Table S1: The coefficient of determination (R^2) values and statistical significances (based on the F test) for the linear regressions between the measured individual plant parameters for wheat cultivar Káplár in two years. The regressions were established for individual plants (n = 60). C_R*: saturation root electrical capacitance; PH: plant height; CSA: stem cross-sectional area; SL: spike length; FLL: flag leaf length; FLW: flag leaf width; FLA: flag leaf area; SPAD: chlorophyll content in flag leaf; TAB: total aboveground biomass; GM: grain mass; GN: grain number. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, NS not significant.

Year	Parameter	C_R*	PH	CSA	PH×CSA	SL	FLL	FLW	FLA	SPAD	FLA×SPAD	TAB	GM
2021	PH	0.281***											
	CSA	0.497***	0.424***										
	PH×CSA	0.501***	0.681***	0.926***									
	SL	0.564***	0.487***	0.571***	0.630***								
	FLL	0.594***	0.170**	0.317***	0.315***	0.427***							
	FLW	0.621***	0.390***	0.741***	0.730***	0.607***	0.559***						
	FLA	0.693***	0.293***	0.551***	0.549***	0.563***	0.886***	0.851***					
	SPAD	0.502***	0.465***	0.565***	0.630***	0.432***	0.375***	0.553***	0.499***				
	FLA×SPAD	0.723***	0.390***	0.626***	0.655***	0.586***	0.804***	0.862***	0.955***	0.690***			
	TAB	0.524***	0.474***	0.481***	0.567***	0.512***	0.512***	0.591***	0.635***	0.443***	0.664***		
	GM	0.560***	0.431***	0.436***	0.511***	0.510***	0.545***	0.558***	0.636***	0.427***	0.651***	0.945***	
	GN	0.489***	0.421***	0.400***	0.476***	0.495***	0.515***	0.527***	0.600***	0.399***	0.610***	0.922***	0.968***
2022	PH	0.249***											
	CSA	0.464***	0.354***										
	PH×CSA	0.474***	0.564***	0.950***									
	SL	0.458***	0.482***	0.518***	0.571***								
	FLL	0.474***	0.196***	0.395***	0.385***	0.485***							
	FLW	0.552***	0.318***	0.572***	0.574***	0.501***	0.612***						
	FLA	0.564***	0.247***	0.509***	0.499***	0.518***	0.922***	0.841***					
	SPAD	0.628***	0.388***	0.571***	0.597***	0.538***	0.420***	0.620***	0.531***				
	FLA×SPAD	0.665***	0.307***	0.598***	0.599***	0.559***	0.829***	0.852***	0.944***	0.732***			
	TAB	0.522***	0.210***	0.373***	0.375***	0.609***	0.499***	0.506***	0.563***	0.464***	0.603***		
	GM	0.612***	0.268***	0.418***	0.436***	0.632***	0.520***	0.535***	0.591***	0.500***	0.641***	0.914***	
	GN	0.552***	0.302***	0.364***	0.399***	0.649***	0.521***	0.511***	0.568***	0.527***	0.620***	0.909***	0.906***

Table S2: The coefficient of determination (R^2) values and statistical significances (based on the F test) for the linear regressions between the measured individual plant parameters for wheat cultivar Kolo in two years. The regressions were established for individual plants (n = 60). For the abbreviations and symbols, see Table S1.

Year	Parameter	C_R*	PH	CSA	PH×CSA	SL	FLL	FLW	FLA	SPAD	FLA×SPAD	TAB	GM
2021	PH	0.275***											
	CSA	0.368***	0.051[NS]										
	PH×CSA	0.511***	0.415***	0.787***									
	SL	0.338***	0.299***	0.307***	0.481***								
	FLL	0.680***	0.213***	0.382***	0.498***	0.492***							
	FLW	0.507***	0.056[NS]	0.452***	0.400***	0.161**	0.447***						
	FLA	0.723***	0.163**	0.470***	0.530***	0.395***	0.887***	0.764***					
	SPAD	0.424***	0.278***	0.352***	0.508***	0.515***	0.563***	0.265***	0.508***				
	FLA×SPAD	0.688***	0.229***	0.473***	0.589***	0.491***	0.875***	0.626***	0.925***	0.752***			
	TAB	0.545***	0.239***	0.222***	0.362***	0.274***	0.468***	0.246***	0.455***	0.349***	0.500***		
	GM	0.552***	0.256***	0.169**	0.320***	0.284***	0.456***	0.245***	0.452***	0.343***	0.498***	0.908***	
	GN	0.508***	0.295***	0.193***	0.368***	0.359***	0.485***	0.219***	0.451***	0.397***	0.521***	0.866***	0.923***
2022	PH	0.043[NS]											
	CSA	0.216***	0.351***										
	PH×CSA	0.173***	0.632***	0.915***									
	SL	0.262***	0.482***	0.618***	0.686***								
	FLL	0.602***	0.083*	0.144**	0.305***	0.244***							
	FLW	0.581***	0.143**	0.371***	0.338***	0.407***	0.619***						
	FLA	0.681***	0.200***	0.241***	0.183***	0.330***	0.940***	0.823***					
	SPAD	0.328***	0.289***	0.409***	0.438***	0.465***	0.418***	0.579***	0.501***				
	FLA×SPAD	0.662***	0.313***	0.333***	0.285***	0.422***	0.868***	0.834***	0.952***	0.699***			
	TAB	0.583***	0.257***	0.524***	0.510***	0.685***	0.380***	0.526***	0.489***	0.453***	0.559***		
	GM	0.702***	0.179***	0.420***	0.396***	0.527***	0.399***	0.519***	0.504***	0.406***	0.558***	0.907***	
	GN	0.696***	0.186***	0.412***	0.395***	0.520***	0.403***	0.538***	0.513***	0.422***	0.570***	0.874***	0.956***

Table S3: The coefficient of determination (R^2) values and statistical significances (based on the F test) for the linear regressions between the measured individual plant parameters for wheat cultivar Lucilla in two years. The regressions were established for individual plants (n = 60). For the abbreviations and symbols, see Table S1.

Year	Parameter	C_R*	PH	CSA	PH×CSA	SL	FLL	FLW	FLA	SPAD	FLA×SPAD	TAB	GM
2021	PH	0.412***											
	CSA	0.405***	0.499***										
	PH×CSA	0.475***	0.704***	0.945***									
	SL	0.451***	0.613***	0.758***	0.811***								
	FLL	0.522***	0.342***	0.483***	0.492***	0.465***							
	FLW	0.650***	0.572***	0.576***	0.645***	0.667***	0.609***						
	FLA	0.680***	0.482***	0.569***	0.617***	0.616***	0.862***	0.896***					
	SPAD	0.565***	0.537***	0.585***	0.637***	0.641***	0.611***	0.788***	0.757***				
	FLA×SPAD	0.697***	0.493***	0.568***	0.627***	0.629***	0.794***	0.895***	0.973***	0.838***			
	TAB	0.645***	0.658***	0.665***	0.775***	0.790***	0.598***	0.665***	0.711***	0.605***	0.707***		
	GM	0.701***	0.584***	0.611***	0.708***	0.788***	0.596***	0.673***	0.732***	0.585***	0.738***	0.906***	
	GN	0.662***	0.574***	0.620***	0.713***	0.799***	0.602***	0.664***	0.723***	0.586***	0.725***	0.912***	0.974***
2022	PH	0.149**											
	CSA	0.193***	0.072*										
	PH×CSA	0.255***	0.308***	0.898***									
	SL	0.588***	0.471***	0.291***	0.481***								
	FLL	0.611***	0.167**	0.229***	0.219***	0.443***							
	FLW	0.558***	0.174***	0.288***	0.365***	0.643***	0.595***						
	FLA	0.660***	0.277***	0.271***	0.294***	0.579***	0.923***	0.831***					
	SPAD	0.605***	0.384***	0.320***	0.474***	0.727***	0.468***	0.615***	0.573***				
	FLA×SPAD	0.711***	0.155**	0.304***	0.369***	0.682***	0.849***	0.839***	0.956***	0.750***			
	TAB	0.565***	0.203***	0.131**	0.215***	0.748***	0.473***	0.484***	0.535***	0.486***	0.575***		
	GM	0.608***	0.194***	0.212***	0.300***	0.776***	0.542***	0.580***	0.624***	0.548***	0.664***	0.896***	
	GN	0.576***	0.242***	0.139**	0.235***	0.766***	0.490***	0.523***	0.569***	0.538***	0.624***	0.911***	0.920***

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Table S4: The coefficient of determination (R^2) values and statistical significances (based on the F test) for the linear regressions between the measured individual plant parameters for wheat cultivar Ménrót in two years. The regressions were established for individual plants (n = 60). For the abbreviations and symbols, see Table S1.

Year	Parameter	C$_R$*	PH	CSA	PH×CSA	SL	FLL	FLW	FLA	SPAD	FLA×SPAD	TAB	GM
2021	PH	0.165**											
	CSA	0.355***	0.357***										
	PH×CSA	0.354***	0.597***	0.939***									
	SL	0.385***	0.387***	0.524***	0.579***								
	FLL	0.533***	0.081*	0.354***	0.313***	0.563***							
	FLW	0.595***	0.267***	0.650***	0.629***	0.598***	0.650***						
	FLA	0.604***	0.152**	0.500***	0.462***	0.623***	0.947***	0.840***					
	SPAD	0.533***	0.343***	0.474***	0.518***	0.539***	0.398***	0.563***	0.500***				
	FLA×SPAD	0.654***	0.221***	0.551***	0.537***	0.669***	0.868***	0.842***	0.952***	0.702***			
	TAB	0.633***	0.206***	0.447***	0.450	0.474***	0.456***	0.524***	0.524***	0.512***	0.581***		
	GM	0.696***	0.196***	0.437***	0.435***	0.437***	0.420***	0.558***	0.510***	0.518***	0.571***	0.887***	
	GN	0.628***	0.219***	0.390***	0.409***	0.437***	0.389***	0.508***	0.470***	0.446***	0.516***	0.886***	0.960***
2022	PH	0.155**											
	CSA	0.291***	0.005^{NS}										
	PH×CSA	0.402***	0.154**	0.889***									
	SL	0.415***	0.149**	0.326***	0.185***								
	FLL	0.621***	0.214***	0.177***	0.205***	0.200***							
	FLW	0.507***	0.195***	0.122**	0.145**	0.194***	0.684***						
	FLA	0.625***	0.210***	0.166**	0.194***	0.225***	0.954***	0.852***					
	SPAD	0.599***	0.209***	0.145**	0.256***	0.271***	0.438***	0.353***	0.441***				
	FLA×SPAD	0.719***	0.303***	0.183***	0.243***	0.283***	0.907***	0.772***	0.940***	0.668***			
	TAB	0.620***	0.176***	0.219***	0.286***	0.281***	0.340***	0.292***	0.347***	0.295***	0.390***		
	GM	0.697***	0.115**	0.225***	0.312***	0.329***	0.398***	0.338***	0.407***	0.351***	0.458***	0.905***	
	GN	0.696***	0.131**	0.246***	0.345***	0.346***	0.397***	0.331***	0.401***	0.355***	0.453***	0.889***	0.941***

Table S5: The coefficient of determination (R^2) values and statistical significances (based on the F test) for the linear regressions between the measured individual plant parameters for wheat cultivar Pántlika in two years. The regressions were established for individual plants (n = 60). For the abbreviations and symbols, see Table S1.

Year	Parameter	C$_R$*	PH	CSA	PH×CSA	SL	FLL	FLW	FLA	SPAD	FLA×SPAD	TAB	GM
2021	PH	0.361***											
	CSA	0.533***	0.580***										
	PH×CSA	0.533***	0.821***	0.921***									
	SL	0.572***	0.620***	0.744***	0.778***								
	FLL	0.600***	0.212***	0.546***	0.447***	0.584***							
	FLW	0.664***	0.466***	0.707***	0.683***	0.733***	0.733***						
	FLA	0.688***	0.347***	0.668***	0.602***	0.700***	0.935***	0.910***					
	SPAD	0.626***	0.655***	0.638***	0.736***	0.729***	0.478***	0.636***	0.592***				
	FLA×SPAD	0.738***	0.535***	0.731***	0.750***	0.788***	0.800***	0.871***	0.913***	0.827***			
	TAB	0.551***	0.612***	0.565***	0.676***	0.739***	0.446***	0.605***	0.572***	0.750***	0.741***		
	GM	0.560***	0.620***	0.630***	0.726***	0.758***	0.495***	0.658***	0.629***	0.754***	0.794***	0.909***	
	GN	0.548***	0.606***	0.614***	0.710***	0.762***	0.507***	0.629***	0.630***	0.748***	0.793***	0.895***	0.983***
2022	PH	0.268***											
	CSA	0.129**	0.244***										
	PH×CSA	0.225***	0.538***	0.905***									
	SL	0.381***	0.347***	0.257***	0.170**								
	FLL	0.484***	0.290***	0.265***	0.161**	0.492***							
	FLW	0.634***	0.388***	0.290***	0.207***	0.580***	0.674***						
	FLA	0.601***	0.366***	0.302***	0.210***	0.573***	0.930***	0.878***					
	SPAD	0.509***	0.319***	0.370***	0.234***	0.417***	0.389***	0.437***	0.428***				
	FLA×SPAD	0.682***	0.427***	0.377***	0.284***	0.598***	0.848***	0.832***	0.926***	0.676***			
	TAB	0.557***	0.271***	0.274***	0.437***	0.312***	0.430***	0.367***	0.442***	0.460***	0.533***		
	GM	0.609***	0.327***	0.254***	0.368***	0.340***	0.427***	0.413***	0.468***	0.470***	0.566***	0.918***	
	GN	0.603***	0.192***	0.242***	0.351***	0.368***	0.399***	0.418***	0.450***	0.412***	0.521***	0.872***	0.936***

Table S6: The slope (±SE) and y-intercept (±SE) for the linear regressions between the saturation root electrical capacitance (C_R*) and various plant parameters investigated in five wheat cultivars in two years. The regressions were established for individual plants (n = 60). For the abbreviations, see Table S1.

Year	Parameter	Káplár		Kolo		Lucilla		Ménrót		Pántlika	
		Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept	Slope	Intercept
2021	**PH**	0.079±0.017	2.73±1.04	0.097±0.021	1.68±1.43	0.101±0.016	1.34±1.16	0.085±0.025	3.08±1.70	0.104±0.018	1.74±1.11
	CSA	0.366±0.048	4.44±0.43	0.426±0.073	3.94±0.77	0.322±0.051	5.27±0.56	0.314±0.055	5.55±0.59	0.495±0.061	3.48±0.58
	PH×CSA	0.424±0.055	5.33±0.32	0.585±0.074	4.16±0.55	0.353±0.049	5.91±0.41	0.367±0.065	6.21±0.48	0.525±0.065	5.05±0.39
	SL	0.778±0.090	2.27±0.63	0.969±0.178	1.86±1.20	0.787±0.114	3.38±0.78	0.911±0.151	3.00±0.97	1.043±0.119	1.43±0.76
	FLL	0.353±0.038	3.34±0.48	0.492±0.044	1.70±0.61	0.567±0.071	1.58±0.90	0.470±0.058	3.31±0.69	0.502±0.054	0.94±0.77
	FLW	0.528±0.054	2.14±0.57	0.701±0.061	0.28±1.13	0.553±0.053	1.81±0.67	0.797±0.086	0.71±1.038	0.859±0.080	1.35±0.88
	FLA	0.279±0.024	4.94±0.25	0.362±0.029	3.78±0.38	0.330±0.030	4.76±0.37	0.364±0.038	4.95±0.42	0.380±0.033	3.56±0.40
	SPAD	0.200±0.026	1.68±0.78	0.223±0.034	1.29±1.09	0.211±0.024	1.52±0.83	0.271±0.033	0.41±1.14	0.246±0.025	0.99±0.72
	FLA×SPAD	.0071±.0005	5.54±0.18	.0078±.0007	5.17±0.30	.0064±.0006	5.97±0.26	.0084±.0008	5.71±0.31	.0088±.0006	4.98±0.26
	TAB	1.054±0.131	5.82±0.24	2.051±0.244	3.95±0.53	1.987±0.194	4.66±0.41	1.695±0.170	5.17±0.38	1.735±0.206	4.82±0.40
	GM	2.119±0.247	5.90±0.22	4.855±0.574	4.15±0.51	4.168±0.357	5.20±0.32	3.558±0.309	5.83±0.27	3.646±0.424	5.48±0.32
	GN	0.084±0.011	5.88±0.25	0.177±0.023	4.63±0.50	0.188±0.017	4.95±037	0.152±0.015	5.83±0.31	0.177±0.021	5.33±0.34
2022	**PH**	0.095±0.022	2.03±1.53	0.033±0.021	6.35±1.56	0.088±0.027	3.82±1.88	0.153±0.047	0.64±3.63	0.146±0.032	0.38±2.16
	CSA	0.305±0.043	5.41±0.48	0.248±0.073	6.30±0.65	0.225±0.060	7.134±0.73	0.388±0.080	5.67±1.14	0.258±0.088	7.34±0.1.01
	PH×CSA	0.352±0.049	5.98±0.32	0.223±0.064	7.11±0.52	0.331±0.074	7.11±0.62	0.547±0.088	5.18±0.98	0.380±0.093	7.32±0.74
	SL	0.864±0.123	2.56±0.88	0.716±0.158	4.11±1.05	1.049±0.115	2.38±0.82	1.009±0.157	3.60±1.19	1.020±0.171	2.82±1.26
	FLL	0.404±0.056	3.53±0.73	0.392±0.042	3.57±0.57	0.515±0.054	2.73±0.75	0.489±0.050	3.38±0.77	0.444±0.060	3.00±0.99
	FLW	0.631±0.075	0.91±0.93	0.685±0.076	0.25±0.96	0.717±0.084	0.053±1.16	0.777±0.098	0.680±1.37	0.930±0.093	1.36±1.16
	FLA	0.291±0.033	5.20±0.42	0.285±0.026	5.18±0.34	0.322±0.030	5.20±0.45	0.303±0.031	6.33±0.52	0.319±0.034	5.13±0.54
	SPAD	0.210±0.021	1.40±0.74	0.166±0.032	3.51±1.01	0.255±0.027	0.487±0.991	0.294±0.032	0.40±1.25	0.266±0.034	1.66±1.19
	FLA×SPAD	.0065±.0006	5.92±0.27	.0063±.0006	6.17±0.26	.0065±.0005	6.35±0.30	.0063±.0005	7.13±0.35	.0075±.0007	6.41±0.36
	TAB	1.390±0.175	5.33±0.44	0.971±0.108	6.61±0.27	1.147±0.169	6.25±0.42	1.749±0.180	6.11±0.54	1.685±0.197	6.28±0.48
	GM	2.923±0.306	5.29±0.37	2.140±0.183	6.69±0.20	3.076±0.324	6.476±0.366	3.532±0.306	6.42±0.43	3.908±0.411	6.21±0.44
	GN	0.124±0.015	5.06±0.44	0.101±0.009	6.48±0.22	0.140±0.016	6.28±0.41	0.165±0.014	5.97±0.47	0.181±0.019	6.02±0.47