

**Table 1** Estimation of genotypic and phenotypic correlation coefficients for different characters of Dolichos bean

Sr. No	Characters		Days to First Flowering	Days to 50 per cent Flowering	Days to First Harvest	Length of Inflorescence (cm)	Number of Flowers Inflorescence <sup>-1</sup>	Number of pods Inflorescence <sup>-1</sup>	Number of pods vine <sup>-1</sup>	Pod Setting (%)	Pod Length (cm)	Pod Width (cm)	Number of Grains Pod <sup>-1</sup>	Average Weight of 10 pods (g)	Green pod Yield plot <sup>-1</sup> (kg)
1	Days to first flowering	P	1	0.934 <sup>↓↓</sup>	0.888 <sup>↓↓</sup>	-0.220 <sup>↓</sup>	-0.137	-0.125	-0.219 <sup>↓</sup>	0.034	-0.071	-0.015	0.132	0.046	-0.221 <sup>↓</sup>
		G	1	0.943 <sup>↓↓</sup>	0.921 <sup>↓↓</sup>	-0.225 <sup>↓</sup>	-0.146	-0.123	-0.250 <sup>↓</sup>	0.089	-0.794 <sup>↓↓</sup>	-0.013	0.15	0.047	-0.239 <sup>↓</sup>
2	Days to 50 % flowering	P	1	0.948 <sup>↓↓</sup>	0.948 <sup>↓↓</sup>	-0.158	-0.115	-0.115	-0.279 <sup>↓↓</sup>	0.009	0.04	0.035	0.155	0.137	-0.246 <sup>↓</sup>
		G	1	0.978 <sup>↓↓</sup>	0.978 <sup>↓↓</sup>	-0.161	-0.13	-0.111	-0.319 <sup>↓↓</sup>	0.083	0.024	0.037	0.189	0.14	-0.269 <sup>↓↓</sup>
3	Days to first harvest	P			1	-0.148	-0.092	-0.11	-0.262 <sup>↓↓</sup>	-0.035	0.009	-0.009	0.138	0.104	-0.283 <sup>↓↓</sup>
		G			1	-0.149	-0.113	-0.108	-0.299 <sup>↓↓</sup>	0.052	-0.001	0.007	0.181	0.106	-0.312 <sup>↓↓</sup>
4	Length of inflorescence (cm)	P				1	0.683 <sup>↓↓</sup>	0.537 <sup>↓↓</sup>	0.217 <sup>↓</sup>	-0.375 <sup>↓↓</sup>	-0.018	-0.307 <sup>↓↓</sup>	0.177	-0.207 <sup>↓</sup>	-0.02
		G				1	0.697 <sup>↓↓</sup>	0.562 <sup>↓↓</sup>	0.253 <sup>↓</sup>	0.521 <sup>↓↓</sup>	-0.021	-0.313 <sup>↓↓</sup>	0.193	-0.218 <sup>↓</sup>	-0.02
5	Number of flowers inflorescence <sup>-1</sup>	P					1	0.819 <sup>↓↓</sup>	0.217 <sup>↓</sup>	-0.511 <sup>↓↓</sup>	-0.13	-0.313 <sup>↓↓</sup>	-0.035	-0.268 <sup>↓↓</sup>	-0.052
		G					1	0.873 <sup>↓↓</sup>	0.229 <sup>↓</sup>	-0.614 <sup>↓↓</sup>	-0.141	-0.319 <sup>↓↓</sup>	-0.036	-0.276 <sup>↓↓</sup>	-0.063

6	Number of pods inflorescence <sup>-1</sup>	P	1	0.263 <sup>↓↓</sup>	0.03	-0.213 <sup>↓</sup>	-	-0.189	-	-0.066
							0.322 <sup>↓↓</sup>		0.341 <sup>↓↓</sup>	
		G	1	0.309 <sup>↓↓</sup>	-0.142	-0.238 <sup>↓</sup>	-	-0.235 <sup>↓</sup>	-	-0.072
							0.353 <sup>↓↓</sup>		0.360 <sup>↓↓</sup>	
7	Number of pods vine <sup>-1</sup>	P	1	-2.34 <sup>↓↓</sup>	-	-	-	-	-	0.575 <sup>↓↓</sup>
						109.68 <sup>↓↓</sup>	13.90 <sup>↓↓</sup>	22.63 <sup>↓↓</sup>	2138.22 <sup>↓↓</sup>	
		G	1	20.94 <sup>↓↓</sup>	-	-	-	-	-	0.556 <sup>↓↓</sup>
					113.79 <sup>↓↓</sup>	14.11 <sup>↓↓</sup>	24.89 <sup>↓↓</sup>	2063.02 <sup>↓↓</sup>		
8	Pod setting (%)	P	1		-0.097	0.063	-0.216 <sup>↓</sup>	-	0.036	0.008
		G	1		0.114	0.061	-0.035	-	0.037	0.043
9	Pod length (cm)	P	1			0.287 <sup>↓↓</sup>	0.449 <sup>↓↓</sup>	0.810 <sup>↓↓</sup>	0.455 <sup>↓↓</sup>	
		G	1			0.296 <sup>↓↓</sup>	0.490 <sup>↓↓</sup>	0.836 <sup>↓↓</sup>	0.469 <sup>↓↓</sup>	
10	Pod width (cm)	P	1			1	0.061	0.550 <sup>↓↓</sup>	0.325 <sup>↓↓</sup>	
		G	1			1	0.059	0.562 <sup>↓↓</sup>	0.336 <sup>↓↓</sup>	
11	Number of grains pod <sup>-1</sup>	P	1					1	0.506 <sup>↓↓</sup>	0.191
		G	1					1	0.549 <sup>↓↓</sup>	0.192
12	Average weight of 10 pods (g)	P	1						1	0.324 <sup>↓↓</sup>
		G	1						1	0.342 <sup>↓↓</sup>
13	Green pod yield plot <sup>-1</sup> (kg)	P	1							1
		G	1							1

G, genotypic correlation coefficient; P, phenotypic correlation coefficient; \*, \*\*Indicates significant at 5 % and 1 % level of significance

**Table 2** Direct (diagonal) and indirect (above and below diagonal) path effects of different characters towards yield in Dolichos bean

Sr. No.	Characters	Days to first flowering	Days to 50 per cent Flowering	Days to First Harvest	Length of Inflorescence (cm)	Number of Flowers Inflorescence <sup>-1</sup>	Number of pods Inflorescence <sup>-1</sup>	Number of pods vine <sup>-1</sup>	Pod Setting (%)	Pod Length (cm)	Pod Width (cm)	Number of Grains pod <sup>-1</sup>	Average Weight of 10 pods (g)	Genotypic Correlation with Green pod Yield plot <sup>-1</sup>
1	Days to first flowering	0.075	0.071	-0.882	0.053	0.236	-0.163	-0.245	-	-	-	0.027	0.026	-0.239*
2	Days to 50 % flowering	0.071	0.762	-0.937	0.038	0.21	-0.147	-0.311	-	0.002	0.648	0.034	0.076	-0.269**
3	Days to first harvest	0.069	0.746	-0.958	0.035	0.183	-0.142	-0.292	-	0.000	0.00	0.033	0.058	-0.312**
4	Length of inflorescence	-0.016	-0.123	0.142	-0.236	-1.12	0.743	0.247	0.446	-	-0.03	0.035	-0.119	-0.02
5	Number of flowers inflorescence <sup>-1</sup>	-0.011	-0.099	0.109	-0.164	-1.610	1.15	0.226	0.525	-	-	-0.006	-0.151	-0.063
6	Number of pods inflorescence <sup>-1</sup>	-0.009	-0.085	0.103	-0.132	-1.400	1.320	0.302	0.121	-	-	-0.051	-0.197	-0.072
7	Number of pods vine <sup>-1</sup>	-0.018	-0.243	0.286	-0.059	-0.369	0.408	0.977	-	-	-	-0.064	-0.277	0.556**
8	Pod setting (%)	0.006	0.063	-0.05	0.123	0.990	-0.187	0.049	-	-	0.00	-0.064	-0.020	0.043
9	Pod length (cm)	-0.006	-0.018	0.001	0.005	0.228	-0.314	-0.245	0.856	0.014	0.05	0.09	0.457	0.469**
10	Pod width (cm)	-0.001	0.028	0.007	0.073	0.515	-0.467	-0.168	-	0.036	0.04	0.012	0.307	0.336**

11	Number of grains pod <sup>-1</sup>	0.011	0.144	-0.173	-0.045	0.059	-0.31	-0.341	0.3	0.059	0.00	0.184	0.300	0.192
12	Average weight of 10 pods (g)	0.003	0.106	-0.102	0.051	0.445	-0.476	-0.496	0.031	0.102	0.03	0.101	0.547	0.342**

\*, \*\* indicates significant at 5 and 1 per cent level of significant respectively; Residual effect: 0.332, underlined figure indicate direct effect