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# Autotrophic component of soil respiration is repressed by drought more than the heterotrophic one in dry grasslands

**János Balogh et al.**

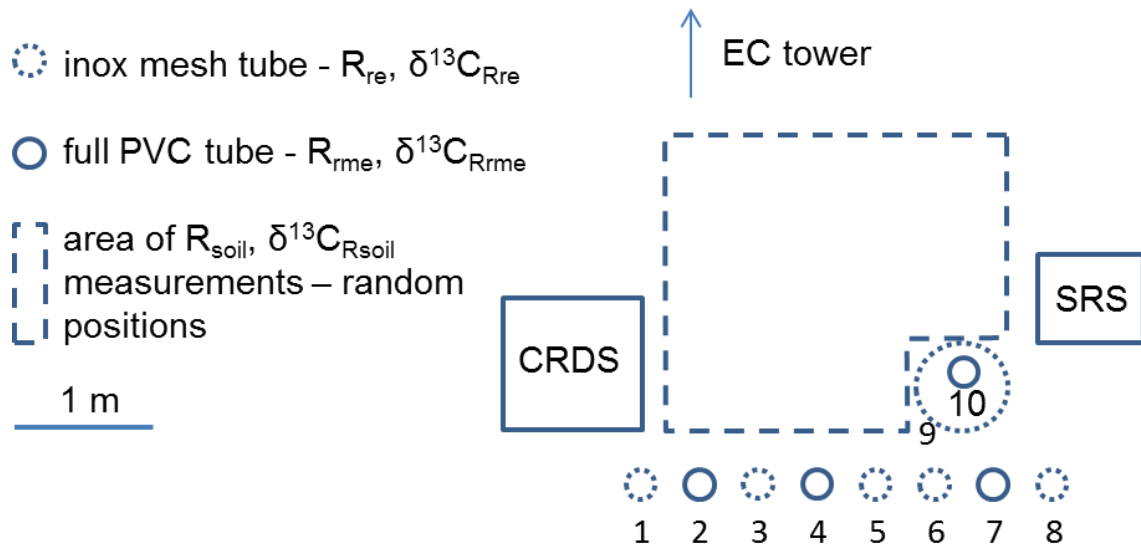*Correspondence to:* János Balogh et al. (balogh.janos@mkk.szie.hu)

Fig. S1 Schematic map of the experimental area. Dashed line represents the area of undisturbed soil ($R_{soil}$, $\delta^{13}C_{Rsoil}$ measurements), dotted circles represent tubes with inox mesh cover ($R_{re}$, $\delta^{13}C_{Rre}$ measurements) and solid circles represent full PVC tubes ($R_{rme}$, $\delta^{13}C_{Rrme}$ measurements). Numbers indicate the positions of the tubes.
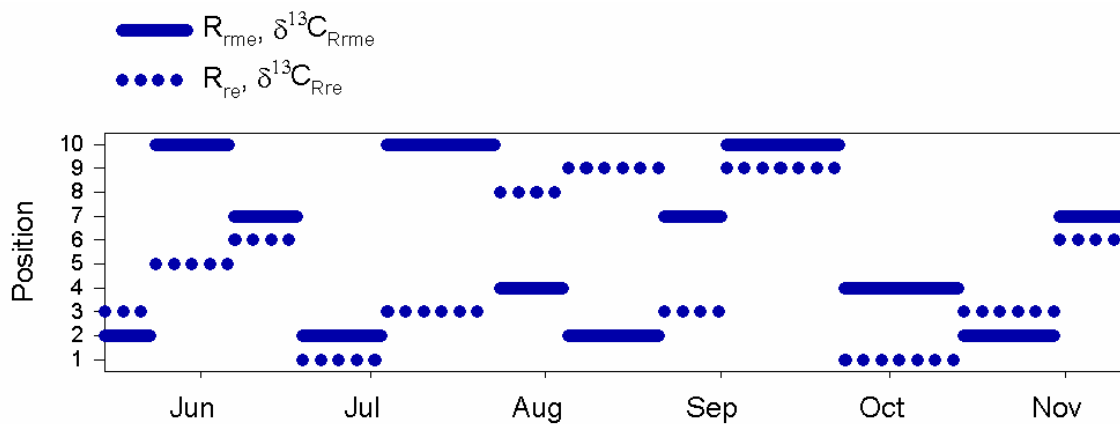


Fig. S2 Position changes of $R_{rme}$, $\delta^{13}C_{Rrme}$ and $R_{re}$, $\delta^{13}C_{Rre}$ measurements during the study period. $R_{soil}$ and $\delta^{13}C_{Rsoil}$ positions were also changed at the same time within the undisturbed area of the experimental plot (Fig. S1).
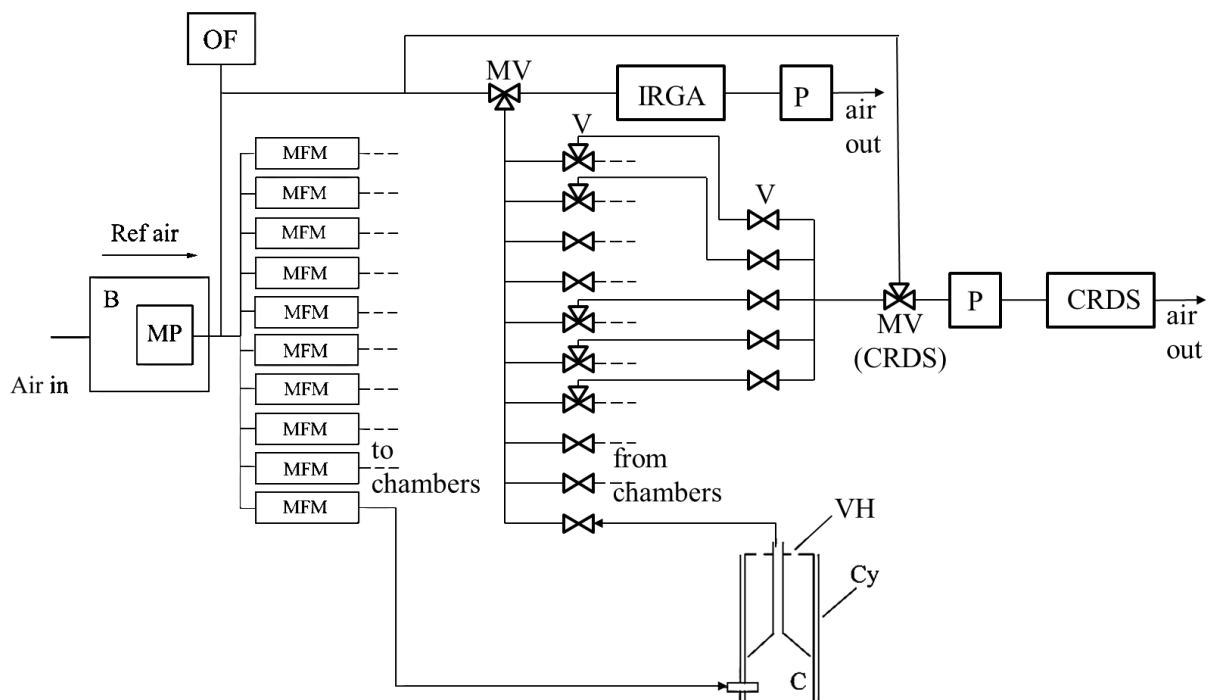
Fig. S3 Schematic air-flow diagram of the coupled SRS-CRDS system (B: buffer volume, MP: main pump, P: sampling pump, OF: overflow, MFM: mass flowmeters, MV: main valve, V: valves, VH: vent hole, C: chamber with a funnel, Cy: metal cylinder, IRGA: gas analyzer, Ref air: reference air flow, air out: air outlet from the system). Chambers 1, 2, 5, 6, 7 of the SRS were attached to the CRDS through a magnetic valve system.
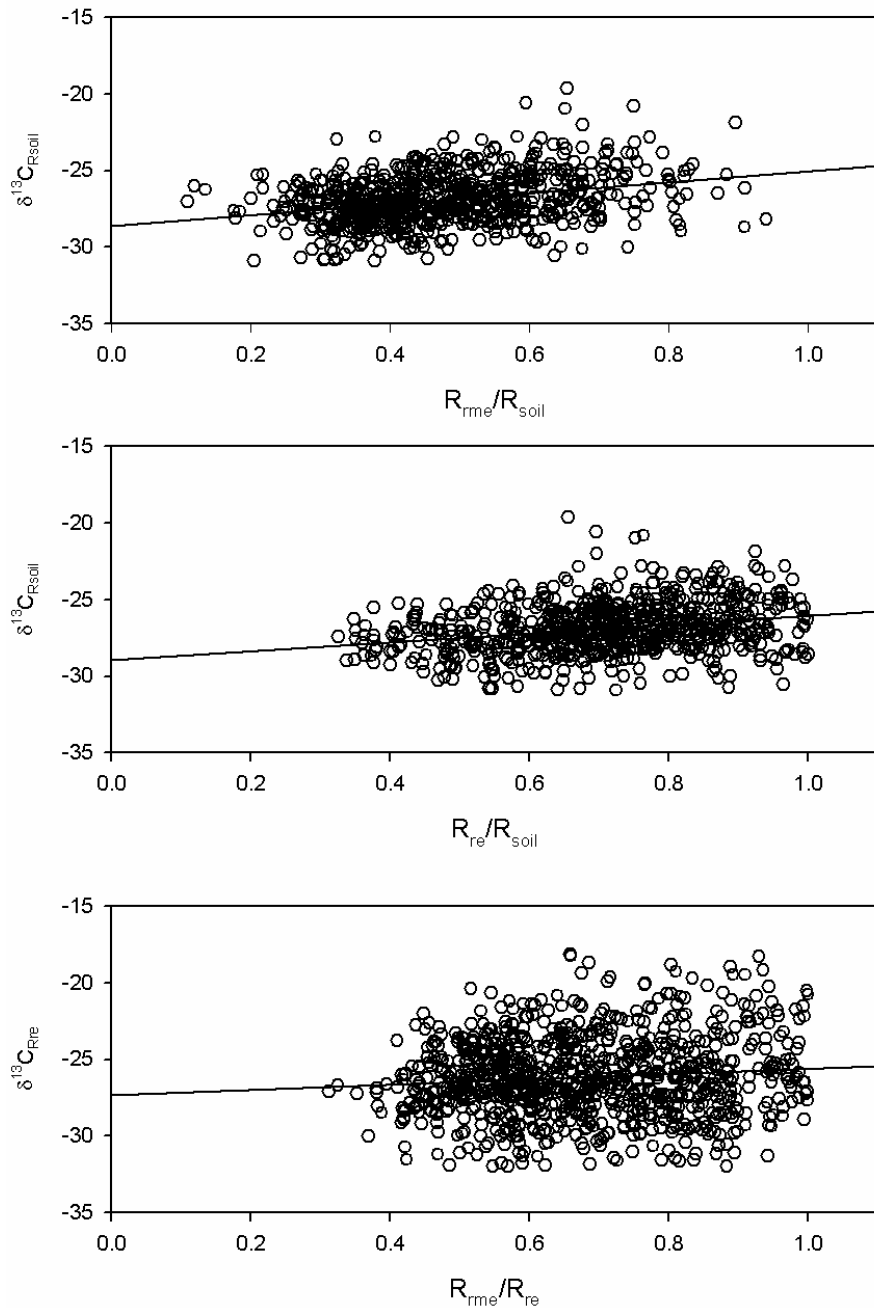
Fig. S4 Y-intercepts of these linear correlations were used as estimations for $\delta^{13}C_{Rmycrhiz}$ (a), $\delta^{13}C_{Rrhizo}$ (b) and $\delta^{13}C_{Rmyc}$ (c). $\delta^{13}C_{Rmycrhiz}$ and $\delta^{13}C_{Rrhizo}$ were used in mixing models calculating component contributions.

Equations:

$\delta^{13}C_{Rsoil}$ vs. $R_{rme}/R_{soil}$ (y intercept is $\boldsymbol{\delta^{13}C_{Rmycrhiz}}$): y = 3.54x **-28.6**, $R^2$ = 0.0921, P<0.0001

$\delta^{13}C_{Rsoil}$ vs. $R_{re}/R_{soil}$ (y intercept is $\boldsymbol{\delta^{13}C_{Rrhizo}}$): y = 2.9x **-28.9**, $R^2$ = 0.0683, P<0.0001

$\delta^{13}C_{Rre}$ vs. $R_{rme}/R_{re}$ (y intercept is $\boldsymbol{\delta^{13}C_{Rmyc}}$): y = 1.79x **-27.2**, $R^2$ = 0.0137, P=0.0032