Ms gene and Mr gene: Microbial-mediated spatiotemporal communication between plants

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Introduction

Phyllosphere microbiota
Pathogen
Influence or shape
 Suppress or work against
Communicate

Microbial small molecule (for example, secondary metabolite)
Microbial macromolecule
Plant secondary metabolite
Plant receptor for beneficial microbiota

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Abstract

Microbial-Mediated Interplant Communication

Ms gene

Microbiome

Mr gene
Identify Ms gene
In the first process, the Ms gene builds a unique plant microbiome by regulating the production of secondary metabolites and influencing the soil environment in which microorganisms live.
➢ Next, microorganisms capture signals from plants, and then regulate the growth and development of plants themselves or nearby plants by releasing VOCs.
Summary

➢ Spatially, microbial-mediated communication between parts of a plant or between plants regulates growth and immunity.
➢ Temporally, as a component of soil legacy, it regulates the growth and immunity of future plants.
➢ The method of information exchange between plant-microbe-plant can generate a wide range of cascading effects. The Ms gene serves as a signal emitter, conveying information through the mediation of microorganisms, and the Mr gene, upon receiving and processing the obtained information, carries out the next signal transmission and amplification.

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