

综合评述

土壤微生物与根系呼吸作用影响因子分析

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摘要

土壤呼吸作用作为陆地生态系统碳循环的重要组成部分,是当前碳循环研究中的热点问题.对于土壤呼吸作用主要组成部分土壤微生物呼吸作用和根系呼吸作用影响因子的研究,有助于准确地评估全球碳收支.本文从气候、土壤、植被及地表覆被物、大气CO₂浓度、人为干扰等方面综述了土壤微生物呼吸作用和根系呼吸作用的主导影响因子,指出这些影响因子不仅直接或间接地影响土壤微生物呼吸作用和根系呼吸作用,而且它们之间相互作用、相互影响,且各影响因子的地位和作用会随时空尺度变化发生相应改变.在此基础上,论文提出了未来土壤呼吸作用的研究重点.

关键词 [土壤呼吸作用](#),[微生物呼吸作用](#),[根呼吸作用](#),[影响因子](#)

分类号

Affecting factors of soil microorganism and root respiration

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Abstract

Soil respiration is an important part of the carbon cycle in terrestrial ecosystems, and its contribution to the global carbon budget has been the focus of wide concern. Researches on the affecting factors of soil microorganism and root respiration, the main components of soil respiration, contribute to the understanding of the role of soil respiration on global carbon cycle, and to the accurate evaluation of global carbon budget. This paper reviewed the direct and indirect affecting factors of soil microorganism and root respiration, including climate factors, soil properties, vegetation and litterfall, air CO₂ concentration, and human activities. These affecting factors were interactive, and their contributions to soil microorganism and root respiration varied in temporal and spatial scales. The study on natural and anthropogenic factors of soil microorganism and root respiration was emphasized, and some related research tasks in the future were also proposed.

Key words [Soil respiration](#) [Microorganism respiration](#) [Root respiration](#) [Affecting factors](#)

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