

**Table S1.** Two-way ANOVA analysis of the morpho-physiological traits, comparisons within genotypes. The effect of a single variable (water status or genotype or AMF) and the variable interaction (water status x AMF) was considered. Significant effects ( $p$  value < 0.05, 0.01, 0.001) are highlighted in bold.

$p$ -values	Etrusco			Svevo		
	Water status	AMF	Interaction	Water status	AMF	Interaction
RL	$p>0,05$	$p>0,05$	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	$p>0,05$
SL	<b><math>p&lt;0,001</math></b>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>	$p>0,05$
RFW	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>	$p>0,05$
SFW	<b><math>p&lt;0,001</math></b>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>
RWC	<b><math>p&lt;0,001</math></b>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,001</math></b>

**Table S2.** Two-way ANOVA analysis of the relative expression of genes involved in water stress response and sulfur assimilation, comparisons within genotypes. The effect of a single variable (water status or genotype or AMF) and the variable interaction (water status x AMF) was considered. Significant effects ( $p$  value < 0.05, 0.01, 0.001) are highlighted in bold.

$p$ -values	Etrusco			Svevo		
	Water status	AMF	Interaction	Water status	AMF	Interaction
<i>TdSHN1</i>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,05</math></b>	$p>0,05$	<b><math>p&lt;0,001</math></b>	$p>0,05$	<b><math>p&lt;0,05</math></b>
<i>TdDRF1</i>	<b><math>p&lt;0,001</math></b>	$p>0,05$	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,01</math></b>	$p>0,05$	<b><math>p&lt;0,01</math></b>
<i>TdOASTL1</i>	$p>0,05$	<b><math>p&lt;0,01</math></b>	$p>0,05$	$p>0,05$	$p>0,05$	$p>0,05$
<i>TdSAT1</i>	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,01</math></b>
<i>TdSULTR1.1</i>	<b><math>p&lt;0,01</math></b>	$p>0,05$	<b><math>p&lt;0,01</math></b>	$p>0,05$	$p>0,05$	$p>0,05$
<i>TdSULTR1.3</i>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	$p>0,05$

**Table S3.** Two-way ANOVA analysis of the relative expression of genes involved in mycorrhizal colonization. The effect of a single variable (water status or genotype) and the variable interaction (water status x genotype) was considered. Significant effects ( $p$  value < 0.05, 0.01, 0.001) are highlighted in bold.

$p$ -values	AMF		
	Water status	Genotype	Interaction
<i>Fm18S</i>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>
<i>TdPT11</i>	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,05</math></b>

**Table S4.** Two-way ANOVA analysis of colonization level parameters. The effect of a single variable (water status or genotype) and the variable interaction (water status x genotype) was considered. Significant effects ( $p$  value < 0.05, 0.01, 0.001) are highlighted in bold.

$p$ -values	AMF		
	Water status	Genotype	Interaction
F (%)	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,001</math></b>
A (%)	<b><math>p&lt;0,001</math></b>	$p>0,05$	$p>0,05$

**Table S5.** Two-way ANOVA analysis of the cations concentration, comparisons within genotypes. The effect of a single variable (water status or genotype or AMF) and the variable interaction (water status x AMF) was considered. Significant effects ( $p$  value < 0.05, 0.01, 0.001) are highlighted in bold.

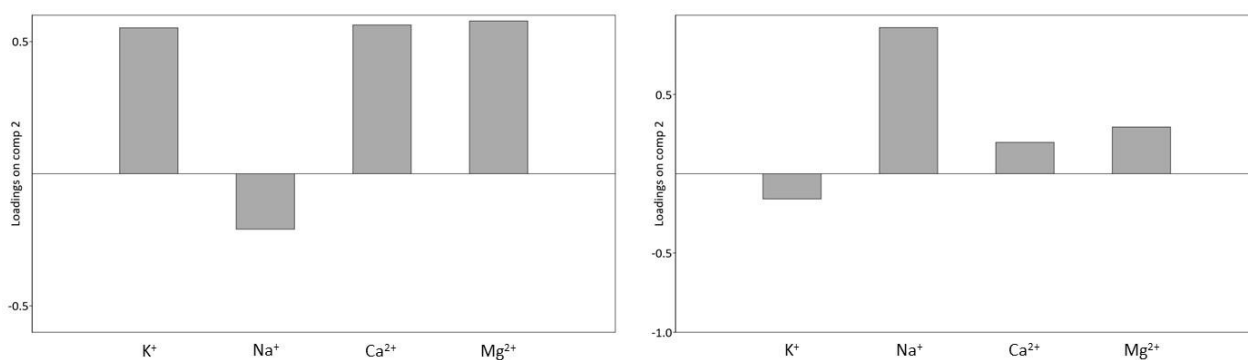
$p$ -values	Etrusco			Svevo		
	Water status	AMF	Interaction	Water status	AMF	Interaction
K <sup>+</sup>	$p>0,05$	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	$p>0,05$
Na <sup>+</sup>	<b><math>p&lt;0,01</math></b>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>
Ca <sup>2+</sup>	<b><math>p&lt;0,01</math></b>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	$p>0,05$	<b><math>p&lt;0,05</math></b>
Mg <sup>2+</sup>	$p>0,05$	$p>0,05$	$p>0,05$	<b><math>p&lt;0,01</math></b>	$p>0,05$	<b><math>p&lt;0,05</math></b>
Na <sup>+</sup> / K <sup>+</sup>	<b><math>p&lt;0,01</math></b>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>

**Table S6.** Two-way ANOVA analysis of the anions concentration, comparisons within genotypes. The effect of a single variable (water status or genotype or AMF) and the variable interaction (water status x AMF) was considered. Significant effects ( $p$  value < 0.05, 0.001, 0.001) are highlighted in bold.

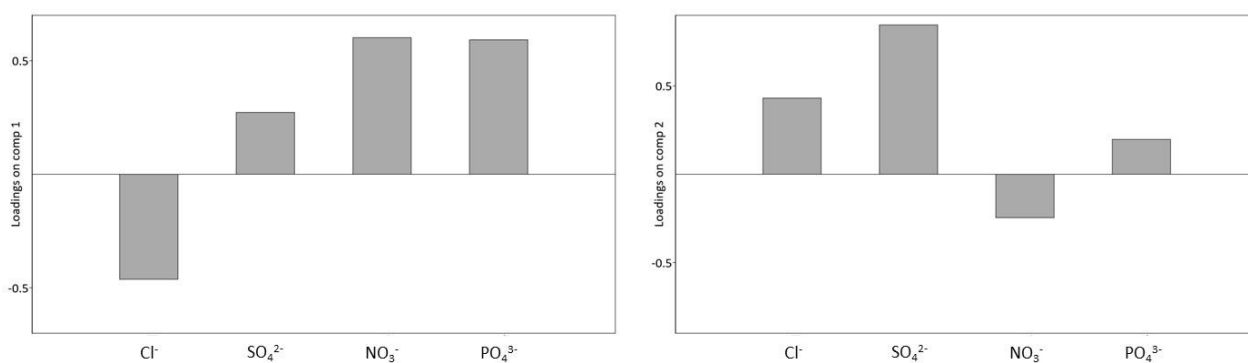
$p$ -values	Etrusco			Svevo		
	Water status	AMF	Interaction	Water status	AMF	Interaction
Cl <sup>-</sup>	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	$p>0,05$	<b><math>p&lt;0,01</math></b>	$p>0,05$
SO <sub>4</sub> <sup>2-</sup>	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,01</math></b>
NO <sub>3</sub> <sup>-</sup>	$p>0,05$	$p>0,05$	$p>0,05$	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>	<b><math>p&lt;0,001</math></b>
PO <sub>4</sub> <sup>3-</sup>	$p>0,05$	<b><math>p&lt;0,05</math></b>	$p>0,05$	<b><math>p&lt;0,05</math></b>	<b><math>p&lt;0,01</math></b>	$p>0,05$
S index	$p>0,05$	<b><math>p&lt;0,01</math></b>	<b><math>p&lt;0,001</math></b>	$p>0,05$	<b><math>p&lt;0,001</math></b>	$p>0,05$

**Table S7.** Primers used for qRT-PCR analysis.

Gene	Primer name	Sequence
<i>TdSHN1</i>	TdSHN1F	GCTACTCATGAAACTCCACAGTGC
	TdSHN1R	TGGATCTCGACTGGTCAAACCAA
<i>TdDRF1</i>	TdDRF1F	GGGTTTCGAAATCGGTTTCGGG
	TdDRF1R	CAACACAGGCACCAAGACCG
<i>TdPT11</i>	TdPT11F	TGCATGACACCACGCATCTTATC
	TdPT11R	GGTATCACACACAAGCAATCCTA
<i>Fm18S</i>	Fm18SF	CCTTTTGAGCTCGGTCTCGTG
	Fm18SR	TGGTCCGTGTTTCAAGACG
<i>TdSULTR1.1</i>	TdSULTR1.1F	CTATGAGACAGCCTACCTTATATG
	TdSULTR1.1R	CAACCGCAATGAGCAAGC
<i>TdSULTR1.3</i>	TdSULTR1.3F	ATGTCAGTGGTGGTTCTTC
	TdSULTR1.3R	ATTGCTGCTTCGTAGTCC
<i>TdOASTL1</i>	TdOASTL1F	GCCCAGAGACCCGAGAAC
	TdOASTL1R	AACAGCACCGACGACAGG
<i>TdSAT1</i>	TdSAT1F	GTCTCCATCCTCCACCAC
	TdSAT1R	GCACATCTATCAGCACCAC
<i>GADPH</i>	GADPHF	GGTTTGGCATTGTTGAGGGTTT
	GADPHR	GGAATGATGTTGAAGCTGGCAG



**Figure S1.** The loading plots of each cations concentration in components 1 and 2, respectively, the bar length representing regression coefficients with either positive or negative signs.



**Figure S2.** The loading plots of each anions concentration in components 1 and 2, respectively, the bar length representing regression coefficients with either positive or negative signs.