

Table S4. Analysis of variance ANOVA for chlorophyll fluorescence at subflag leaf stage (BBCH 35) and heading stage (BBCH 57) of barley genotypes (*H. vulgare* var. *nigricans*, *H. vulgare* var. *rimpai*, and *H. vulgare*), growing in 2021 and 2022.

Trait	Statistical parameter	Subflag leaf stage			Flag leaf stage		
		Year (Y)	Genotype (G)	Y x G	Year (Y)	Genotype (G)	Y x G
F _v /F _M	df	1	2	2	1	2	2
	F	31.3	13.5	13.7	28.20	6.10	13.1
	p-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0035	< 0.0001
F _v /F ₀	df	1	2	2	1	2	2
	F	36.05	23.16	30.28	87.72	16.55	62.76
	p-value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
PI _{ABS}	df	1	2	2	1	2	2
	F	323.84	73.85	8.40	22.94	3.44	22.13
	p-value	< 0.0001	< 0.0001	0.0005	< 0.0001	0.0367	< 0.0001