

Supplementary Table 1 List of the long-day garlic genotypes along with their salient morphological features

Genotype	Pseudostem length	Foliage type	Leaf length	Leaf width	Leaf colour	Leaf waxiness	Bulb colour	Bulb Shape	Clove colour
KTGRL-1	Long	Semi-erect	Long	Medium	Dark green	Medium	Purplish white	Transverse broad elliptic	Brown
KTGRL-2	Long	Semi-erect	Medium	Broad	Dark green	Weak	Purplish white	Transverse narrow elliptic	Pinkish Brown
KTGRL-3	Long	Semi-erect	Medium	Medium	Medium green	Medium	Purplish white	Transverse broad elliptic	Purplish White
KTGRL-4	Long	Semi-erect	Medium	Broad	Medium green	Medium	Purplish white	Transverse broad elliptic	Purplish white
KTGRL-5	Long	Semi-erect	Medium	Medium	Light green	Weak	Purplish white	Transverse broad elliptic	Pink
KTGRL-6	Long	Semi-erect	Medium	Medium	Light green	Weak	Purplish white	Transverse broad elliptic	Brown
Agrifound Parvati (Check)	Long	Semi-erect	Medium	Medium	Medium green	Medium	Purplish white	Transverse broad elliptic	Light purple

Supplementary Table 2 Estimates of direct and indirect effects of different traits on bulb yield per hectare at genotypic levels in long day garlic in pooled years

Traits	PH	NLPP	LL	LW	NT	BPD	BED	NCPB	CL	CW	ACW	ABW	r
PH	0.013	0.000	0.038	-0.005	0.001	0.014	-0.012	0.020	-0.006	0.024	-0.005	0.839	0.919
NLPP	0.003	0.000	0.006	0.004	-0.004	0.033	-0.004	-0.010	-0.015	-0.013	0.005	0.159	0.166
LL	0.012	0.000	0.039	-0.002	0.000	0.028	-0.014	0.007	-0.011	0.018	-0.003	0.876	0.951
LW	0.009	0.000	0.014	-0.007	0.000	-0.018	-0.006	0.039	0.012	0.016	-0.005	0.428	0.482
NT	-0.002	0.000	-0.001	0.000	-0.007	0.004	-0.002	0.038	-0.022	0.003	-0.001	0.171	0.182
BPD	0.004	0.000	0.025	0.003	-0.001	0.044	-0.007	-0.029	-0.017	-0.009	0.005	0.375	0.393
BED	0.010	0.000	0.034	-0.002	-0.001	0.018	-0.016	0.027	-0.001	0.022	-0.004	0.926	1.013
NCPB	0.004	0.000	0.005	-0.005	-0.004	-0.022	-0.008	0.058	-0.007	0.028	-0.009	0.417	0.459
CL	0.002	0.000	0.013	0.003	-0.004	0.023	0.000	0.011	-0.034	0.007	-0.001	0.315	0.334
CW	0.009	0.000	0.020	-0.003	-0.001	-0.012	-0.010	0.046	-0.007	0.035	-0.010	0.641	0.710
ACW	0.007	0.000	0.012	-0.004	-0.001	-0.022	-0.007	0.052	-0.004	0.035	-0.010	0.548	0.606
ABW	0.012	0.000	0.037	-0.003	-0.001	0.018	-0.016	0.026	-0.012	0.025	-0.006	0.920	1.000

Residual effect at genotypic level = -0.00098; \*Significant at  $p \leq 0.05$ ; bold values indicate direct effects; r, correlation coefficient with bulb yield/hectare. PH, Plant height (cm), NLPP, Number of leaves/plant; LL, Leaf length (cm); LW, Leaf width (cm); NT, Neck thickness (cm); BPD, Bulb polar diameter (cm); BED, Bulb equatorial diameter (cm); NCPB, Number of cloves/bulb; CL, Clove length (cm); CW, Clove width (cm); ACW, Average clove weight (g); ABW, Average bulb weight (g); BYPH.