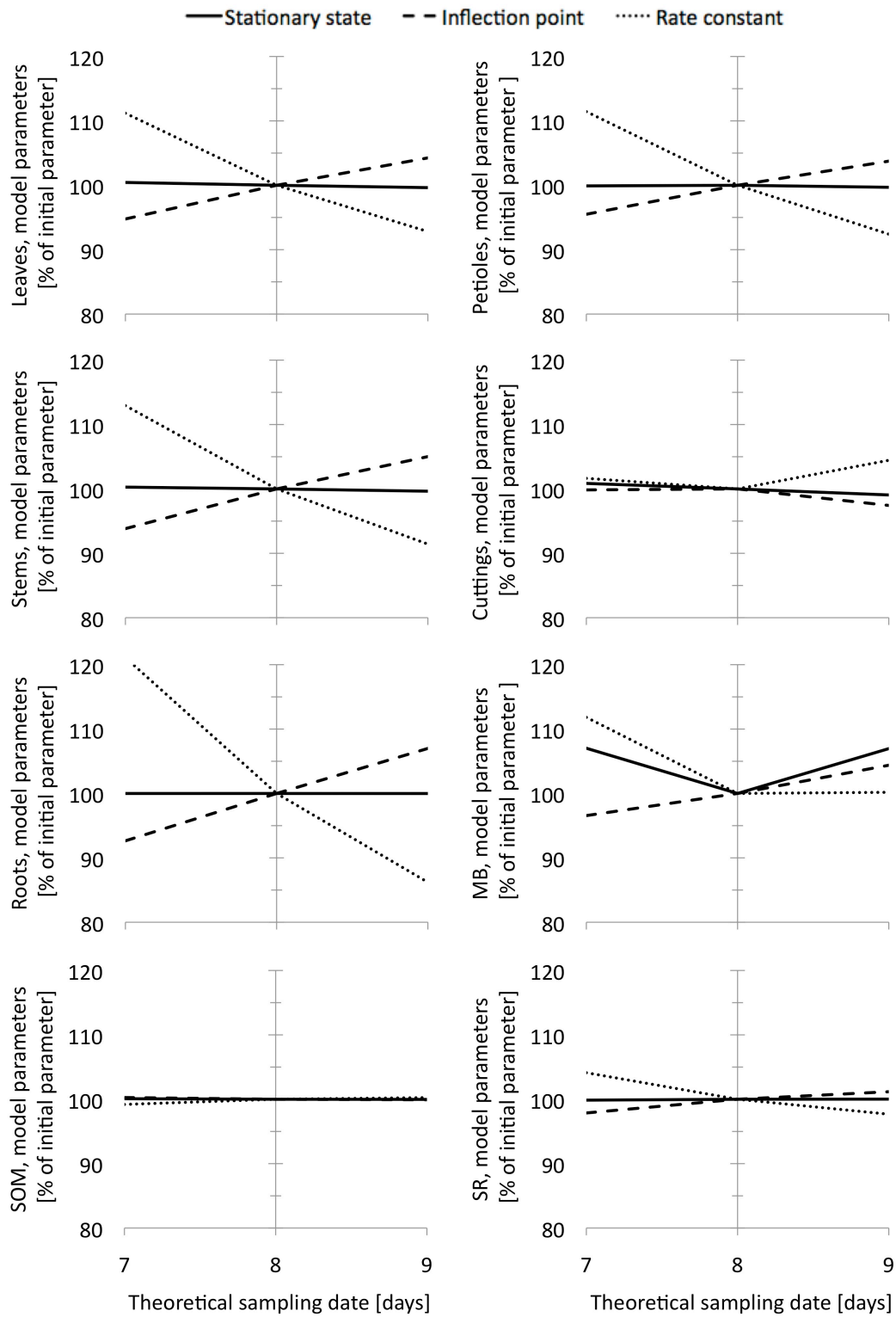


1 **Supplementary material**

2 **Table 1. Logarithmic versus logistic curve fit of the ¹³C dynamics.** Coefficients of
3 determination (R^2) and root-mean-square-deviation (RMSD) of the logarithmic and logistic
4 curve fit (non linear least squares) on the ¹³C mass excess data assessed for the plant-soil
5 compartments during the continuous labelling experiment.

Plant-soil compartment	Logarithmic fit		Logistic fit	
	R^2	RMSD	R^2	RMSD
Leaves	0.91	4.08	0.94	3.08
Petioles	0.88	0.52	0.92	0.39
Stems	0.84	2.20	0.87	1.79
Cuttings	0.85	0.40	0.87	0.35
Roots	0.73	0.36	0.79	0.29
MB	0.53	0.04	0.57	0.03
SOM	0.68	0.21	0.69	0.19
SR	0.67	0.12	0.70	0.11



6

7 **Figure 1. Sensitivity analysis of the logistic model.** The change in the model parameters
 8 stationary state, inflection point and rate constant are illustrated relative to the initial
 9 parameter at sampling date eight (given in %). The sensitivity analysis is based on the shift of
 10 the data point at day eight (see Figure 2) to day seven or nine and recalibration of the model.