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Functional Plant Biology

Supplementary Material

Coordination between water relations strategy and carbon investment in leaf and stem in six fruit tree species

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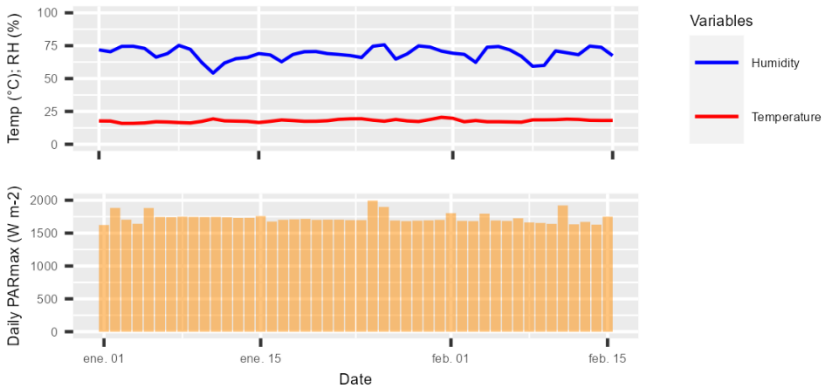
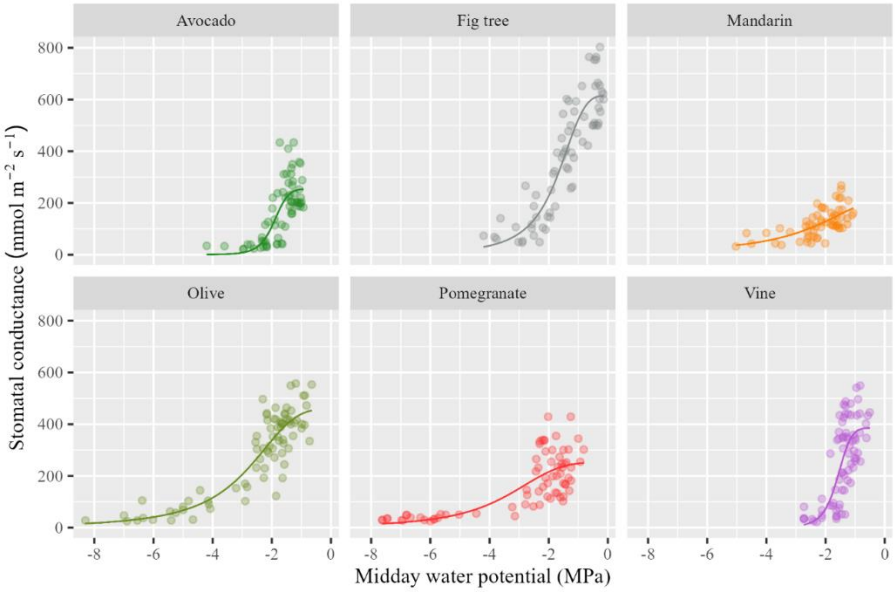
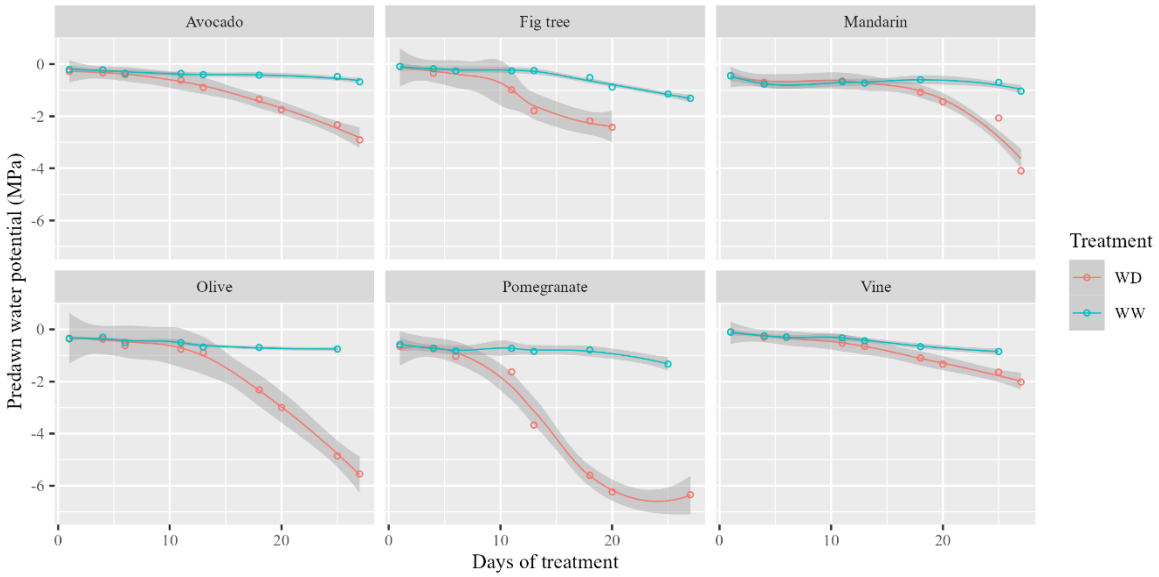
Supplementary Information



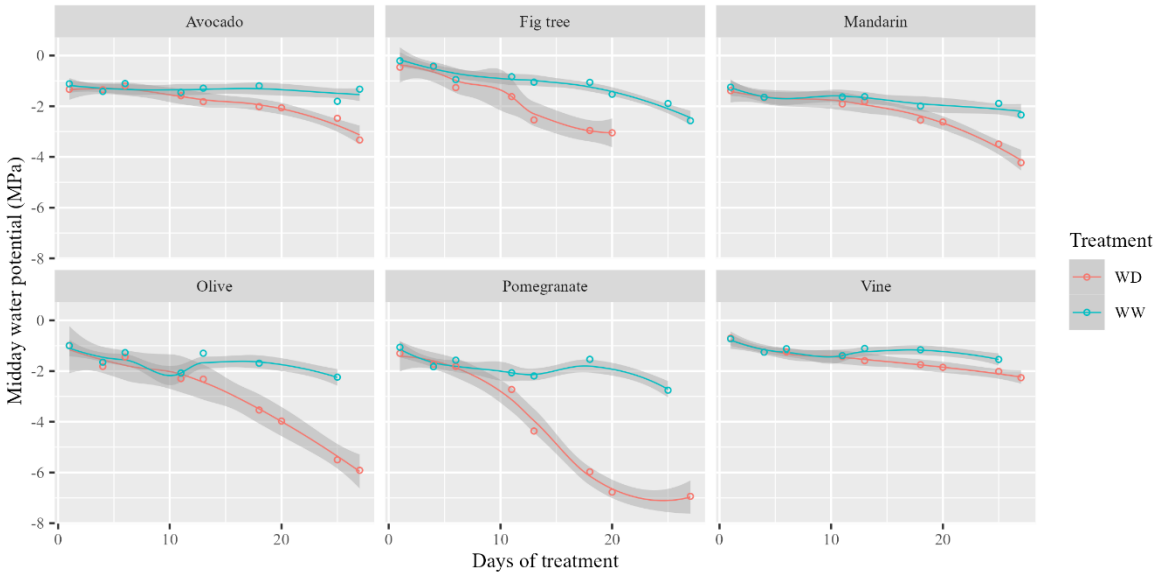
Supplementary Figure S1: Relative humidity, mean air temperature, and incident photosynthetic active radiation during the experimental period. Centro de Estudios de Zonas Áridas, Las Cardas, Coquimbo, North of Chile (Lat -30.251, Lon -71.257, 282 msnm).



Supplementary Figure S2: Stomatal conductance (g_s) as a function of the leaf or twig midday water potential (Ψ_{md}) in six fruit tree species under well-watered (WW) and water deficit (WD) treatments. The curve in each panel is the function $g_s = g_{smax}/(1+(\Psi_{md}/P_{g50})^S)$ for each species.



Supplementary Figure S3: Predawn water potential through the experimental period in six fruit tree species under a well-watered (WW) and water deficit (WD) condition. Data are mean SWF (n=4) and the gray area the 95% confidence interval.



Supplementary Figure S4: midday water potential through the experimental period in six fruit tree species under a well-watered (WW) and water deficit (WD) condition. Data are mean SWF (n=4) and the gray area the 95% confidence interval.

Supplementary Table S1: Trait, abbreviation, and descriptions of traits measured and estimated for sis fruit tree species.

Trait	Abbreviation	Physiological significance
Stomatal conductance (mmol m^{-2} s^{-1})	g_s	Stomatal conductance measured at midday (mmol m^{-2} s^{-1})
Predawn water potential (MPa)	Ψ_{pd}	Maximum water potential experienced by the plant during a daily cycle (MPa)
Midday water potential (MPa)	Ψ_{md}	Minimum water potential experienced by the plant during a daily cycle (MPa)
Maximum stomatal conductance (mmol m^{-2} s^{-1})	g_{smax}	Stomatal conductance was measured at midday at high water potential and water availability (mmol m^{-2} s^{-1})
Water potential at which g_s decreases by 50% from its maximum (MPa)	P_{g50}	P_{g50} represents the sensitivity of stomatal conductance to leaf water potential.
Slope of the relationship between g_s and leaf water potential (mmol m^{-2} s^{-1} MPa^{-1})	S	A steeper slope should be interpreted as a greater variation in stomatal conductance per unit change in leaf water potential.
Water potential at the turgor loss point (MPa)	TLP	Leaf water potential when hydrostatic pressure is zero (incipient plasmolysis). A lower value implies greater leaf tolerance to water deficit. A lower value is interpreted as a more anisohydric strategy.
Hydroscape Area (MPa^2)	HA	A larger Hydroscape Area implies greater stomatal conductance tolerance to decreases in soil water potential. A higher value is interpreted as a more anisohydric species.
Leaf mass per area (g m^{-2})	LMA	The ratio of leaf dry matter mass per unit leaf area represents carbon investment in leaf growth per unit area. A higher value is interpreted as denser leaf tissue.
Wood density (g cm^{-3})	WDen	The ratio of stem dry matter mass per unit stem volume represents carbon investment in stem growth per unit volume. A higher value is interpreted as a denser stem.