

Supplement of SOIL, 4, 141–152, 2018
<https://doi.org/10.5194/soil-4-141-2018-supplement>
© Author(s) 2018. This work is distributed under
the Creative Commons Attribution 4.0 License.



Supplement of

Separation of soil respiration: a site-specific comparison of partition methods

Louis-Pierre Comeau et al.

Correspondence to: Derrick Y. F. Lai (dyflai@cuhk.edu.hk)

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.

Complementary research data of L.-P. Comeau et al.: Separation of soil respiration

Raw data from Figure 2a. Soil and air temperature and daily rainfall over the study period

Date	Air temperature (°C)	Rainfall (mm)
01-Feb	15.202	0
02-Feb	13.642	0
03-Feb	13.865	0
04-Feb	15.089	0.4
05-Feb	16.312	1.6
06-Feb	15.678	0
07-Feb	13.877	0
08-Feb	14.807	0.4
09-Feb	9.4433	0
10-Feb	8.2522	0
11-Feb	9.4132	0
12-Feb	10.858	0
13-Feb	12.174	0
14-Feb	14.106	0
15-Feb	14.086	0
16-Feb	15.418	0
17-Feb	17.630	0
18-Feb	17.586	0
19-Feb	14.767	0.2
20-Feb	17.750	0
21-Feb	15.947	1.8
22-Feb	16.833	13.8
23-Feb	14.834	0
24-Feb	7.641	0.2
25-Feb	7.359	2
26-Feb	10.010	3.2
27-Feb	13.326	0
28-Feb	13.566	0
01-Mar	15.536	0
02-Mar	15.440	0
03-Mar	13.660	0
04-Mar	16.340	0
05-Mar	18.264	0
06-Mar	17.868	0

07-Mar	14.564	0
08-Mar	12.531	7.6
09-Mar	13.174	0.4
10-Mar	15.808	0
11-Mar	15.194	0.2
12-Mar	16.610	0
13-Mar	19.758	0
14-Mar	16.818	4
15-Mar	13.407	0.4
16-Mar	14.797	0
17-Mar	15.519	0.2

Raw data from Figure 2b. Total soil CO₂ efflux, heterotrophic CO₂ efflux from hand-sorted root exclusion bags and from intact block root exclusion bags.

Measurement date	Treatment	Average CO ₂ flux (Mg C ha ⁻¹ y ⁻¹)	Sample size (n)	Standard Errors of CO ₂ flux (Mg C ha ⁻¹ y ⁻¹)
03-Feb	Hand-sorted	6.006	7	0.765122
11-Feb	hand-sorted	3.651	7	0.598268
18-Feb	hand-sorted	7.604	7	1.246508
25-Feb	hand-sorted	4.021	7	0.618082
03-Mar	hand-sorted	4.061	7	1.06322
10-Mar	hand-sorted	3.515	7	0.32851
15-Mar	hand-sorted	3.242	7	0.70683
31-Mar	hand-sorted	2.320	7	0.73853
07-Apr	hand-sorted	5.118	7	0.65287
19-Apr	hand-sorted	8.309	7	1.13608
03-Feb	Intact block	2.559	7	0.6830
11-Feb	intact block	1.757	7	0.55457
18-Feb	intact block	3.719	7	0.73140
25-Feb	intact block	1.979	7	0.71800
03-Mar	intact block	2.798	7	0.98731
10-Mar	intact block	2.354	7	1.14021
15-Mar	intact block	2.218	7	0.98868
31-Mar	intact block	2.798	7	0.5410
07-Apr	intact block	4.334	7	0.90804
19-Apr	intact block	5.733	7	1.54111
03-Feb	Total soil CO ₂ flux	7.439	7	0.65820
11-Feb	Total soil CO ₂ flux	4.095	7	0.43979
18-Feb	Total soil CO ₂ flux	8.019	7	0.59859
25-Feb	Total soil CO ₂ flux	4.311	7	0.51309

03-Mar	Total soil CO ₂ flux	4.504	7	0.89371
10-Mar	Total soil CO ₂ flux	5.844	7	0.78782
15-Mar	Total soil CO ₂ flux	4.470	7	0.65258
31-Mar	Total soil CO ₂ flux	5.37	7	1.48750
07-Apr	Total soil CO ₂ flux	8.514	7	1.0961
19-Apr	Total soil CO ₂ flux	8.838	7	0.9710

Raw data from Figure 3. Regression between root biomass and CO₂ efflux.

Average CO ₂ flux (Mg C ha ⁻¹ y ⁻¹)	Amount of small roots (mg per cm ³)
12.7	2.83
11.4	3.07
11.1	3.76
10.3	4.83
10.4	2.75
3.6	1.89
6.2	2.53
17.9	4.44
17.3	3.96
17.3	3.61
5.5	2.91
15.0	2.47
3.4	0.48
8.5	1.59
16.6	1.52
10.2	1.95
16.7	1.54
6.1	2.04
8.8	1.34
16.2	3.42
8.4	2.26
10.3	2.14

Raw data from Figure 4. Lab incubation regression between temperature, moisture and CO₂ efflux

Volumetric moisture content (%)	temperature (°C)	Average CO ₂ flux (g CO ₂ m ² h ⁻¹)	Sample size (n)	Standard Error CO ₂ flux (g CO ₂ m ² h ⁻¹)
15	14	0.0068	4	0.00140
25	14	0.0156	4	0.00247
35	14	0.0210	4	0.00500

45	14	0.0184	4	0.00441
15	20	0.0198	4	0.00243
25	20	0.0287	4	0.00221
35	20	0.0325	4	0.00056
45	20	0.0315	4	0.00254
15	26	0.0373	4	0.00393
25	26	0.0647	4	0.00652
35	26	0.0680	4	0.00420
45	26	0.0636	4	0.00416
15	32	0.0677	4	0.00675
25	32	0.1018	4	0.00702
35	32	0.1100	4	0.00840
45	32	0.0957	4	0.01286