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## Supplementary Material

# Dynamic carbon allocation into source and sink tissues determine within-plant differences in carbon isotope ratios

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## Table S1. Gas exchange parameters and effective quantum yield measured during the experiment (sampling points at 4, 6 and 12 months)

Gas exchange parameters were measured at growth conditions. Data are means (± s.e.; $n = 4$). A, assimilation rate; $c_i/c_a$, intercellular to ambient $CO_2$ concentration; $gH_2O$, stomatal conductance for water vapor; ΔF/Fm′, effective quantum yield

| Harvest/ Months | Treatment | $A_{leaf}$ µmol $m^{-2}$ $s^{-1}$ | ± s.e. | $c_i/c_a$ | ± s.e. | $gH_2O$ mmol $m^{-2}$ $s^{-1}$ | ± s.e. | $\Delta F/F_m'$ | ± s.e. |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Control | 5.8 | *0.3* | 0.49 | *0.02* | 48.2 | *4.4* | 0.55 | *0.02* |
| 6 | Control | 3.9 | *0.5* | 0.41 | *0.03* | 26.8 | *3.0* | 0.51 | *0.01* |
| 12 | Control | 2.7 | *0.5* | 0.47 | *0.03* | 21.7 | *2.8* | 0.46 | *0.01* |
| 4 | Low N | 5.3 | *0.4* | 0.66 | *0.02* | 67.1 | *7.3* | 0.46 | *0.02* |
| 6 | Low N | 3.8 | *0.7* | 0.47 | *0.05* | 27.0 | *7.1* | 0.39 | *0.03* |
| 12 | Low N | 3.2 | *0.7* | 0.63 | *0.04* | 36.3 | *11.3* | 0.36 | *0.03* |
| 4 | Low L | 3.6 | *0.2* | 0.63 | *0.04* | 42.4 | *4.5* | 0.72 | *0.01* |
| 6 | Low L | 3.1 | *0.1* | 0.59 | *0.03* | 29.8 | *3.9* | 0.68 | *0.01* |
| 12 | Low L | 3.0 | *0.4* | 0.58 | *0.05* | 35.3 | *8.0* | 0.67 | *0.03* |

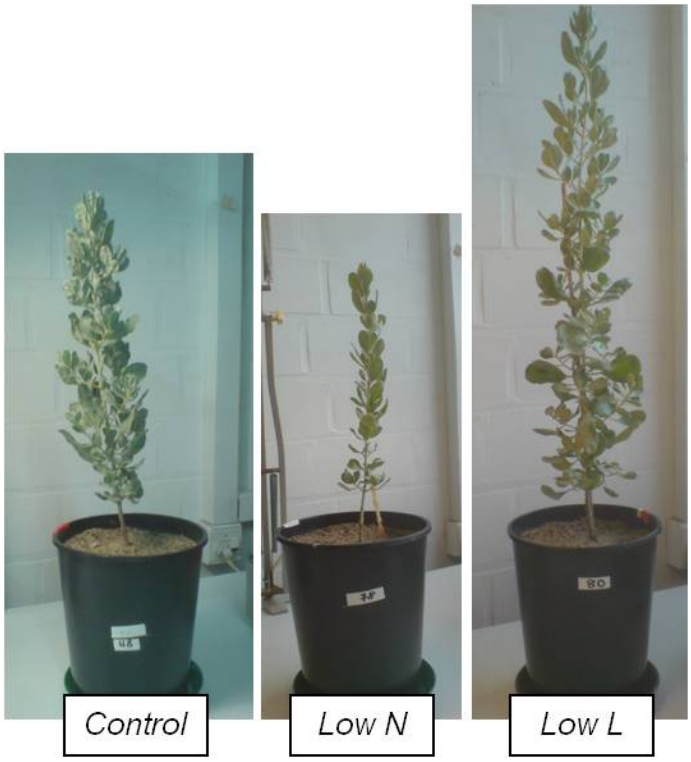


**Fig. S1.** Photographs of plants after 12 months of treatment. *Low N*, nutrient reduction; *Low L*, light reduction