

**Table S1.** Variance analysis of leaf source characteristics of spring maize under different cultivation patterns (F value)

Treatment	LAI		Pn		LAD	
	R1	R6	R1	R6	VE-R1	R1-R6
ANOVA Year(Y)	9.98**	33.43***	175.32***	37.21***	16.47**	21.17***
Planting (P)	ns	56.87***	10.12**	ns	ns	12.71**
N depth (D)	ns	39.69***	12.12**	11.89**	ns	ns
P×D	ns	7.49*	ns	ns	ns	ns
Y×P×D	ns	ns	ns	ns	ns	ns

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . NS, no significance. LAI = leaf area index; Pn = net photosynthetic rate; LAD = leaf area duration. VE = emergence; R1 = silking; R6 = maturity.