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## The application of <sup>13</sup>C pulse labeling in the partitioning of soil respiration in a *Leymus chinensis* steppe in Inner Mongolia, China

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In this study, we researched the soil respiration distinction with <sup>13</sup>C pulse labeling technique combining static chamber-Keeling plot method in the Leymus chinensis grassland in Xinlin River basin, Inner-Mongolia. During the observation period, the  $\delta$ 13C value of soil respiration averaged (-17.8±0.8) ‰, which was at the range of -20.7‰~-15.7‰;  $\delta$ 13C of microbial respiration averaged (-21.3±0.5) ‰, ranging from- 22.5‰~-19.0‰. Roots do not reflect newly assimilated C since they have long residence time. The contribution of root respiration to soil respiration averaged (30±6) %, ranging from 7%~69%. The fraction of root respiration to soil respiration began to increase from the middle of July and reached its peak value until the middle of August. Then, it gradually decreased.

## Biography

Geng Yuanbo has his expertise in nutrient elements cycle (C, N, Mn etc.) in grassland ecosystem and the carbon emission in cement production. He partitioned soil respiration in steppe by root biomass exponential regression method and stable carbon isotope <sup>13</sup>C pulse labeling method in the Xilin River Basin, Inner Mongolia, China. He researched CO2 emission factors from cement industry and corrected CO2 emission classification in cement production process.

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