

Supplementary material

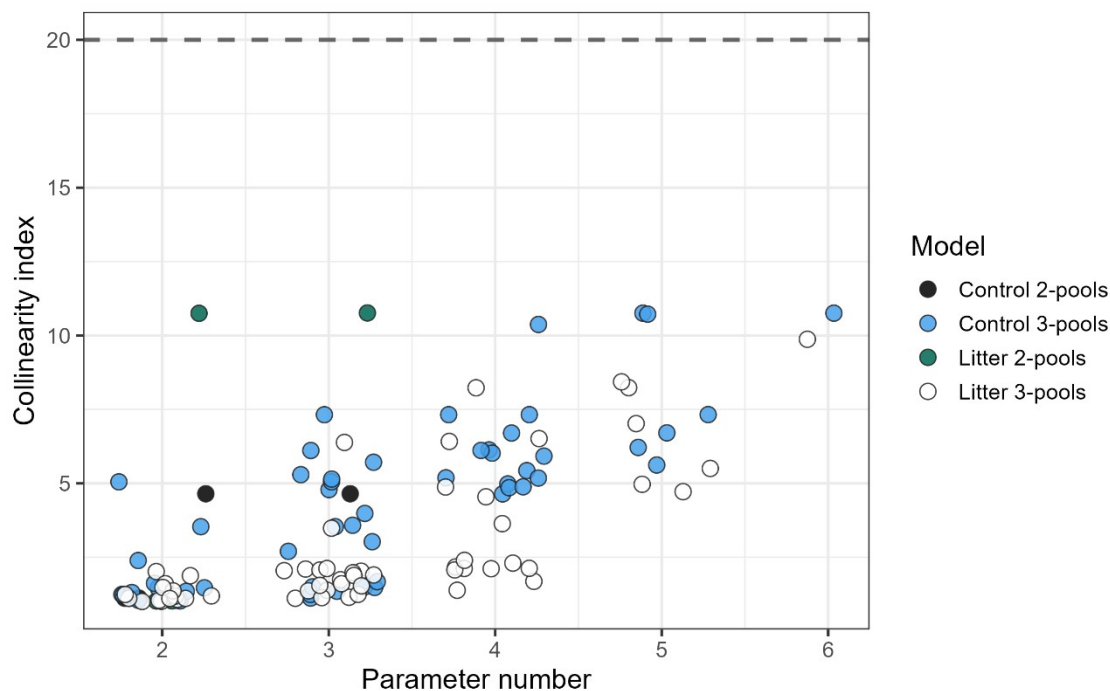


Fig. S1: Collinearity index as a function of the number of parameters estimated by the different models. The dashed line indicates the upper limit for acceptable collinearity. All estimated collinearity indices were below 20 across models.

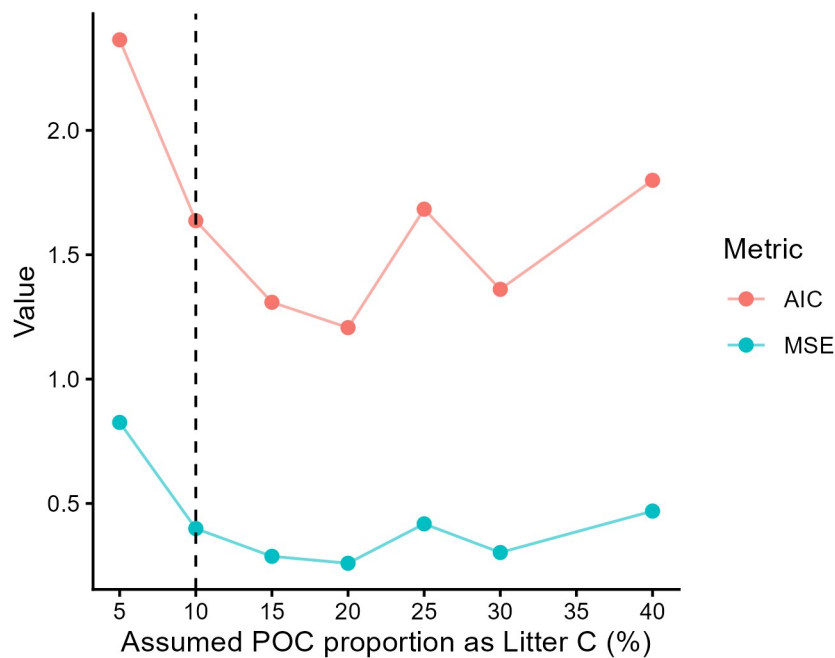


Fig. S2: AIC and MSE values for control samples models assuming different proportions of POC assigned to the Litter C pool.

Table S1. AIC and MSE values and their relative values compared with the model showing the lowest AIC and MSE values, for control-samples models assuming different proportions of POC assigned to the Litter C pool.

POC as fast-cycling C assumption (%)	AIC	Relative AIC to best model (%)	MSE	Relative MSE to best model (%)
5	2.364	195.9	0.826	318.1
10	1.637	135.6	0.399	153.7
15	1.309	108.4	0.287	110.7
20	1.207	100.0	0.260	100.0
25	1.683	139.5	0.418	161.0
30	1.361	112.8	0.303	116.7
40	1.799	149.1	0.469	180.8

Table S2. Parameter values for control-samples models assuming different proportions of POC assigned to the Litter C pool.

Litter addition assumption (%)	k_1	k_2	k_3	a_{21}	a_{32}	a_{31}
5	13.622	0.05	0.131	0.101	0.045	0.105
10	8.152	0.15	0.086	0.411	0.134	0.123
15	5.896	0.070	0.060	0.257	0.069	0.195
20	4.701	8.06E-07	0.027	0.087	7.93E-07	0.078
25	4.165	2.78E-04	0.004	0.067	2.72E-04	0.209
30	5.170	0.19	0.023	1.678	0.137	0.533
40	5.989	0.06	0.056	0.194	0.047	3.728

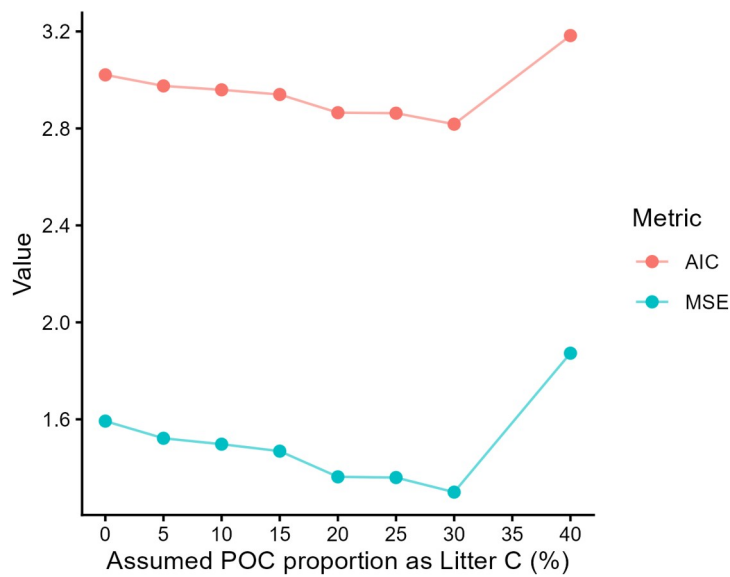


Fig. S3. AIC and MSE values for litter-addition samples models assuming different proportions of POC assigned to the Litter C pool.

Table S3. AIC and MSE values and their relative values compared with the model showing the lowest AIC and MSE values, for litter-addition-samples models assuming different proportions of POC assigned to the Litter C pool.

POC as Litter C assumption (%)	AIC	Relative AIC to best model (%)	MSE	Relative MSE to best model (%)
0	3.021	107.2	1.592	122.5
5	2.975	105.6	1.522	117.1
10	2.959	105.0	1.497	115.2
15	2.940	104.3	1.469	113.0
20	2.865	101.7	1.363	104.8
25	2.863	101.6	1.360	104.6
30	2.817	100	1.299 *	100.0
40	3.183	113.0	1.873	144.1

Table S4. Parameter values for litter-addition-samples models assuming different proportions of POC assigned to the Litter C pool.

POC as Litter C assumption (%)	k_1	k_2	k_3	a_{21}	a_{32}	a_{31}
0	6.25	4.5 E-15	3.4 E-11	0.027	1.7 E-16	0.049
5	6.16	0.002	1.2 E-7	0.284	0.002	0.275
10	6.32	0.064	0.028	1.28	0.064	0.080
15	6.81	0.018	0.046	1.850	0.017	0.404
20	6.46	5.7 E-5	0.027	2.010	5.6 E-5	0.158
25	6.10	0.015	4.1 E-4	1.745	0.014	0.271
30	6.04	6.69 E-4	1.1 E-6	2.160	6.6 E-4	0.065
40	6.04	0.003	0.003	0.035	0.003	2.614