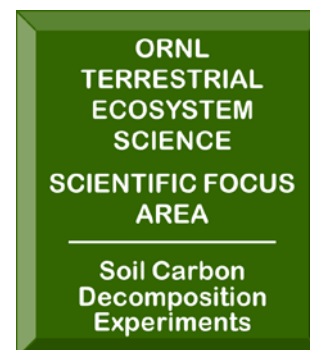


Data Dictionary for Organic Carbon Sorption and Decomposition in Selected Global Soils



Experiments Using Bulk Soils

Bulk soils

Characterization bulk soils

Characterization_bulk_soils

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Sampling_depth	cm	Andisol and Gelisol included organic soil layer
6	pH	1:2 soil water	
7	Organic_carbon	g/kg	
8	Total_nitrogen	g/kg	
9	Clay	g/kg	
10	Silt	g/kg	
11	Microbial_biomass_carbon	g/kg	
12	Dissolved_organic_carbon	g/kg	
13	Bacterial_gene_copy_numbers		Based on quantitative PCR method (Jagadamma et al., 2014)
14	Fungal_gene_copy_numbers		Based on quantitative PCR method (Jagadamma et al., 2014)

14C Substrate C respiration**14C_respiration_bulk_soils_glucose**

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g glucose C spiked with 14C was added per g dry soil
7	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
8	Day_1	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
9	Day_2	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
10	Day_4	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
11	Day_7	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
12	Day_10	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
13	Day_15	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
14	Day_31	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
15	Day_45	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
16	Day_60	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
17	Day_90	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
18	Day_120	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
19	Day_150	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
20	Day_210	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
21	Day_270	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
22	Day_365	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
23	Cumulative	Cumulative % of total added 14C respired	Cumulative % of total added 14C respired

14C_respiration_bulk_soils_starch

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g starch C spiked with 14C was added per g dry soil
7	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
8	Day_1	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
9	Day_2	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
10	Day_4	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
11	Day_7	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
12	Day_10	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
13	Day_15	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
14	Day_31	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
15	Day_45	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
16	Day_60	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
17	Day_90	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
18	Day_120	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
19	Day_150	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
20	Day_210	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
21	Day_270	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
22	Day_365	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
23	Cumulative	Cumulative % of total added 14C respired	Cumulative % of total added 14C respired

14C_respiration_bulk_soils_cinnamic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g cinnamic acid C spiked with 14C was added per g dry soil
7	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
8	Day_1	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
9	Day_2	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
10	Day_4	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
11	Day_7	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
12	Day_10	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
13	Day_15	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
14	Day_31	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
15	Day_45	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
16	Day_60	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
17	Day_90	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
18	Day_120	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
19	Day_150	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
20	Day_210	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
21	Day_270	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
22	Day_365	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
23	Cumulative	Cumulative % of total added 14C respired	Cumulative % of total added 14C respired

14C_respiration_bulk_soils_stearic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g stearic acid C spiked with 14C was added per g dry soil
7	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
8	Day_1	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
9	Day_2	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
10	Day_4	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
11	Day_7	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
12	Day_10	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
13	Day_15	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
14	Day_31	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
15	Day_45	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
16	Day_60	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
17	Day_90	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
18	Day_120	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
19	Day_150	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
20	Day_210	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
21	Day_270	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
22	Day_365	% of total added 14C respired	% of total added 14C respired on this day of 14C-CO2 sampling
23	Cumulative	Cumulative % of total added 14C respired	Cumulative % of total added 14C respired

Native soil C respiration**SoilC_respiration_bulk_soils_unamended**

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Day_1	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
7	Day_2	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
8	Day_4	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_7	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_10	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_15	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_31	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_45	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_60	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_90	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_120	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_150	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_210	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_270	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_365	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_bulk_soils_glucose

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g glucose C spiked with 14C was added per g dry soil
7	Day_1	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
8	Day_2	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_4	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_7	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_10	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_15	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_31	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_45	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_60	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_90	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_120	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_150	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_210	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_270	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_365	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_bulk_soils_starch

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g starch C spiked with 14C was added per g dry soil
7	Day_1	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
8	Day_2	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_4	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_7	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_10	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_15	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_31	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_45	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_60	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_90	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_120	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_150	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_210	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_270	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_365	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_bulk_soils_cinnamic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g cinnamic acid C spiked with 14C was added per g dry soil
7	Day_1	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
8	Day_2	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_4	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_7	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_10	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_15	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_31	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_45	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_60	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_90	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_120	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_150	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_210	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_270	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_365	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_bulk_soils_stearic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Replications		Three analytical replications
6	Substrate		0.4 g stearic acid C spiked with 14C was added per g dry soil
7	Day_1	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
8	Day_2	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_4	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_7	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_10	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_15	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_31	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_45	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_60	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_90	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_120	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_150	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_210	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_270	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_365	mg C/g soil	Cumulative total CO2 respired on this day of CO2 sampling

Mineralization kinetics (pool sizes and fluxes)**Mineralization_kinetics_nativesoilC_bulk_soils**

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Substrate		Unamended means no substrates added to soil, 0.4 g substrate C spiked with 14C was added per g dry soil
6	Fast_pool_size_C ₁	% of native soil C lost	
7	Standard_error_C ₁		Standard error based on n=3
8	Slow_pool_size_C ₂	% of native soil C lost	
9	Standard_error_C ₂		Standard error based on n=3
10	Mineralization_rate_k ₁	day ⁻¹	
11	Standard_error_k ₁		Standard error based on n=3
12	Mineralization_rate_k ₂	day ⁻¹	
13	Standard_error_k ₂		Standard error based on n=3

Mineralization_kinetics_substrate14C_bulk_soils

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points

4	Soils		Soil order name
5	Substrate		0.4 g substrate C spiked with 14C was added per g dry soil
6	Fast_pool_size_C ₁	% of substrate C lost	
7	Standard_error_C ₁		Standard error based on n=3
8	Intermediate_pool_size_C ₂	% of substrate C lost	
9	Standard_error_C ₂		Standard error based on n=3
10	Slow_pool_size_C ₃	% of substrate C lost	
11	Standard_error_C ₃		Standard error based on n=3
12	Mineralization_rate_k ₁	day ⁻¹	
13	Standard_error_k ₁		Standard error based on n=3
14	Mineralization_rate_k ₂	day ⁻¹	
15	Standard_error_k ₂		Standard error based on n=3
16	Mineralization_rate_k ₃	day ⁻¹	
17	Standard_error_k ₃		Standard error based on n=3

DOC microbial C biomass bulk soils

DOC_microbial_C_biomass_bulk_soils

Column	Heading	Units/Format	Description
1	Substrate		0.4 g substrate C spiked with 14C was added per g dry soil
2	Location		Sampling locations
3	Latitude	Decimal degrees	Latitude of sample points
4	Longitude	Decimal degrees	Longitude of sample points

5	Soil		Soil order name
6	Measurement_days		Dissolved organic C and microbial biomass C were measured on these days of incubation
7	Substrate_derived_dissolved_organic_C	% of total substrate C added	
8	Substrate_derived_microbial_biomass_C	% of total substrate C added	
9	Total_dissolved_organic_C	µg C/g soil	
10	Total_microbial_biomass_C	µg C/g soil	

Microbial gene copy numbers

Bacterial_fungal_gene_copy_numbers_bulk_soils

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soil		Soil order name
5	Substrate		Unamended means no substrates added to soil
6	Bacterial_gene_copy_numbers_day_4		Based on quantitative PCR method (Jagadamma et al., 2014(b))
7	Bacterial_gene_copy_numbers_day_30		Based on quantitative PCR method (Jagadamma et al., 2014(b))
8	Bacterial_gene_copy_numbers_day_270		Based on quantitative PCR method (Jagadamma et al., 2014(b))
9	Fungal_gene_copy_numbers_day_4		Based on quantitative PCR method (Jagadamma et al., 2014(b))
10	Fungal_gene_copy_numbers_day_30		Based on quantitative PCR method (Jagadamma et al., 2014(b))
11	Fungal_gene_copy_numbers_day_270		Based on quantitative PCR method (Jagadamma et al., 2014(b))

Experiments using soil fractions

Soil fractions

14C Substrate C respiration

14C_respiration_fractions_glucose

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g glucose C spiked with 14C was added per g dry soil
8	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
9	Day_0.17	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
10	Day_1	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
11	Day_2	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
12	Day_4	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
13	Day_6	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
14	Day_10	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
15	Day_15	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2

			sampling
16	Day_25	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
17	Day_30	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
18	Day_45	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
19	Day_60	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
20	Day_90	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
21	Day_120	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
22	Day_150	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
23	Day_210	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
24	Day_270	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling
25	Day_365	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-Co2 sampling

14C_respiration_fractions_starch

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications

7	Substrate		0.4 g starch C spiked with 14C was added per g dry soil
8	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
9	Day_0.17	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
10	Day_1	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
11	Day_2	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
12	Day_6	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
13	Day_7	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
14	Day_10	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
15	Day_15	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
16	Day_30	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
17	Day_45	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
18	Day_60	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
19	Day_90	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
20	Day_120	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
21	Day_150	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
22	Day_210	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
23	Day_270	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
24	Day_365	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling

14C_respiration_fractions_cinnamic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g cinnamic acid C spiked with 14C was added per g dry soil
8	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
9	Day_1	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
10	Day_2	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
11	Day_4	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
12	Day_7	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
13	Day_10	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
14	Day_15	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
15	Day_30	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
16	Day_45	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
17	Day_60	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
18	Day_90	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
19	Day_120	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2

			sampling
20	Day_150	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
21	Day_210	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
22	Day_270	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
23	Day_365	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling

14C_respiration_fractions_stearic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g stearic acid C spiked with 14C was added per g dry soil
8	Added_14C	dpm/g soil (dry)	dpm=disintegration per minute
9	Day_1	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
10	Day_2	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
11	Day_5	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
12	Day_9	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
13	Day_21	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling

14	Day_33	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
15	Day_44	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
16	Day_60	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
17	Day_90	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
18	Day_120	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
19	Day_150	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
20	Day_210	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
21	Day_270	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling
22	Day_365	% of total added 14C respired	Cumulative % of total added 14C respired on this day of 14C-CO2 sampling

Native soil C respiration

SoilC_respiration_fractions_unamended

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications

7	Day_1	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
8	Day_2	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_4	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_7	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_10	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_15	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_25	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_30	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_45	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_60	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_90	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_120	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_150	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_210	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_270	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
22	Day_365	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_fractions_glucose

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g glucose C spiked with 14C was added per g dry soil

8	Day_1	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_2	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_4	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_7	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_10	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_15	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_25	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_30	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_45	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_60	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_90	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_120	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_150	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_210	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
22	Day_270	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
23	Day_365	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_fractions_starch

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g starch C spiked with 14C was added per g dry soil

8	Day_1	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_2	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_6	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_7	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_10	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_15	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_30	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_45	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_60	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_90	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_120	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_150	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_210	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_270	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
22	Day_365	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_fractions_cinnamic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g cinnamic acid C spiked with 14C was added per g dry soil
8	Day_1	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

9	Day_2	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
10	Day_4	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_7	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_10	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_15	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_30	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_45	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_60	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_90	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_120	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_150	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_210	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_270	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
22	Day_365	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

SoilC_respiration_fractions_stearic_acid

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Fractions		Size based soil fractionation (Jagadamma et al., 2013) POC=Particulate organic carbon, MOC=mineral-associated organic carbon
6	Replications		Three analytical replications
7	Substrate		0.4 g stearic acid C spiked with 14C was added per g dry soil
8	Day_1	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
9	Day_2	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

10	Day_5	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
11	Day_9	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
12	Day_21	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
13	Day_33	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
14	Day_44	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
15	Day_60	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
16	Day_90	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
17	Day_120	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
18	Day_150	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
19	Day_210	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
20	Day_270	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling
21	Day_365	mg C/g fraction	Cumulative total CO2 respired on this day of CO2 sampling

Characterization mineral fraction

Characterization_mineral_fraction

Column	Heading	Units/Format	Description
1	Location		Sampling locations
2	Latitude	Decimal degrees	Latitude of sample points
3	Longitude	Decimal degrees	Longitude of sample points
4	Soils		Soil order name
5	Soil_horizon		Samples collected from A and B horizons of each location
6	pH	1:2 soil water	
7	Organic_carbon	g/kg	Refer Jagadamma et al., 2014(a) for details

8	Clay	g/kg	Refer Jagadamma et al., 2014(a) for details
9	Fe_dithionate	g/kg	Refer Jagadamma et al., 2014(a) for details
10	Al_dithionate	g/kg	Refer Jagadamma et al., 2014(a) for details
11	Fe_oxalate	g/kg	Refer Jagadamma et al., 2014(a) for details
12	Al_oxalate	g/kg	Refer Jagadamma et al., 2014(a) for details
13	Fe_pyrophosphate	g/kg	Refer Jagadamma et al., 2014(a) for details
14	Al_pyrophosphate	g/kg	Refer Jagadamma et al., 2014(a) for details

Sorption mineral fraction

Sorption_parameters_mineral_fraction

Column	Heading	Units/Form at	Description
1	Substrate		1-100 mg/L of substrate C solutions spiked with 4440 disintegration per minute/mL of corresponding 14C labeled susbtrates
2	Location		Sampling locations
3	Latitude	Decimal degrees	Latitude of sample points
4	Longitude	Decimal degrees	Longitude of sample points
5	Soils		Soil order name
6	Soil_horizon		Samples collected from A and B horizons of each location
7	Maximum_soprtion_capacity	mg/kg	Q_{max} (refer Jagadamma et al., 2014(a))
8	Standard_error_maximum_sorption_capacity		refer Jagadamma et al., 2014(a)
9	Binding_coefficient	L/mg	k (refer Jagadamma et al., 2014(a))
10	Standard_error_binding_coefficient		refer Jagadamma et al., 2014(a)