

Title: Assessing of the contributions of pod photosynthesis to carbon acquisition of seed in alfalfa (*Medicago sativa* L.)

Running title: Carbon acquisition by alfalfa pod

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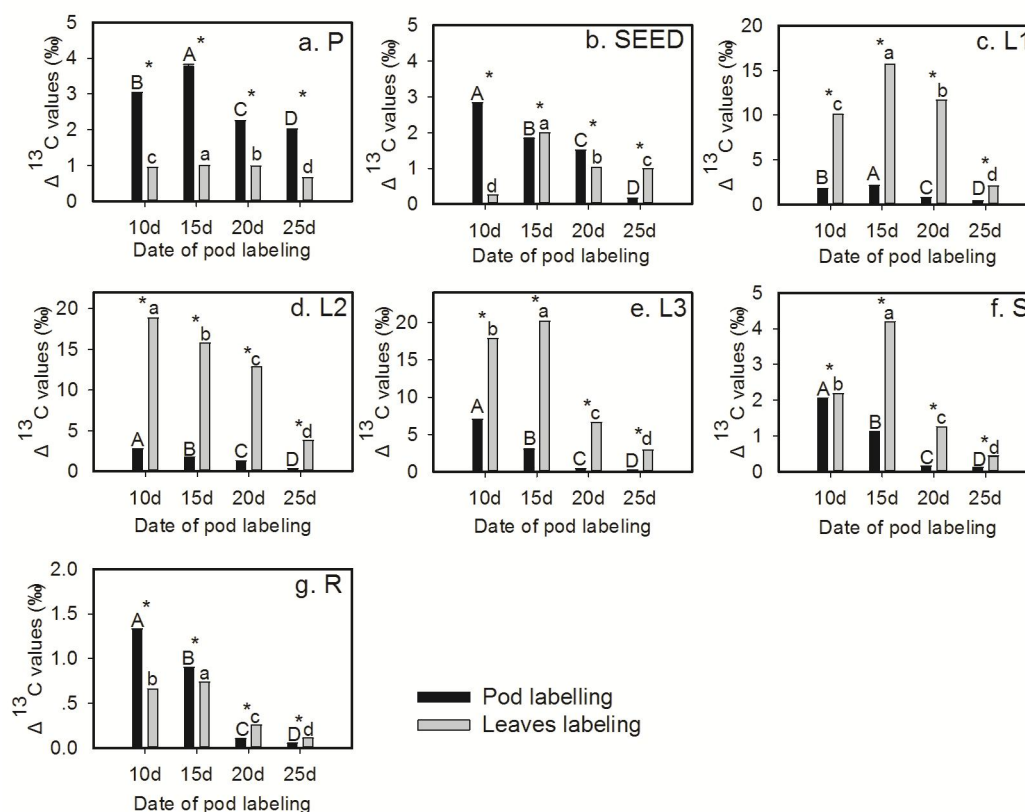


Fig. S1 Changes for $\Delta^{13}\text{C}$ values (‰) in the alfalfa organs (P, SEED, L1, L2, L3, S and R) according to the development stage (from day 10 to 20 after podding) after pod or leaves labeling. Each value represents the mean \pm SE ($n=3$). The different letters indicate significant differences ($P < 0.01$) among treatments as determined by the Tukey b-test. The capital and lowercase letter indicates pod and leaves labeling, respectively. * indicate significant differences ($P < 0.01$) between pod and leaves labeling of samples as determined by the T test.

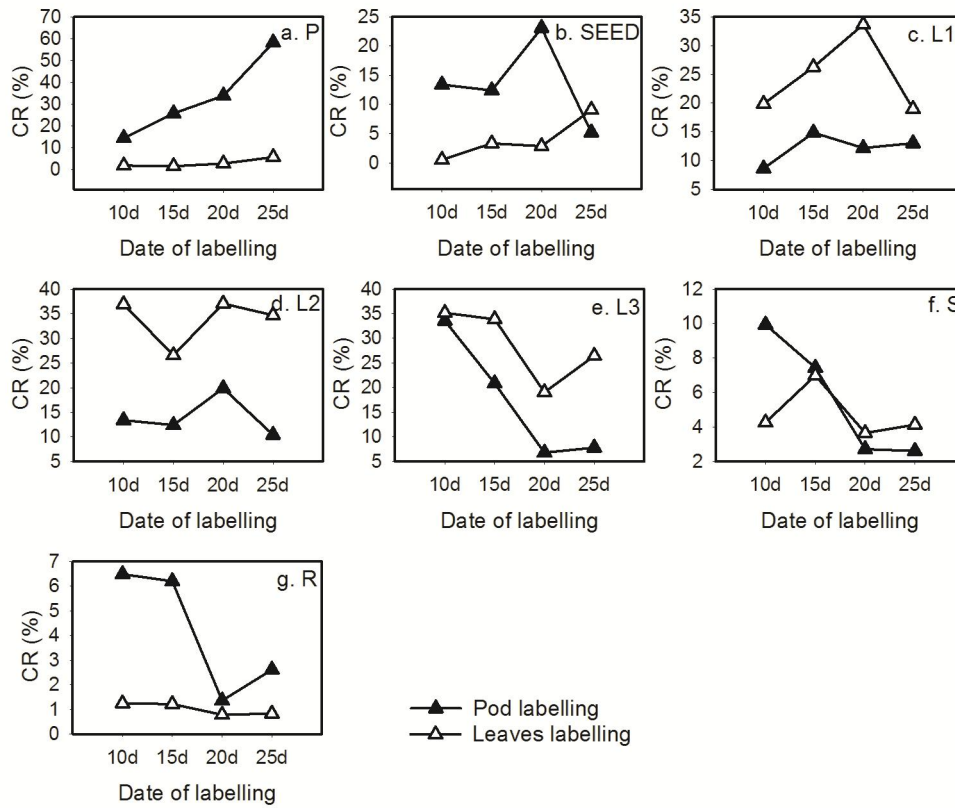


Fig. 2 Changes for the CR of alfalfa organs (P, SEED, L1, L2, L3, S and R) according to the development stage (from **day**10 to 20 after podding) after pod or leaves labeling.

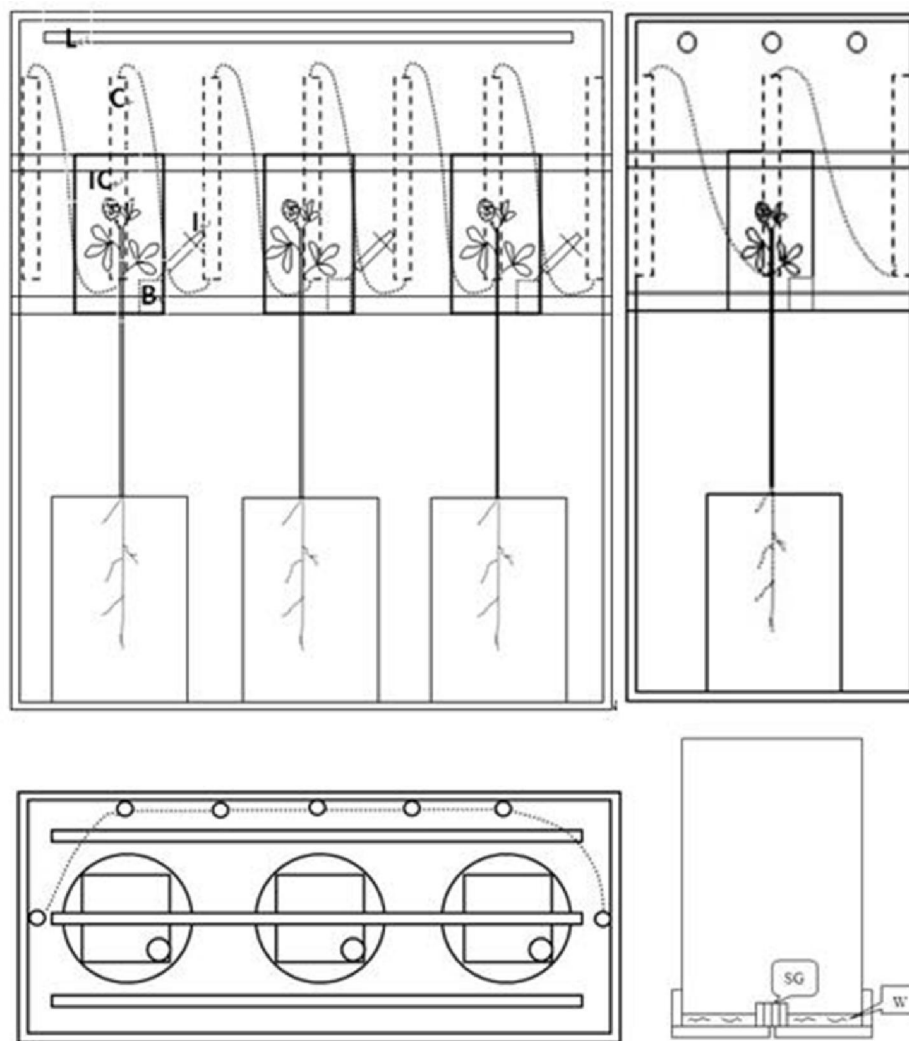


Fig. S3 ^{13}C labeling case of photosynthesis. The material of case is lightproof black cloth or PVC (120cm×60 cm×160 cm), and the inner chamber is high-transparency PVC. L, light (Philips lifemax TLD 30W / 54 - 765 Cool DAY LIGHT, made in China) provided a photon flux close to $3 \times 1825 \text{ lm}$, and 61 lm / W . C, condensation pipe. IC, inner chamber (11.5 cm×11.5 cm×23 cm). SG, sealing gasket (soft rubber). W, water. B, beaker (50ml). I, injector (20ml).

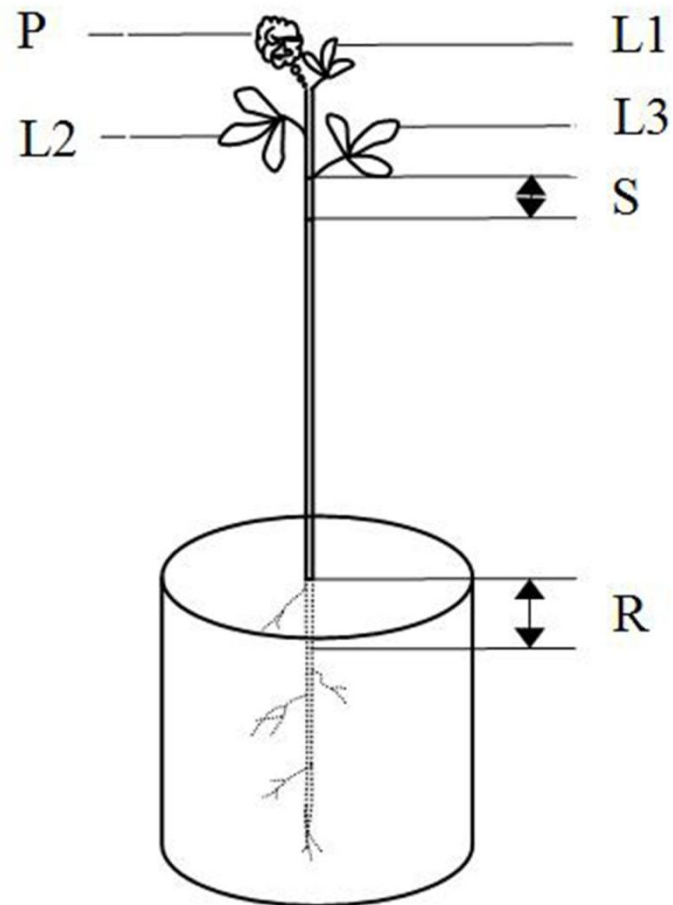


Fig. S4 Sampling location of alfalfa after $^{13}\text{CO}_2$ labeling. P, pod; L1, the first leaf under pod; L2, the second leaf under pod; L3, the third leaf under pod; S, the first internode length stem under the third leaf; R, the 10 cm root under the ground.