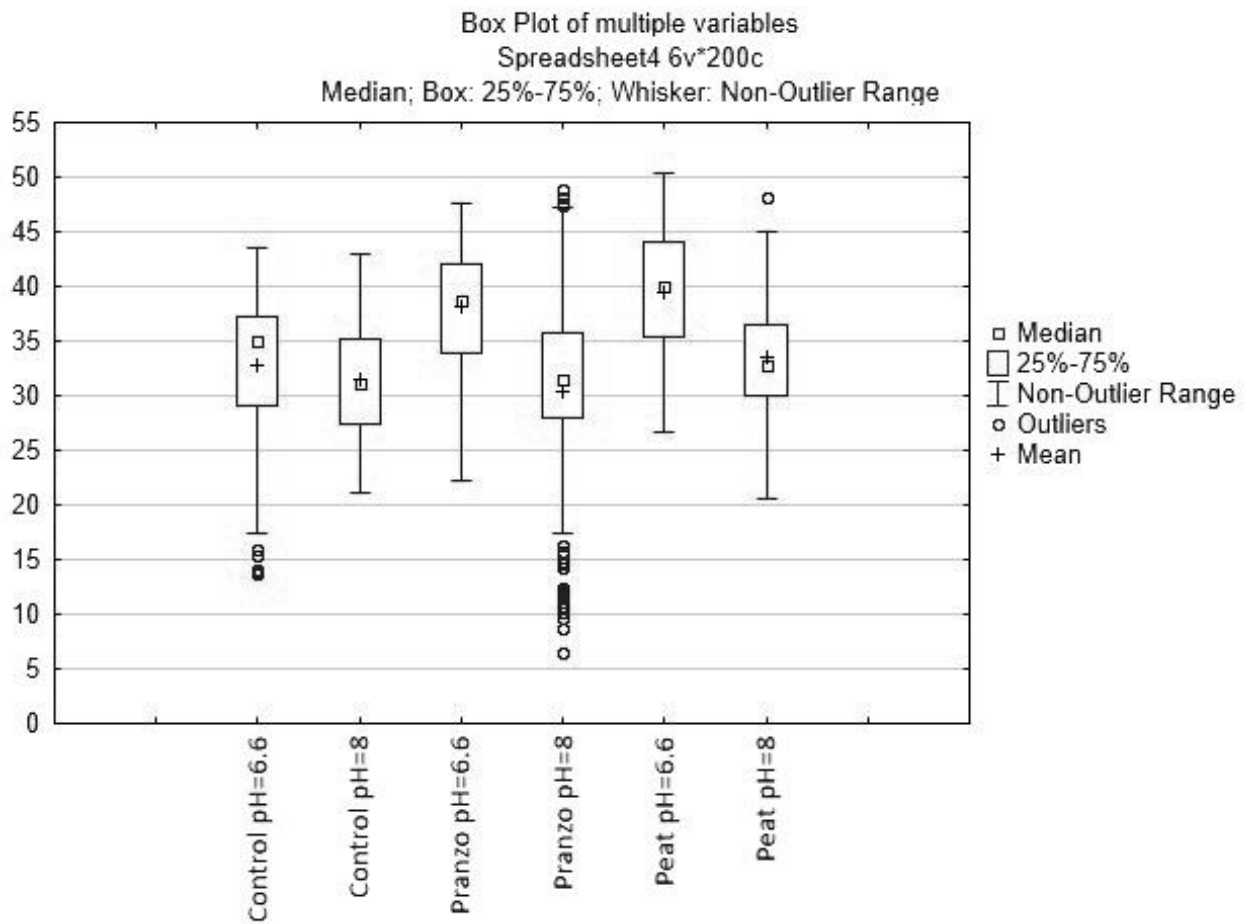


Supplementary Material

Fig. S1 - Tree no. 19 in 2015 (a) and after a complete recovery in summer 2018 (b).



Fig. S2 - Overall effect of different irrigation regimes on the three tested soil thesis.



Tab. S1 - Chemical characteristics for soils under healthy and yellowing trees. (ns): not significant (Mann Whitney U test, $\alpha = 0.05$).

Variable	Soils of healthy trees				Soils of yellowing trees			
	Min	Median	Max	Prob	Min	Median	Max	Prob
pH	5.4	7.3	7.8	ns	6.5	7.6	8.1	ns
Total Inorganic Carbon (g kg ⁻¹ CaCO)	<10	84	395	ns	<10	104	411	ns
Active Lime (g kg ⁻¹ CaCO)	<10	<10	63	ns	<10	11	90	ns
Available Fe (g kg ⁻¹)	10	30.4	134	ns	19.4	26.4	31.3	ns
Available Mn (g kg ⁻¹)	4.4	13.3	32.9	ns	9.3	9.5	10.3	ns

Tab. S2 - Macro and micro-nutrient contents of healthy and yellowing leaves. Different letters indicate different contents between treatments after Mann Whitney U test. (ns): not significant; (*): $p < 0.05$; (**): $p < 0.01$; (***) : $p < 0.001$.

Variable	Healty leaves				Yellowing leaves			
	Min	Median	Max	Prob	Min	Median	Max	Prob
N (%)	1.74	2.23	2.96	ns	1.59	2.25	3.38	ns
P (%)	0.09	0.17	0.45	b*	0.11	0.2	0.47	a*
K (%)	0.48	0.905	1.55	b*	0.46	0.955	2.59	a*
Ca (%)	0.76	1.24	3.62	b**	0.57	1.65	5.51	a**
Mg (%)	0.18	0.28	0.61	b**	0.17	0.32	0.58	a**
S (%)	0.11	0.13	0.17	b*	0.1	0.15	0.21	a*
Fe (mg kg ⁻¹)	31	51.5	92	a***	27	39	125	b***
Mn (mg kg ⁻¹)	27	176.5	1660	a***	11	56	495	b***
B (mg kg ⁻¹)	7	16	56	b**	8	22	64	a**
Cu (mg kg ⁻¹)	5	5	14	ns	5	5	22	ns
Zn (mg kg ⁻¹)	16	26.5	71	ns	18	30.5	63	ns