturity, **BY**= Biological yield, **SY**=Seed yield, **TW**=Test weight, **VOC**=Volatile oil content

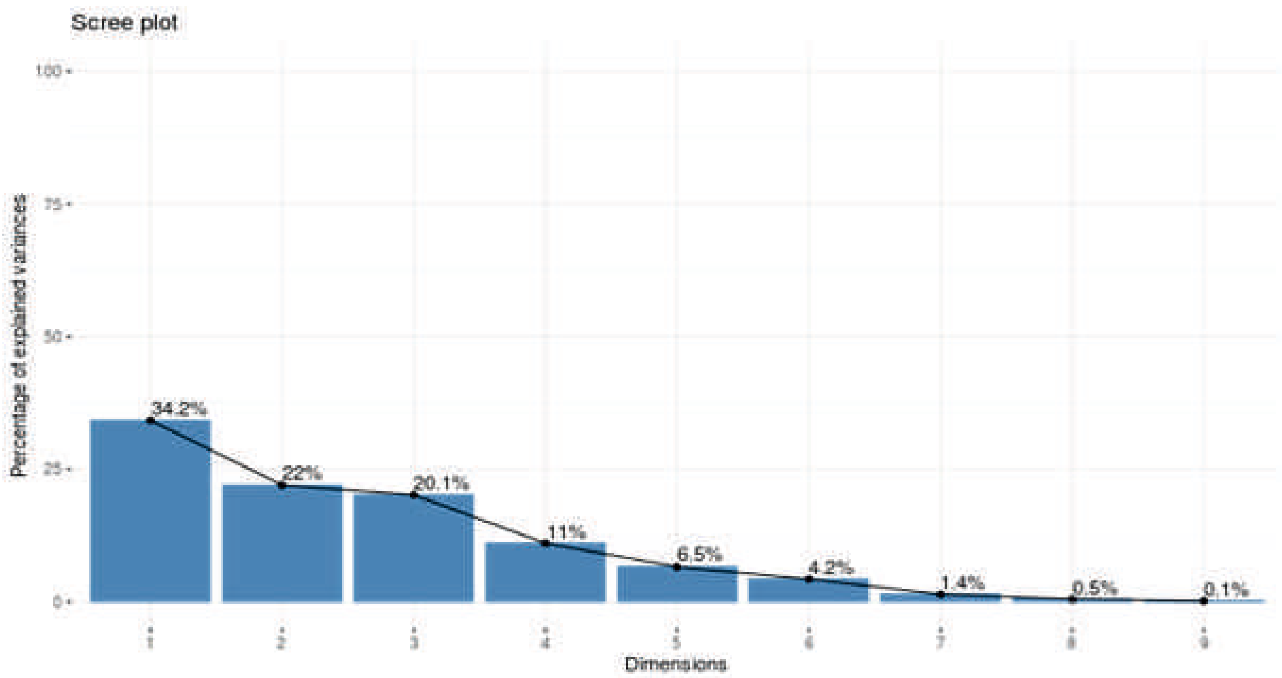

Fig.1. Scree plot showing principal components and percentage of variation explained

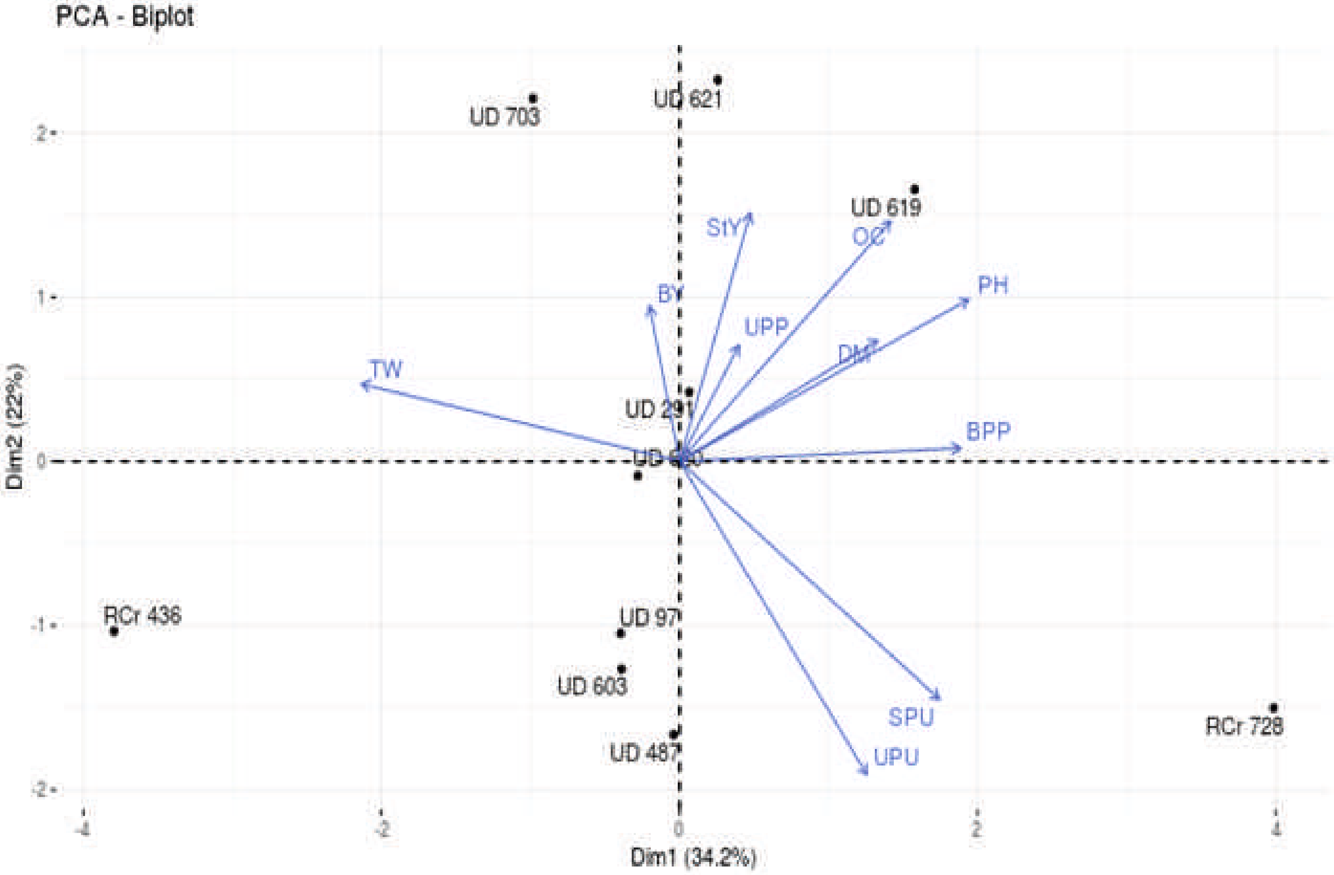

Fig.2. Distribution and grouping of germplasm lines across principal components

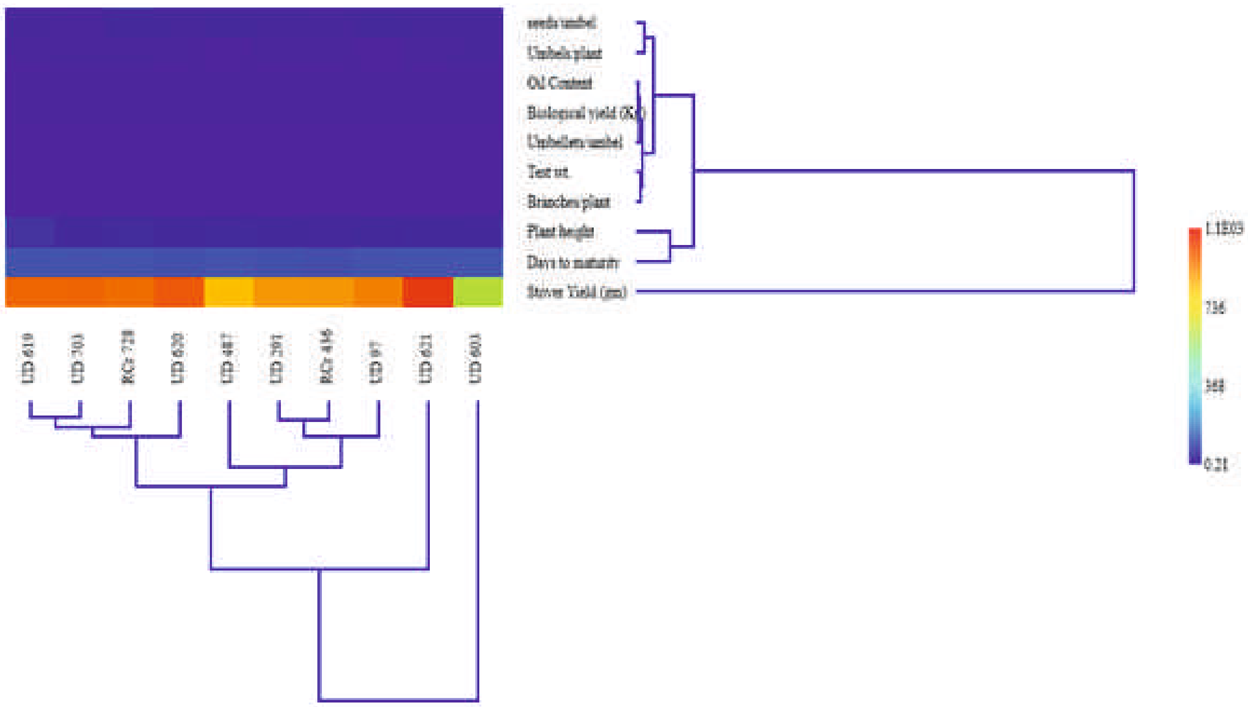

Fig. 3. Dendrogram tree

closely related the genotypes are based on their performance in traits like seeds per umbel, umbels per plant, volatile oil content, biological yield, test weight, plant height and others. The color gradient, ranging from blue to red, helps highlight the performance levels of each genotype for these traits. Genotype, UD 603 stands out with a notably high seed yield, making it distinct from the rest of genotypes, while genotypes like UD 619, UD 703, and RCr 728 are grouped closely together, showing similar overall performance. On the trait side, volatile oil content, biological yield and umbels per plant are grouped closely, suggesting these traits tend to increase or decrease together. In contrast, traits like seed yield and days to maturity behave more independently. Similar results were reported by Singh *et al.* (2006), Mengesha *et al*. (2011) and Selvi *et al.* (2025).

Conclusion

This study effectively highlights the extent of genetic variability and character relationships among coriander genotypes, using a combination of descriptive statistics, correlation analysis, principal component analysis (PCA) and cluster analysis. Characters like plant height, umbels per plant and volatile oil content showed positive associations with yield-contributing characters, suggesting that they can serve as useful selection criteria for breeding programs. PCA revealed that the first four components accounted for over 87% of the total genetic variability, with PC1 contributing the highest variation, primarily influenced by plant height, number of branches, volatile oil content and seed-related traits. The PCA biplot and clustering clearly separated genotypes based on performance, identifying UD 291, UD 619, and UD 621 as promising for traits such as plant height, volatile oil content and days to maturity. Genotype UD 703 showed potential for improving seed yield due to its association with biological yield and test weight, while RCr 728 emerged as a strong performer in seeds per umbel and umbellets per umbel.

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Conflict of interest

The authors declare that the research was conducted beyond any commercial or financial affairs that could be taken as a potential conflict of interest.

References

Bhandari, M.M. and Gupta, A. 1993. Association analysis in coriander. *Ind J Gene Pl Breeding*, 53:66-70.

Chaya, Y.A., Meena, K.C., Soni, N., Naruka, I.S., Kachouli, B.K. and Singh, O.P. 2024. Studies on genetic variability, heritability and genetic advance in fenugreek (*Trigonella foenum-graecum* L.) germplasms grown under the Malwa region of Madhya Pradesh, India. *Int J Seed Spices*, 12(1):39-47.

Dewey, D.R. and Lu, K.H. 1959. A correlation and path-coefficient analysis of components of crested wheatgrass seed production. Agron J, 51(9):515–518.

Hotelling, H. 1933. Analysis of a complex of statistical variables into principal components. J Educ Psych, 24:417–441.

Kumawat, R., Kumar, S. and Kashyap, S.C. 2024. Appraising components of genetic variation and estimation of micronutrients and antinutrient parameters. Ind J Gene Pl Breeding, 84(02):300-303.https://doi.org/10.31742/ISGPB.84.2.20

Lal, G., Meena, R.S., Kakani, R.K., Singh, D.K., Pandey, V.P. and Mishra, A.K. 2023. Ajmer coriander 2: a high yielding coriander variety . Int J Seed Spice, 13(1&2):70-74.

Mahalanobis, P.C. 1936. On the generalized distance in statistics. Pr*oceedings of National Institute of Sciences of India,* 2(1):49-55.

Mahleyuddin, N.N., Said, M., Long, C.M., Hanis, H.Z., Nurolaini, K., Mei, J.L., Sarker, M.M.R., Yaser, M.A., Bey, H.G., Shobna, T. and Hui, P.G. 2022. *Coriandrum sativum* (L.): A review on ethnopharmacology, phytochemistry, and cardiovascular benefits. *Molecules*,27(1):209.

Meena, Y.K., Kale, V.S. and Meena, O.P. 2014. Correlation coefficient and path analysis in coriander. *Int J Sci Res Pub,*4(6):2250-3153.

Mengesha, B., Alemaw, G. and Tesfaye, B. 2011. Genetic divergence in Ethiopian coriander accessions and its implication in breeding of desired plant types. *Afri Crop Sci J,* 19(1):39–47.

Nagappa, M.K., Giridhar, K. and Dorajeeraom A.V.D. 2017. Correlation between yield and its attributes in coriander. *Pl Archives,* 17(2):941-947.

Neffati, M., Sriti, J., Hamdaoui, G., Kchouk, M.E. and Marzouk, B. 2011. Salinity impact on fruit yield, essential oil composition and antioxidant activities of *Coriandrum sativum* fruit extracts. *Food Chem*, 124(1):221-225.

Pearson, K. 1901. On lines and planes of closest fit to systems of points in space. *Philoso Magazine*, 2(11):559–572.

Praneetha, S., Vinoth, P. and Subalakshm, V.S. 2021. Genetic variability, heritability and genetic advance studies in turmeric (*Curcuma longa* L.). *Int J Seed Spices*, 11(2):30-34.

Punia, M., Meena, R.S., Meena, N.K., Bagra, S.K. and Sharma, P. 2021. Genetic variability and character association among yield and yield contributing traits in fenugreek. *Int J Seed Spices*, 11(1):57-63.

Rao, C.R. 1952. *Advanced Statistical Methods in Biometrical Research*. New York: John Wiley & Sons.

Scandari, N., Imtara, H., Lyoussi, B. and Badiaa, L. 2023. Essential oil composition and pharmacological properties of *Coriandrum sativum*: A review. *Indust Crops Pro*, 202:118685.

Selvi, B.S., Chandrakala, R., Aravind, S., Suresh, R., Venkatesan, K., Mohanalakshmi, M., Vaishnavi, B.A. and Vali, D.M. 2025. Assessment of genetic diversity in coriander (*Coriandrum sativum*) germplasm. *Ind J Agri Sci*, 95(2):180-186.

Singh, S.P., Prasad, R. and Singh, D. 2006. Variability and character association of grain yield and its component characters in coriander. *J Appl Biosciences,* 32(1):64–67.

Spice Board of India. 2025. www.indianspices.com

Sravanthi, B., Sreeramu, B., Swamy, N.B., Umesha, K. and Rajasekhar, R.B. 2014. Correlation Coefficient and Path Analysis in Coriander (*Coriandrum Sativum* L.) Genotypes. *Int J Appl Bio Pharma Tech,* 5(1):60-62.