

研究报告

## 本溪山樱根际与非根际解磷细菌群落结构及动态变化

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**摘要** 利用选择性培养基, 对不同基质中的本溪山樱(*Cerasus sachalinensis*) 根际与非根际解磷细菌进行了分离、鉴定和分类, 分析了3种不同基质中根际与非根际解磷细菌数量和类群的变化. 结果表明, 从3种不同配比的基质中分离纯化获得的解磷细菌分别属于13个属, 以芽孢杆菌属(*Bacillus*)、假单胞菌属(*Pseudomonas*)和沙雷氏菌属(*Serratia*)为主. 其中添加炉渣的基质最适于解磷细菌的生长与繁殖, 其种群数量最高, 但类群的多样性指数低于另外两种土壤. 本溪山樱不同生育期根际与非根际解磷细菌种群数量不同, 新梢停长期根际中定殖的解磷细菌种群最多(共分离到6个菌属), 新梢迅速生长期和落叶期较少, 萌芽期最少. 根际土壤解磷细菌多样性亦随生育期发生变化, 新梢迅速生长期最高, 落叶期次之, 新梢停长期最低. 非根际土壤则有随生育期逐渐减小的趋势. 解磷细菌的根际效应较明显

**关键词** [本溪山樱](#) [根际与非根际](#) [解磷细菌](#) [多样性指标](#)

分类号

## Community structure and its dynamics of phosphobacteria in *Cerasus sachalinensis* rhizosphere and nonrhizosphere.

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### Abstract

By using selective culture media, the phosphobacteria in *Cerasus sachalinensis* rhizosphere and nonrhizosphere were isolated and identified, with their community structure and dynamics studied. The phosphobacteria isolated from three test substrates belonged to 13 genera, and *Bacillus*, *Pseudomonas* and *Serratia* were the main ones. The substrate added with slag was most suitable for the growth of phosphobacteria, on which, phosphobacteria had the highest population number but the lowest diversity index. There was a difference in the population number of phosphobacteria in rhizosphere and nonrhizosphere during the growth period of *C. sachalinensis*. In rhizosphere, phosphobacteria had the highest number (6 genera) in withhold-growing period of shoot, less in fast growing period of shoot and in defoliation period, and the least in germination period. The diversity index of phosphobacteria in rhizosphere also varied with the growth period of *C. sachalinensis*, which was in the order of fast growing period of shoot>defoliation period>withhold-growing period of shoot. In nonrhizosphere, the population number and diversity index of phosphobacteria had a decreasing trend with the growth of *C. sachalinensis*. All of these indicated that there was an obvious rhizosphere effect on phosphobacteria.

**Key words** [Cerasus sachalinensis](#) [Rhizosphere and nonrhizosphere](#) [Phosphobacteria](#) [Diversity index](#)

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