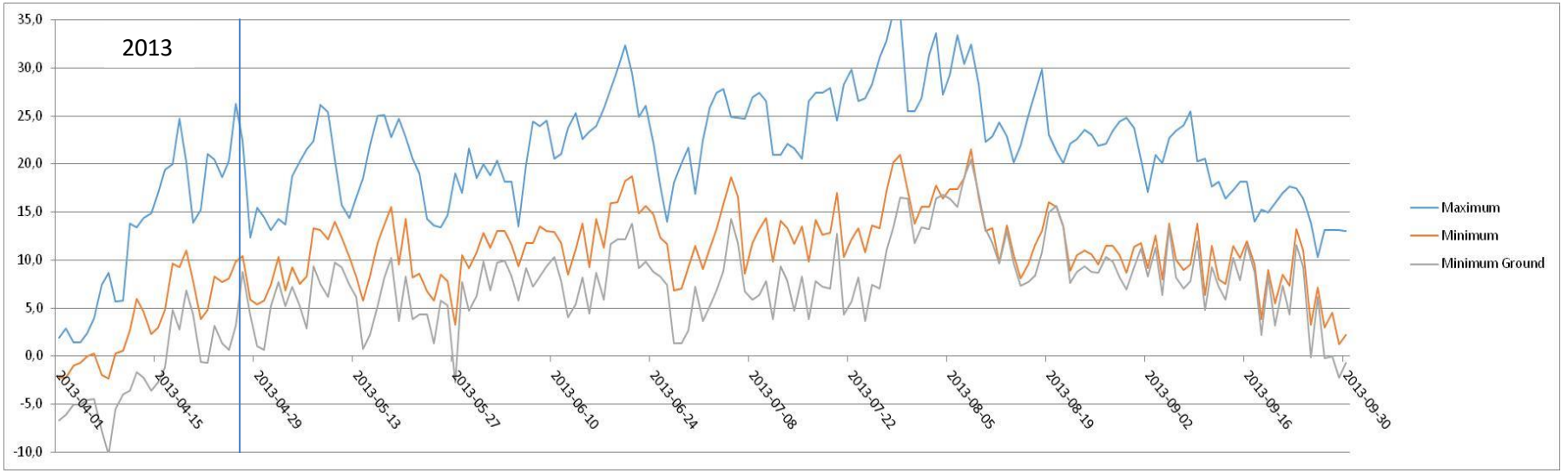
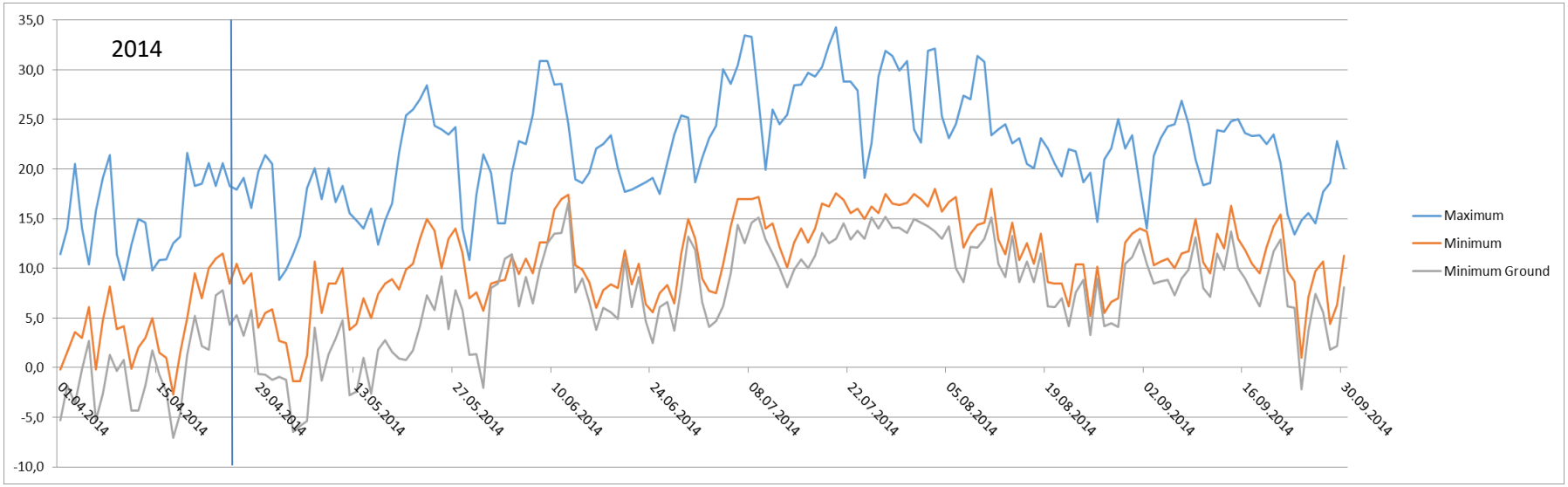
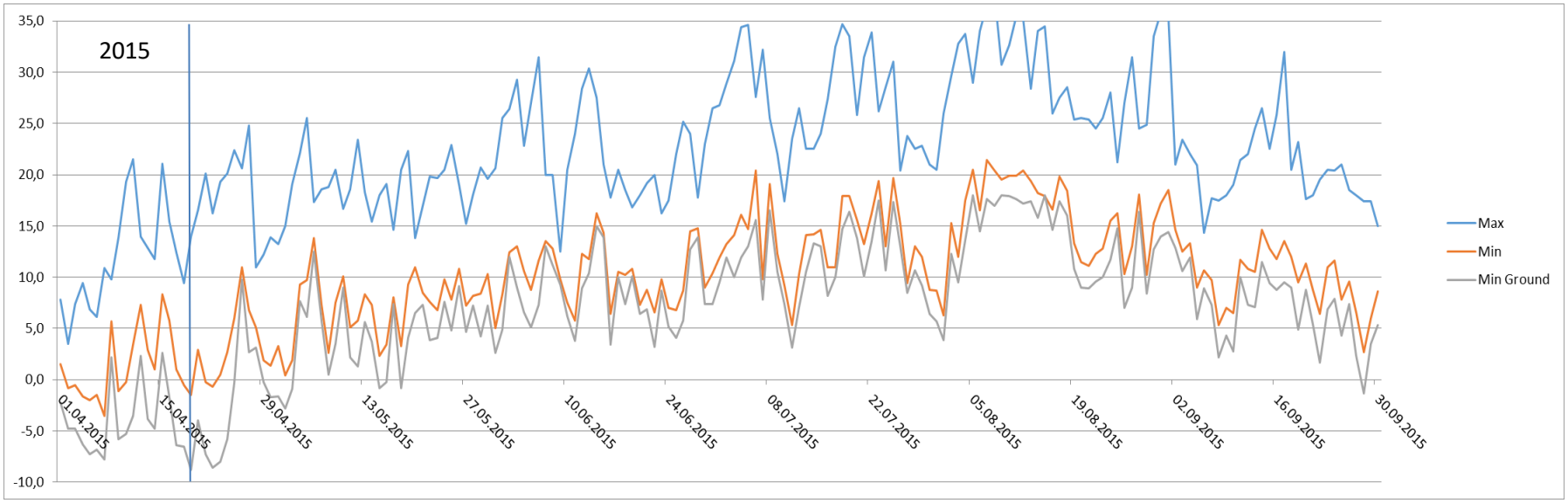
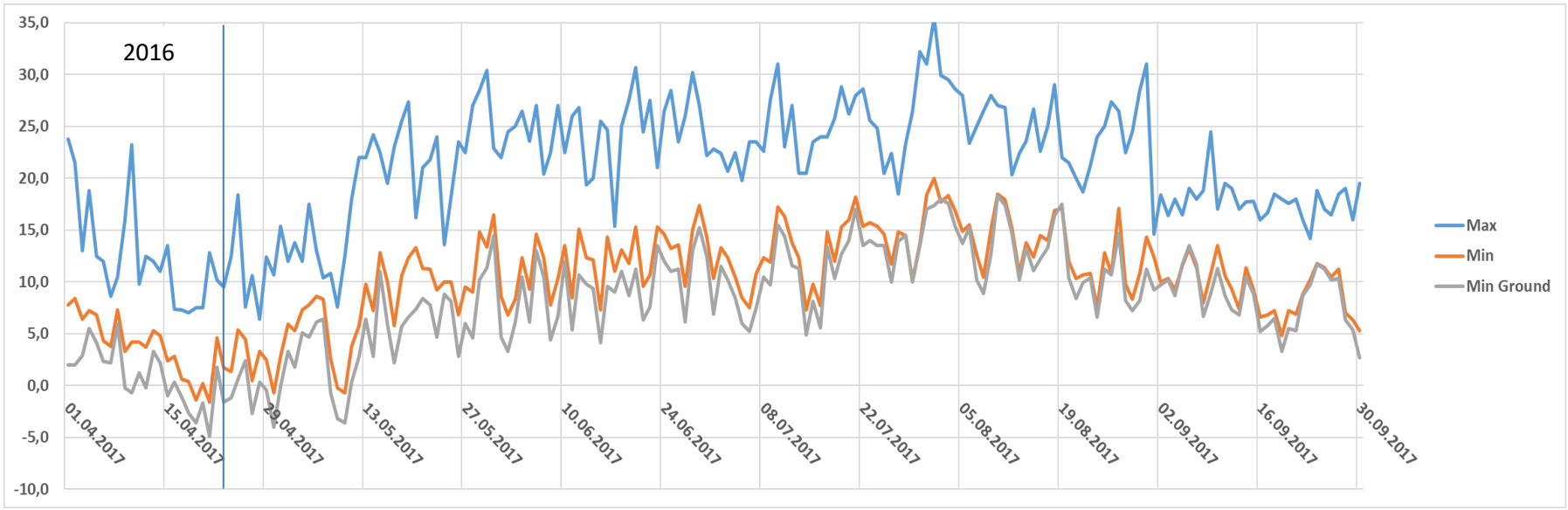
Fig. S1. Early vigor of seven locally-developed maize inbred lines, maximum and minimum air temperatures, and minimum temperatures near ground [ºC] at Smolice (West Poland) station during April – September of 2013 – 2017. The three lines used in the correlation study are in italics. Sowing date is marked by vertical line. n.d. – no data available.

Temperature data	Line - early vigor
	S84854 - 9 S68911 - 8 S50676 - 9 S160 – 6 *S61328 - 9* *S03198 n.d.* *S018693 n.d.*
	S84854 - 8 S68911 - 8 S50676 - 9 S160 – 5 *S61328 - 9* *S03198 n.d.* *S018693 n.d.*



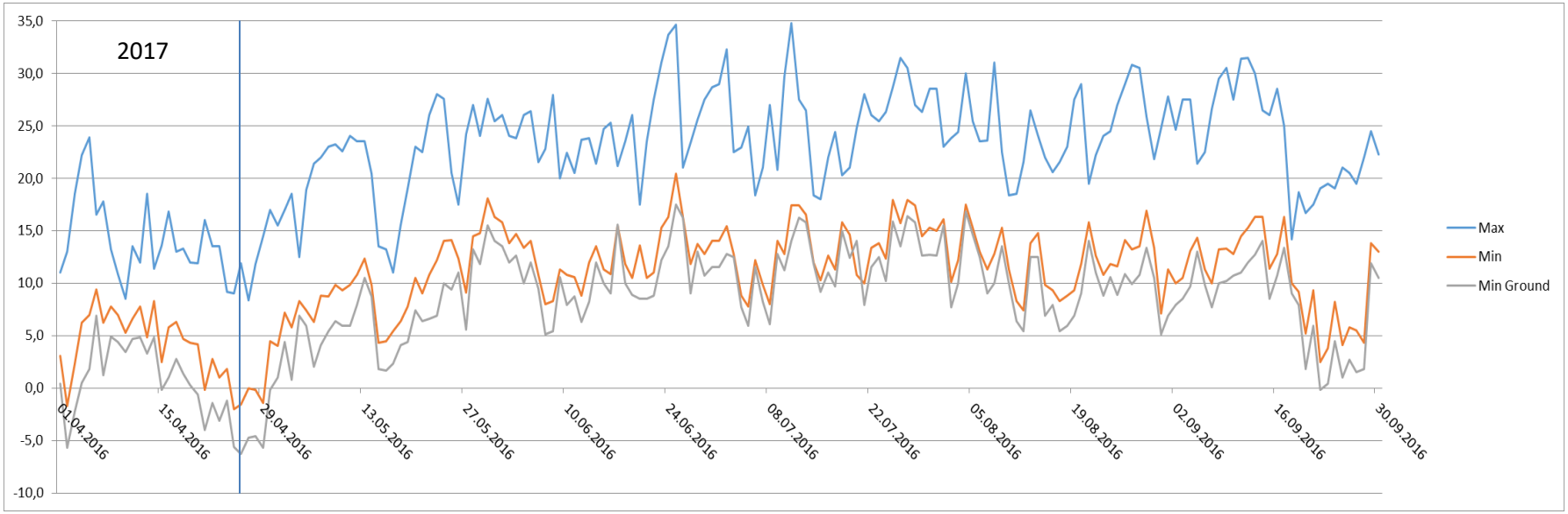
S84854 - 9
S68911 - 9
S50676 - 8
S160 – 6

S61328 - 9
S03198 - 8
S018693 - 9



S84854 - 9
S68911 - 8
S50676 – 8
S160 - 5

S61328 - 8
S03198 - 8
S018693 - 7



S84854 - 8
S68911 - 8
S50676 - 8
S160 – 4

S61328 - 8
S3198 - 8
S018693 - 8

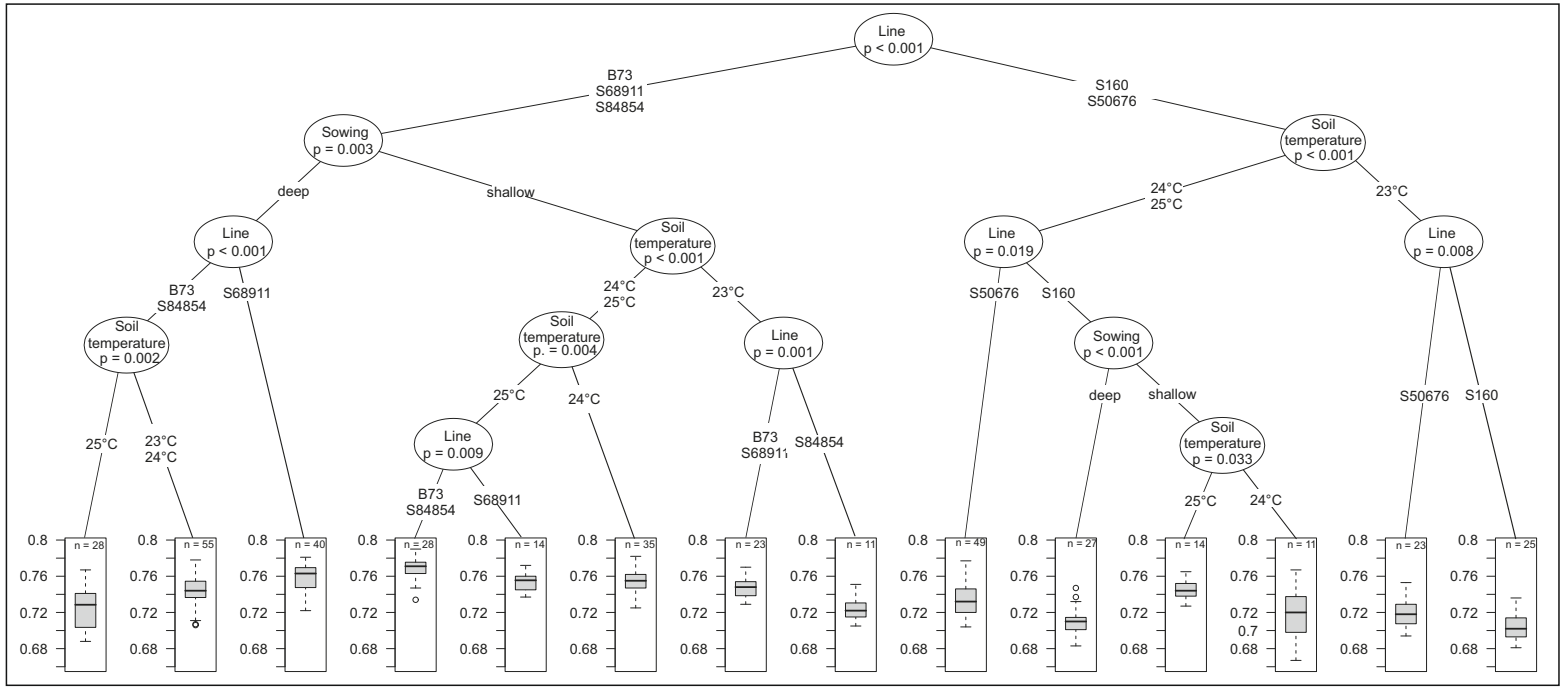


Fig. S2. Effect of sowing depth on efficiency of electron transport in photosystem II of maize seedlings at V1 stage grown at optimal temperatures. Kernels were sown at different soil depths (0.5 or 4 cm) and grown at soil temperatures of 23, 24 or 25°C. Air thermoperiod was 24/22°C. Fv/Fm was determined in the first leaf. Two independent experiments, each with 6 - 9 plants per experimental variant, were run. Data were processed and are presented as described for Fig. 2 (main text).

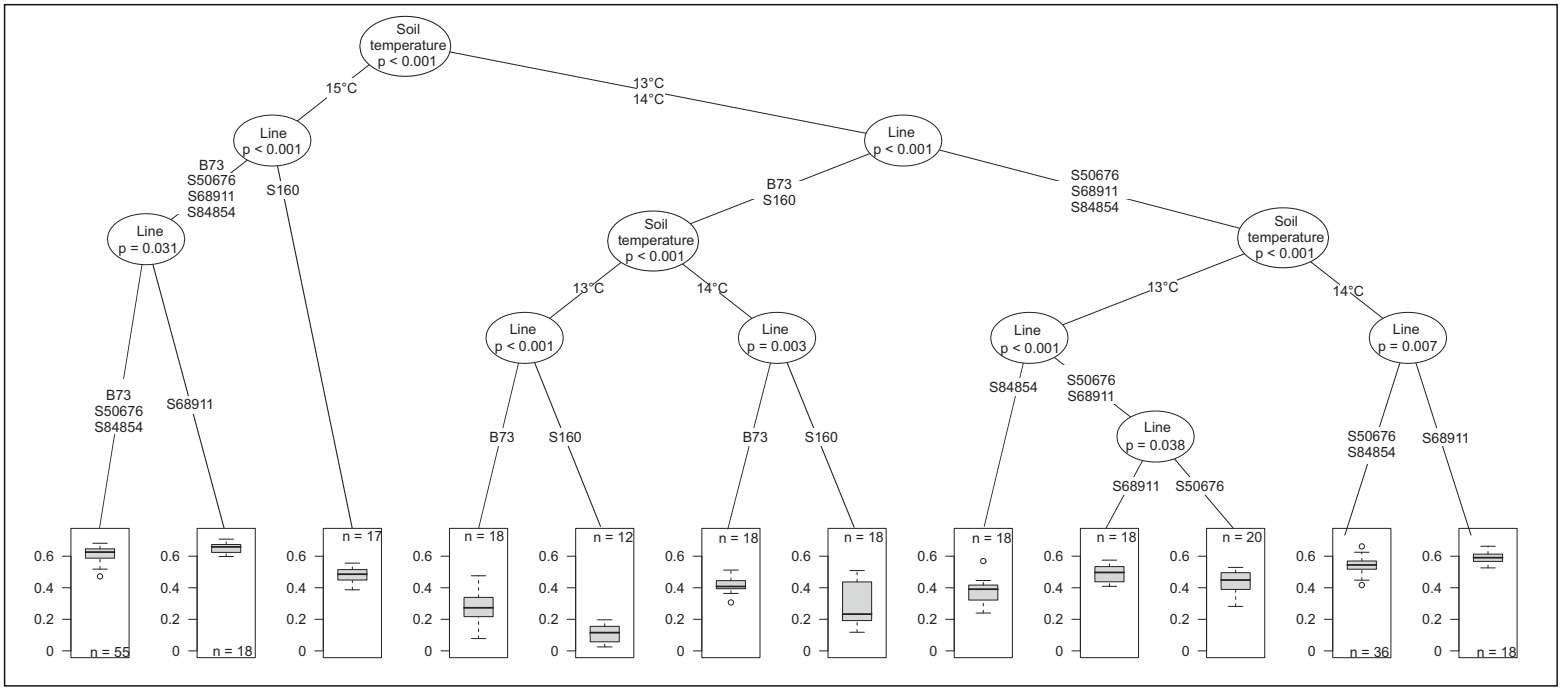


Fig. S3. Effect of sowing depth on efficiency of electron transport in photosystem II of maize seedlings at V1 stage grown at low temperatures. Kernels were sown at different soil depth (0.5 or 4 cm) and grown at soil temperatures of 13, 14 or 15°C. Air thermoperiod was 14/12°C. Fv/Fm was determined in the first leaf. Two independent experiments, each with 6 - 9 plants per experimental variant, were run. Data were processed and are presented as described for Fig. 2 (main text).

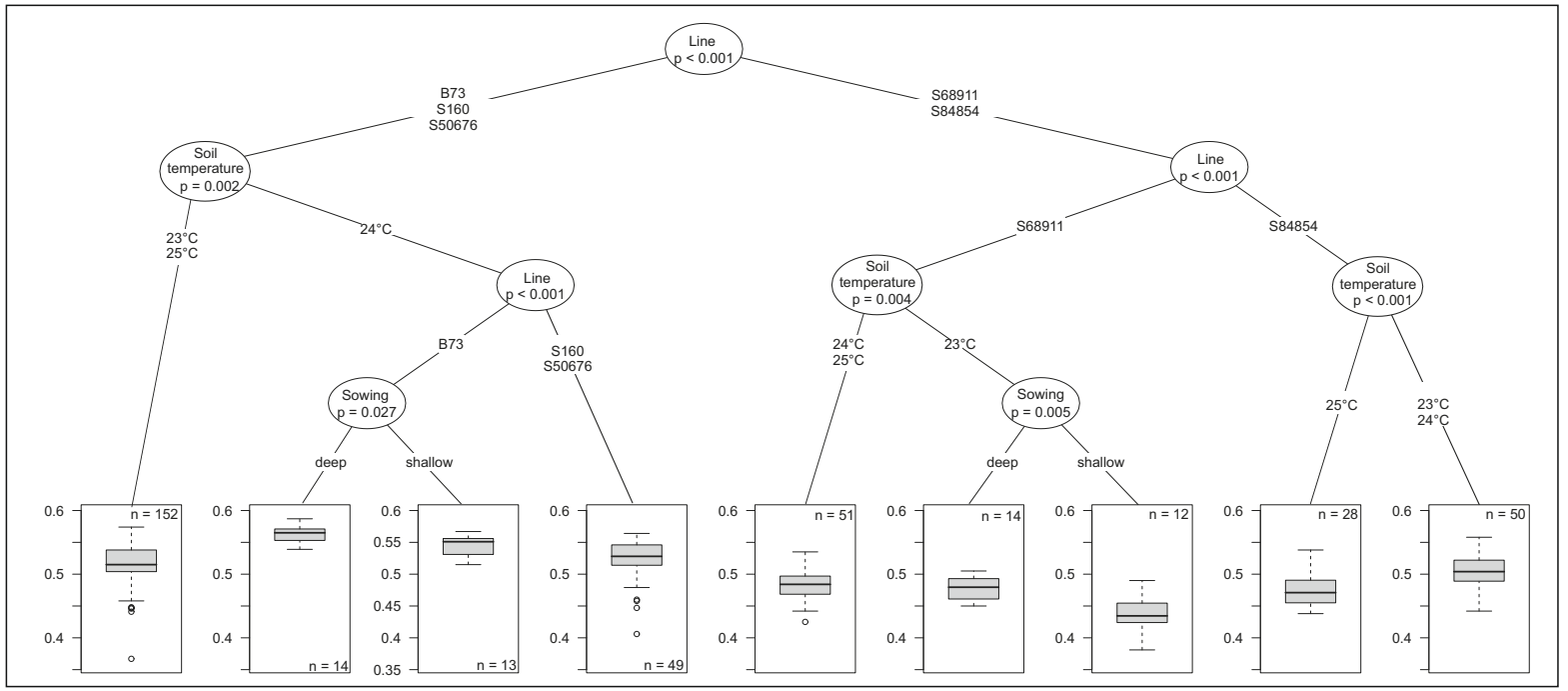


Fig. S4. Effect of sowing depth on effective efficiency of electron transport in photosystem II of maize seedlings at V1 stage grown at optimal temperatures. Kernels were sown at different soil depth (0.5 or 4 cm) and grown at soil temperatures of 23, 24 or 25°C. Air thermoperiod was 24/22°C. ΦPSII was determined in the first leaf. Two independent experiments, each with 6 - 9 plants per experimental variant, were run. Data were processed and are presented as described for Fig. 2 (main text).

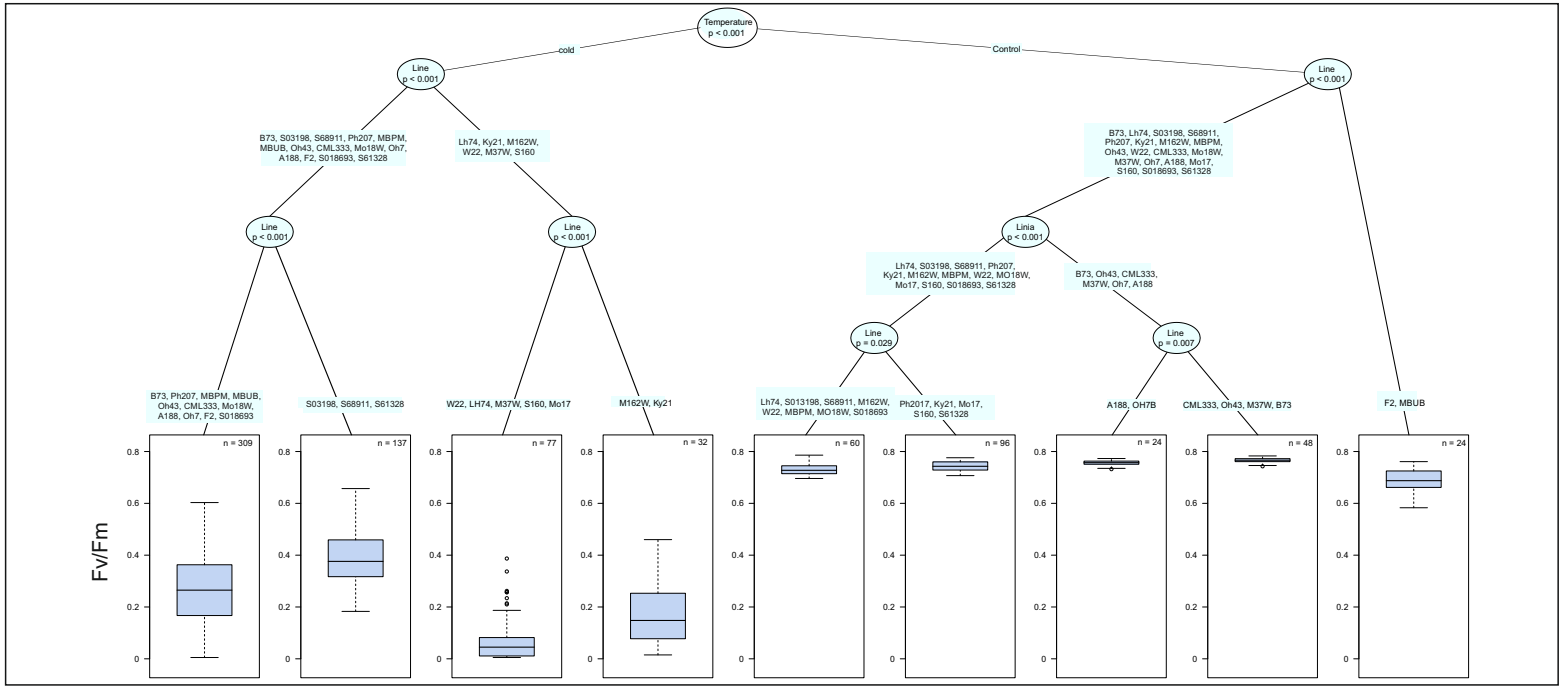


Fig. S5. Maximal quantum yield of electron transport in photosystem II of maize seedlings from extended set of inbred lines at V1 stage. Seedlings were grown at 24°C/22°C (control) or 14°C/10°C (cold) until full development of first leaf and Fv/Fm was determined. Three independent experiments for control and four for cold-treatment, each with 4 - 6 plants per experimental variant, were run. Number of plants actually measured for each parameter (n) is shown. Data were processed and are presented as described for Fig. 2 (main text).

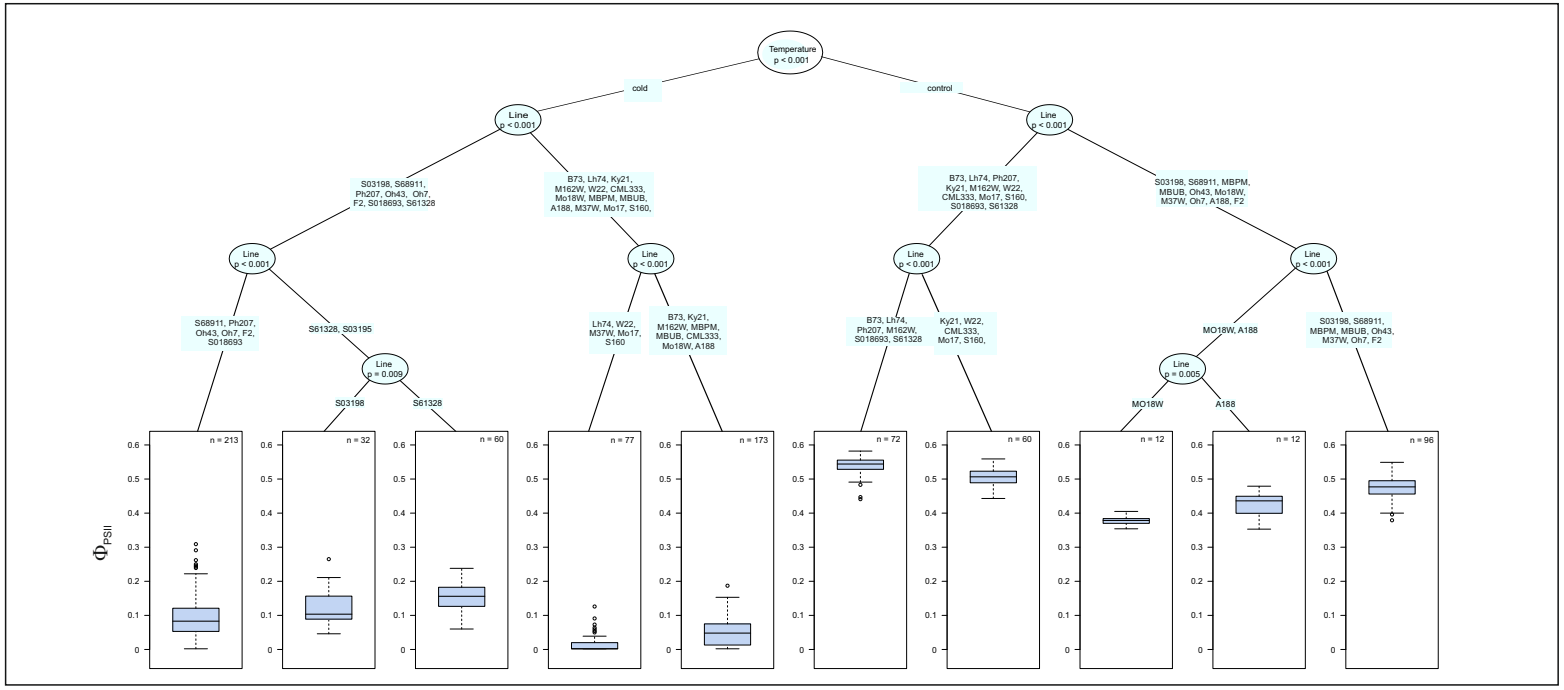


Fig. S6. Effective quantum yield of electron transport in photosystem II of maize seedlings at V1 stage. Seedlings were grown at 24°C/22°C (control) or 14°C/10°C (cold) until full development of first leaf and ?PSII was determined. Three independent experiments for control and four for cold-treatment, each with 4 - 6 plants per experimental variant, were run. Number of plants actually measured for each parameter (n) is shown. Data were processed and are presented as described for Fig. 2 (main text).