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Assessment of genetic variability, correlation and path coefficient analysis in coriander (*Coriandrum sativum* L.)

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Abstract

The present investigation entitled “Assessment of Genetic Variability, Correlation and Path Coefficient Analysis in Coriander (*Coriandrum sativum* L.)” was conducted during the *Rabi* season of 2025–26 to assess the extent of genetic variability and to identify important traits associated with seed yield in coriander. Twenty-five coriander genotypes were evaluated for nine quantitative characters, viz., days to 50 per cent flowering, plant height, primary branches per plant, secondary branches per plant, days to maturity, number of umbels per plant, number of seeds per umbel, 100-seed weight and seed yield per plant. Analysis of variance revealed highly significant differences among genotypes for all the characters, indicating the presence of considerable genetic variability and scope for selection. Genotypic coefficient of variation was slightly lower than phenotypic coefficient of variation for all the traits, suggesting relatively limited environmental influence on trait expression. High heritability was observed for primary branches per plant, number of umbels per plant, secondary branches per plant, number of seeds per umbel and 100-seed weight. High genetic advance was recorded for seed yield per plant, 100-seed weight and number of seeds per umbel, indicating good prospects for genetic improvement through selection. Correlation analysis revealed significant positive associations of seed yield per plant with plant height, primary branches, secondary branches, number of umbels, number of seeds per umbel and 100-seed weight. Path coefficient analysis indicated that 100-seed weight (0.3540) and number of seeds per umbel (0.3218) exerted the highest positive direct effects on seed yield at the phenotypic level, followed by days to 50 per cent flowering, secondary branches, primary branches and plant height. In contrast, days to maturity showed a strong negative direct effect (-0.6043). Overall, 100-seed weight, number of seeds per umbel and branching characters were identified as important selection criteria for improving seed yield in coriander.

Keywords: Genetic variability, GCV, PCV, heritability, genetic advance, correlation coefficient, selection criteria, coriander genotypes

1. Introduction

Coriander (*Coriandrum sativum* L.) is an important seed spice crop belonging to the family Apiaceae and is cultivated extensively for its fresh leaves, dry seeds and essential oil. The crop has considerable nutritional, medicinal, culinary and economic importance and is widely used in food, pharmaceutical and perfumery industries (Choudhary *et al.*, 2021; Chandrakala *et al.*, 2024) [3, 1]. India is one of the leading producers and exporters of coriander, while Rajasthan occupies a prominent position in its cultivation, particularly in the Hadoti region.

Despite its importance, coriander productivity is often affected by environmental fluctuations and genetic differences among genotypes. Seed yield is a complex quantitative character controlled by several component traits, including plant height, number of branches, umbels per plant, seeds per umbel, biological yield and test weight. Hence, selection based only on seed yield may not always be effective. Evaluation of genetic variability among genotypes provides an opportunity to identify superior and genetically diverse material for crop improvement (Kharat *et al.*, 2025) [6].

Genotypic and phenotypic coefficients of variation, heritability and genetic advance are useful parameters for determining the magnitude and nature of genetic variation and the expected response to selection. High heritability combined with high genetic advance generally indicates the importance of additive genetic effects and greater scope for improvement through selection

(Singh *et al.*, 2006; Choudhary *et al.*, 2021) ^[10, 3]. In addition, correlation analysis helps to identify the degree and direction of association between yield and its component traits, whereas path coefficient analysis determines their direct and indirect contributions towards seed yield (Ram *et al.*, 2017; Kajla *et al.*, 2022) ^[8, 5].

Therefore, the combined assessment of genetic variability, heritability, genetic advance, correlation and path coefficients provides a better understanding of the genetic architecture of yield and facilitates the identification of desirable selection criteria. Such information is valuable for the selection of superior coriander genotypes and for developing high-yielding and stable varieties suitable for different agro-climatic conditions (Marker *et al.*, 2024; Kharat *et al.*, 2025) ^[7, 6]. In view of this, the present investigation was undertaken to study the genetic variability, heritability, genetic advance, correlation and path coefficient analysis for yield and its contributing traits in coriander genotypes.

2. Methods and Materials

The experiment entitled “Assessment of Genetic Variability, Correlation and Path Coefficient Analysis in Coriander (*Coriandrum sativum* L.)” was conducted during the Rabi season of 2025–26. A total of 25 coriander genotypes were evaluated under field conditions using a suitable experimental design with three replications. Observations were recorded for nine quantitative traits, namely days to 50 per cent flowering, plant height, primary branches per plant, secondary branches per plant, days to maturity, number of umbels per plant, number of seeds per umbel, 100-seed weight and seed yield per plant.

Analysis of variance was performed to determine the significance of differences among genotypes. Genetic variability was assessed using genotypic coefficient of variation (GCV), phenotypic coefficient of variation (PCV), broad-sense heritability, genetic advance and genetic advance as per cent of mean. Genotypic and phenotypic correlation coefficients were estimated to determine the association among different traits and seed yield. Path coefficient analysis was subsequently carried out to partition the correlation coefficients into direct and indirect effects of component characters on seed yield. The statistical analyses were used to identify important traits that could serve as effective selection criteria for improving seed yield in coriander.

3. Results and Discussion

3.1 Genetic Variability

3.1.1 Analysis of Variance

The analysis of variance revealed highly significant differences among the 25 coriander genotypes for all the growth and yield characters studied during Rabi 2025–26. For growth characters, genotype mean squares were highly significant for days to 50 per cent flowering, plant height, primary branches per plant, secondary branches per plant and days to maturity. Similarly, significant differences were observed for number of umbels per plant, number of seeds per umbel, 100-seed weight and seed yield per plant. The comparatively low error variance indicated good experimental precision and reliable estimation of genotypic differences.

The significant variation among genotypes indicates the existence of adequate genetic diversity for growth, phenological and yield attributes in the evaluated material. Such variability provides an opportunity for identification and selection of superior genotypes for coriander improvement. The findings are in agreement with Choudhary *et al.* (2021) ^[3], who reported significant genetic variation among coriander genotypes for several yield and yield-

contributing characters. Similar genetic variability has also been reported by Didal *et al.* (2021) ^[4] and Chandrakala *et al.* (2024) ^[2].

3.1.2 Mean Performance of Genotypes

Considerable variation was observed among the 25 coriander genotypes for all the characters studied. Days to 50 per cent flowering ranged from 43.07 days in UD-630 to 56.40 days in Gujarat Coriander-2, with a mean of 50.43 days. UD-630, RCr-436 and UD-707 were among the earliest flowering genotypes. Plant height varied from 43.00 cm in UD-42 to 61.43 cm in UD-796, indicating substantial variation for vegetative growth.

Primary branches per plant ranged from 4.07 to 7.00, while secondary branches ranged from 10.60 to 17.20. Jaipur Local-1 recorded the maximum number of primary and secondary branches (7.00 and 17.20, respectively). The number of umbels per plant varied from 10.80 to 16.57, with Jaipur Local-1 recording the maximum value. Number of seeds per umbel ranged from 35.70 to 50.27, while 100-seed weight varied from 0.89 to 1.52 g.

Seed yield per plant showed considerable variability, ranging from 4.08 g in Gujarat Coriander-2 to 8.79 g in RCr-446. Higher seed yield was also recorded in RCr-435 (8.38 g), UD-630 (7.74 g), UD-36 (7.04 g) and RCr-436 (7.02 g). The superior yield performance of these genotypes may be associated with their favourable expression of branching, seed number, seed weight and other yield-contributing attributes.

The wide range observed for different traits indicates substantial phenotypic diversity among the genotypes. Similar variability for plant height, branching, umbels per plant, seeds per umbel and seed yield has been reported in coriander by Singh *et al.* (2006) ^[10], Choudhary *et al.* (2021) ^[3] and Kharat *et al.* (2025) ^[6]. Such variation is useful for selecting genotypes possessing desirable combinations of yield components.

3.1.3 Genetic Variability Parameters

The GCV values were slightly lower than the corresponding PCV values for all characters, indicating that environmental influence was relatively small for most traits and that a considerable proportion of the observed variation was genetic. The highest GCV and PCV were recorded for primary branches per plant (14.40 and 15.25%), followed by secondary branches per plant (13.67 and 14.98%) and number of umbels per plant (11.67 and 12.57%). The lowest GCV was recorded for days to maturity (3.28%), followed by seed yield per plant (3.79%).

The relatively narrow differences between GCV and PCV for most traits suggest that environmental effects did not greatly mask the genetic variation. Therefore, selection based on these traits may be comparatively effective. Similar observations of higher PCV than GCV with relatively small differences between the two estimates have been reported in coriander by Choudhary *et al.* (2021) ^[3] and Didal *et al.* (2021) ^[4].

Broad-sense heritability ranged from 30 to 89%. The highest heritability was observed for primary branches per plant (89%), followed by number of umbels per plant (86%), secondary branches per plant (83%), number of seeds per umbel (81%), 100-seed weight (72%), days to 50 per cent flowering (69%) and plant height (65%). Low heritability was recorded for days to maturity and seed yield per plant (30%).

High heritability indicates that a greater proportion of the observed variation in these traits was genetically controlled. Particularly, the high heritability of branching and umbel-related traits suggests that these characters can be effectively exploited through selection. Similar findings have been reported by Singh

et al. (2006) ^[10] and Chandrakala *et al.* (2024) ^[2].

Genetic advance as percentage of mean ranged from 10.68 to 30.27%. The highest value was recorded for seed yield per plant (30.27%), followed by 100-seed weight (28.14%), number of seeds per umbel (26.81%) and number of umbels per plant (22.30%). High heritability coupled with comparatively high genetic advance was observed for number of umbels per plant, number of seeds per umbel, 100-seed weight and primary branches per plant. This combination suggests a substantial contribution of additive genetic effects and indicates good prospects for improvement through direct selection.

These findings are consistent with earlier reports in coriander, where high heritability along with high genetic advance was observed for several yield-contributing traits (Choudhary *et al.*, 2021; Didal *et al.*, 2021) ^[3, 4]. Therefore, primary branches, umbels per plant, seeds per umbel and 100-seed weight may be considered important selection criteria in coriander improvement.

3.2 Correlation Coefficient Analysis

Genotypic and phenotypic correlation coefficients were estimated among nine quantitative traits. In general, genotypic correlations were slightly higher than the corresponding phenotypic correlations, indicating that the observed associations were predominantly genetic and that environmental effects had relatively limited influence.

Plant height exhibited highly significant positive correlations with primary branches per plant (0.7129), secondary branches per plant (0.7326), number of umbels per plant (0.5245), number of seeds per umbel (0.5655) and seed yield per plant (0.6138) at the genotypic level. Similar positive associations were observed at the phenotypic level. These results indicate that taller plants tended to produce more branches, umbels and seeds, ultimately contributing to greater seed yield.

Primary and secondary branches showed strong positive relationships with several yield components. Secondary branches were highly positively correlated with primary branches (0.9811), number of umbels per plant (0.8700), number of seeds per umbel (0.5634) and seed yield per plant (0.6210) at the genotypic level. This suggests that increased branching may enhance the production of reproductive structures and consequently improve seed yield.

Number of umbels per plant showed a significant positive correlation with seed yield per plant (0.3640 at the genotypic level and 0.3507 at the phenotypic level). Number of seeds per umbel also showed a highly significant positive association with seed yield (0.6190 and 0.6137 at genotypic and phenotypic levels, respectively).

Similarly, 100-seed weight showed a highly significant positive correlation with seed yield per plant (0.6244 at the genotypic level and 0.6175 at the phenotypic level). Overall, seed yield showed strong positive relationships with primary branches, secondary

branches, number of seeds per umbel, 100-seed weight and plant height.

The positive association of these traits with seed yield suggests that indirect selection through branching, seed number and seed weight may be useful for improving coriander productivity. These results are in accordance with Ram *et al.* (2017) ^[8], Choudhary *et al.* (2021) ^[3] and Kajla *et al.* (2022) ^[5], who reported positive associations between coriander seed yield and its important yield-contributing traits.

3.3 Path Coefficient Analysis

Path coefficient analysis was used to determine the direct and indirect contribution of different traits towards seed yield. At the phenotypic level, 100-seed weight showed the highest positive direct effect on seed yield (0.3540), followed by number of seeds per umbel (0.3218), days to 50 per cent flowering (0.2796), secondary branches per plant (0.2367), primary branches per plant (0.2257) and plant height (0.1667). In contrast, days to maturity exerted a strong negative direct effect (-0.6043), while number of umbels per plant showed a negligible negative direct effect (-0.0039).

The high positive direct effect of 100-seed weight, together with its significant positive correlation with seed yield, indicates that it is an important selection criterion for improving coriander yield. Likewise, the positive direct effect of seeds per umbel and branching traits demonstrates their contribution to yield formation. These results suggest that simultaneous selection for higher seed weight, more seeds per umbel and better branching could enhance seed yield.

Plant height also showed positive indirect effects mainly through primary branches, seeds per umbel and 100-seed weight. Primary branches exhibited positive indirect effects through secondary branches, seeds per umbel and umbels per plant. Similarly, secondary branches contributed positively through primary branches, seeds per umbel and umbels per plant.

Days to maturity showed a contrasting pattern. Although it had positive indirect effects through flowering time, branching and number of umbels, its direct effect on seed yield was strongly negative (-0.7287 at the genotypic level and -0.6043 at the phenotypic level). This indicates that the association of maturity duration with seed yield was largely influenced by indirect effects through other traits.

The results demonstrate that correlation alone is not sufficient for determining the importance of yield components because some traits may exhibit high correlation with yield mainly because of indirect effects. Path analysis therefore provides a more reliable basis for identifying effective selection criteria. The present findings are in agreement with reports of Ram *et al.* (2017) ^[8] and Kajla *et al.* (2022) ^[5], who emphasized the importance of seed weight, seed number and branching-related traits in coriander yield improvement.

Table 1: Analysis of variance for growth parameters in coriander genotypes

Source of Variation	d.f.	Days to 50% flowering	Plant height (cm)	Number of Primary branches per plant	Number of Secondary branches per plant	Days to maturity (days)
Replication	2	14.2634	28.0637	0.0105	0.6975	16.9253
Genotypes	24	58.6661**	82.3588**	2.0630**	11.4105**	62.0819**
Error	48	7.5199	12.5133	0.0800	0.7182	27.5025

* Significant at the 5% level and ** Significant at the 1% level.

Table 2: Analysis of variance for yield parameters in coriander genotypes

Source of Variation	d.f.	Number of umbel per plant	Number of seeds per umbel	100-seed weight (g)	Seed yield per plant (g)
Replication	2	0.9123	12.2250	0.0065	0.2944
Genotypes	24	8.3312**	52.1209**	0.0445**	0.2114**
Error	48	0.4259	3.8443	0.0051	0.0926

* Significant at the 5% level and ** Significant at the 1% level.

Table 3: Mean performance of 25 coriander genotypes during *Rabi*, 2025-26

S. No.	Genotypes	Days to 50% flowering	Plant height (cm)	Primary branches per plant	Secondary branches per plant	Days to maturity (days)	Number of umbel per plant	Number of seeds per umbel	100-seed weight (g)	Seed yield per plant (g)
G ₁	UD-36	52.40	49.87	5.53	12.40	104.03	13.67	39.30	1.27	7.04
G ₂	UD-42	44.13	43.00	4.07	10.60	95.70	11.37	37.17	1.31	4.86
G ₃	UD-114	55.70	47.40	6.27	15.13	108.10	15.47	45.37	1.36	6.25
G ₄	UD-118	50.73	52.00	4.87	12.07	101.77	11.63	38.83	1.23	4.93
G ₅	UD-168	51.60	57.80	6.63	16.30	106.03	15.40	48.10	1.35	5.53
G ₆	UD-231	44.73	46.40	4.47	10.90	97.70	12.27	35.70	1.26	5.95
G ₇	UD-243	55.83	56.03	6.33	15.70	108.30	16.23	39.17	1.28	6.56
G ₈	UD-627	44.77	43.37	4.43	11.30	98.60	12.83	43.10	1.31	5.11
G ₉	UD-630	43.07	58.80	4.93	12.17	96.73	11.30	49.37	1.47	7.74
G ₁₀	UD-707	43.83	48.23	5.40	13.07	97.40	12.93	45.13	1.30	5.28
G ₁₁	UD-728	56.30	57.30	5.37	13.80	109.97	14.17	49.40	0.90	6.87
G ₁₂	UD-796	50.87	61.43	5.83	14.43	102.73	14.07	41.00	1.52	6.31
G ₁₃	UD-797	51.50	57.83	6.87	16.73	104.93	15.73	46.90	1.48	5.49
G ₁₄	RCr-20	52.60	50.60	5.23	12.40	103.63	12.13	46.83	1.52	6.48
G ₁₅	RCr-41	51.50	55.50	6.03	15.30	105.83	15.53	45.13	1.32	5.12
G ₁₆	RCr-435	52.17	54.30	6.33	15.47	107.10	15.23	46.50	1.32	8.38
G ₁₇	RCr-436	43.40	43.47	4.23	10.73	96.90	10.80	41.27	1.26	7.02
G ₁₈	RCr-446	55.97	53.13	6.40	15.77	107.80	14.90	42.03	1.31	8.79
G ₁₉	CS-2	49.20	50.33	5.53	13.50	100.83	13.17	44.30	1.28	5.27
G ₂₀	CS-43	48.37	52.73	5.67	13.87	100.17	13.93	46.27	1.32	6.35
G ₂₁	JSC-54	47.73	54.40	6.13	14.53	102.33	14.27	47.17	1.37	6.32
G ₂₂	JSC-55	49.50	55.57	6.43	14.93	103.03	15.23	48.17	1.36	5.52
G ₂₃	MG-6	55.33	55.77	6.07	14.90	108.87	13.67	48.17	1.27	6.71
G ₂₄	Gujrat Coriander-2	56.40	48.07	5.10	12.17	111.47	15.37	39.80	1.29	4.08
G ₂₅	Jaipur Local-1	53.03	58.77	7.00	17.20	105.57	16.57	50.27	1.42	4.11
Mean		50.43	52.48	5.65	13.81	103.42	13.91	44.18	1.32	6.08
SEm (±)		1.58	2.04	0.16	0.48	3.03	0.38	1.13	0.04	0.20
CD (5%)		5.50	5.81	0.46	1.39	8.61	1.07	3.22	0.12	0.53
CD (1%)		6.01	7.75	0.62	1.85	11.48	1.43	4.29	0.16	0.71
CV (%)		5.44	6.74	5.01	6.13	5.07	7.69	5.44	5.42	19.08
Range		43.07-56.96	43.00-61.43	4.07-7.00	10.60-17.20	95.70-111.47	10.80-16.57	35.70-50.27	0.89-1.52	4.08-8.79

Table 4: Estimates the genetic variability, heritability and genetic advance as per cent (%) of mean of 25 coriander genotypes

Trait	Mean	Range		GCV (%)	PCV (%)	Heritability% (BS)	Genetic Advance	GA as% of Mean
		Min.	Max.					
Days to 50% flowering	50.43	43.07	56.96	8.19	9.83	69	7.09	14.05
Plant height (cm)	52.48	43.00	61.43	9.19	11.40	65	8.02	15.27
Primary branches per plant	5.65	4.07	7.00	14.40	15.25	89	1.58	13.02
Secondary branches per plant	13.81	10.60	17.20	13.67	14.98	83	3.55	12.68
Days to maturity (days)	103.42	95.70	111.47	3.28	6.04	30	3.80	10.68
Number of umbel per plant	13.91	10.80	16.57	11.67	12.57	86	3.10	22.30
Number of seeds per umbel	44.18	35.70	50.27	9.08	10.11	81	7.42	26.81
100-seed weight (g)	1.32	0.89	1.52	8.67	10.22	72	0.20	28.14
Seed yield per plant (g)	6.08	4.08	8.79	3.79	6.92	30	0.22	30.27

Table 5: Estimates the genetic variability, heritability and genetic advance as per cent (%) of mean of 27 chickpea genotypes

Trait	DF	PH	PBPP	SBPP	DM	NUPP	NSPU	100SW	SY
DF	1	0.2401	-0.3548	-0.4133*	0.9637 **	0.6982 **	0.1613	-0.1802	0.0286
PH		1	0.7129 **	0.7326 **	0.4334 *	0.5245 **	0.5655 **	0.2160	0.6138 **
PBPP			1	0.9811 **	0.6325 **	0.8709 **	0.5544 **	0.2646	0.6408 **
SBPP				1	0.6307 **	0.8700**	0.5634 **	0.2115	0.6210 **
DM					1	-0.6542**	0.2502	-0.2104	0.0305
NUPP						1	0.3362	0.0728	0.3640
NSPU							1	0.1356	0.6190 **
100-SW								1	0.6244 **
SY									1

* and ** Significant at the 5% and 1%

DF: Days to 50% flowering, PH: Plant height (cm), PBPP: Primary branches per plant, SBPP: Secondary branches per plant, DM: Days to maturity (days), NUPP: Number of umbel per plant, NSPU: Number of seeds per umbel, 100SW: 100-seed weight (g) and SY: Seed yield per plant (g).

Table 6: Phenotypic correlation among 9 characters in 25 coriander genotypes during *Rabi* season, 2025-26

Trait	DF	PH	PBPP	SBPP	DM	NUPP	NSPU	100SW	SY
DF	1	0.4095 *	0.5995 **	0.5971 **	0.9626 **	0.6846 **	0.1604	-0.1810	0.0278
PH		1	0.7057 **	0.7309 **	0.4331 *	0.5134 **	0.5643 **	0.2141	0.6072 **
PBPP			1	0.9755 **	0.6267 **	0.8616 **	0.5499 **	0.2674	0.6315 **
SBPP				1	0.6303 **	0.8558 **	0.5617 **	0.2071	0.6156 **
DM					1	0.7493 **	0.2491	-0.2086	0.0312
NUPP						1	0.3283	0.0780	0.3507 **
NSPU							1	0.1347	0.6137 **
100-SW								1	0.6175 **
SY									1

* and ** Significant at the 5% and 1%

DF: Days to 50% flowering, PH: Plant height (cm), PBPP: Primary branches per plant, SBPP: Secondary branches per plant, DM: Days to maturity (days), NUPP: Number of umbel per plant, NSPU: Number of seeds per umbel, 100SW: 100-seed weight (g) and SY: Seed yield per plant (g).

Table 7: Genotypic path coefficient analysis showing direct and indirect effects for seed yield per plant during *Rabi*, 2025-26

Trait	DF	PH	PBPP	SBPP	DM	NUPP	NSPU	100SW	SY
DF	0.3592	0.0772	0.2357	0.0016	-0.7023	0.0628	0.0554	-0.0610	0.0286
PH	0.1476	0.1878	0.2778	0.0019	-0.3159	0.0472	0.1942	0.0731	0.6138**
PBPP	0.2173	0.1339	0.3897	0.0026	-0.4609	0.0784	0.1904	0.0896	0.6408**
SBPP	0.2147	0.1376	0.3824	0.0026	-0.4596	0.0783	0.1935	0.0716	0.6210**
DM	0.3462	0.0814	0.2465	0.0016	-0.7287	0.0688	0.0859	-0.0712	0.0305
NUPP	0.2508	0.0985	0.3394	0.0023	-0.5570	0.0899	0.1154	0.0246	0.3640
NSPU	0.0580	0.1062	0.2161	0.0015	-0.1823	0.0303	0.3434	0.0459	0.6190**
100-SW	-0.0647	0.0406	0.1031	0.0006	0.15331	0.0066	0.0465	0.3385	0.6244**

* and ** Significant at the 5% and 1%

DF: Days to 50% flowering, PH: Plant height (cm), PBPP: Primary branches per plant, SBPP: Secondary branches per plant, DM: Days to maturity (days), NUPP: Number of umbel per plant, NSPU: Number of seeds per umbel and 100SW: 100-seed weight (g).

Table 8: Phenotypic path coefficient analysis showing direct and indirect effects for seed yield per plant during *Rabi*, 2025-26

Trait	DF	PH	PBPP	SBPP	DM	NUPP	NSPU	100SW	SY
DF	0.2796	0.0683	0.1353	0.1413	-0.5817	-0.0026	0.0516	-0.0641	0.0278
PH	0.1145	0.1667	0.1593	0.1730	-0.2617	-0.0020	0.1826	0.0758	0.6072**
PBPP	0.1676	0.1176	0.2257	0.2309	-0.3787	-0.0033	0.1770	0.0947	0.6315**
SBPP	0.1670	0.1218	0.2202	0.2367	-0.3809	-0.0033	0.1808	0.0733	0.6156**
DM	0.2692	0.0722	0.1415	0.1492	-0.6043	-0.0029	0.0802	-0.0738	0.0312
NUPP	0.1915	0.0856	0.1945	0.2026	-0.4528	-0.0039	0.1057	0.0277	0.3507**
NSPU	0.0449	0.0941	0.1241	0.1330	-0.1505	-0.0013	0.3218	0.0477	0.6137**
100-SW	-0.0506	0.0357	0.0604	0.0490	0.1261	-0.0003	0.0434	0.3540	0.6175 **

* and ** Significant at the 5% and 1%

DF: Days to 50% flowering, PH: Plant height (cm), PBPP: Primary branches per plant, SBPP: Secondary branches per plant, DM: Days to maturity (days), NUPP: Number of umbel per plant, NSPU: Number of seeds per umbel and 100SW: 100-seed weight (g).

4. Conclusion

The present investigation demonstrated substantial genetic variability among the 25 coriander genotypes. High heritability and genetic advance were observed for primary branches, number of umbels, seeds per umbel and 100-seed weight, indicating good prospects for selection. Correlation analysis revealed strong positive associations of seed yield with branching traits, plant height, seeds per umbel and 100-seed weight. Path analysis further established 100-seed weight and number of seeds per umbel as important traits because of their high positive direct effects on seed yield. Therefore, these traits, particularly 100-seed weight, seeds per umbel, primary branches and secondary branches, may be effectively used as selection criteria for developing high-yielding coriander genotypes.

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