# What's new in Plant-Soil-Microbe Interactions

GRR VASI Végétal - Agronomie - Sols - Innovation


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## Do you know?

## *…The γ-lactone catabolic pathway of Rhodococcus erythropolis, a novel biocontrol pathway involved in silencing pathogen communication in the rhizosphere*

*Rhodococcus erythropolis* has recently been proposed as a biocontrol agent for plant protection against soft-rot bacteria (*Dickeya* and *Pectobacterium*). Its biocontrol activity is based on the disruption of the *N*-acyl homoserine lactone mediated communication, crucial for pathogenicity. The contribution of the γ-lactone catabolic pathway in plant protection was demonstrated *in planta* for the first time this year, by studying the transcription of the *R. erythropolis* lactonase gene (encoding the key enzyme of this pathway) and the subsequent lactone breakdown. The role of this catabolic pathway in biocontrol activity was confirmed by deletion of the lactonase gene from *R. erythropolis* and also its heterologous expression in *Escherichia coli*.
Another major finding of this work is that the γ-lactone catabolic pathway is induced by pathogen communication rather than by pathogen invasion.

See the paper by Barbey et al., 2013 '*In planta* biocontrol of *Pectobacterium atrosepticum* by *Rhodococcus erythropolis* involves silencing of pathogen communication by the rhodococcal gamma lactone catabolic pathway' PLoS ONE

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3689677/pdf/pone.0066642.pdf