

**S4 Table. Analysis of leaf non-structural carbohydrate concentrations and  $\delta^{13}\text{C}$  in relation to functional traits.** Shown is the summary of mixed-effects models testing for relationships between  $^{13}\text{C}$  abundance,  $^{13}\text{C}$  atom% excess and concentrations of non-structural carbohydrates (glucose, fructose, sucrose, RFO, starch) in leaves and functional traits.

Source of variation	Fixed effects				Random effects			AIC
	Intercept	N <sub>Leaf</sub>	SLA	LDMC	H <sub>Shoot</sub>	Species ID	Dome	Residuals
<b><math>^{13}\text{C}</math> abundance</b>								
Glucose	1.75570			-0.00399		0.2823	0.1771	0.3275
Fructose	0.49931	0.72243		-0.00343		0.2036	<0.0001	0.4862
Sucrose	-0.09586			0.00708		0.6364	0.1687	0.1449
RFO	5.85530		-1.42130			0.6000	<0.0001	0.3687
Starch	2.86701	0.85639		-0.00562		0.4490	0.1585	0.2237
<b><math>^{13}\text{C}</math> atom% excess</b>								
Glucose	0.03949	0.01047	-0.00843			0.0025	0.0023	0.0019
Fructose	0.04838	0.00743	-0.00980			0.0025	0.0014	0.0022
Sucrose	0.04535	0.00687	-0.00767			0.0013	<0.0001	0.0019
RFO	0.07041	0.01053	0.01536	0.00004		0.0027	<0.0001	0.0024
Starch	0.01904	0.00390				0.0028	0.0015	0.0011
<b>Concentration</b>								
Glucose	3.46528			-0.00349	-0.02052	0.3479	0.1405	0.2367
Fructose	2.19079	0.50321		-0.00401		0.2501	<0.0001	0.4367
Sucrose	1.25807			0.00679		0.5260	0.1226	0.1728
RFO	2.67388	-0.96833		0.00493		0.5758	<0.0001	0.3449
Starch	15.10309			-0.02204		2.1243	<0.0001	0.7163

The adequate set of predictor variables was determined by stepwise inclusion of predictor variables and model comparisons. Estimated coefficients are given for the resulting best model. Intercepts and slopes are shown for the fixed effects, and estimated standard deviations are given for the random effects. Abbreviations of functional traits: N<sub>Leaf</sub> = leaf nitrogen concentration, SLA = specific leaf area, LDMC = leaf dry matter content, H<sub>Shoot</sub> = shoot height.