

## عنوان مقاله:

Analysis of the expression level of aquaporins under acetylene treatment and pathogen attack

## محل انتشار:

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تعداد صفحات اصل مقاله: 12

## نویسنده:

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## خلاصه مقاله:

Fusarium wilt disease and Sigatoka leaf spots threaten global market of *Musa* sp. Major Intrinsic Proteins (MIP) consisting aquaporins (AQPs) facilitate the transport of water and molecules like H<sub>2</sub>O<sub>2</sub>, CO<sub>2</sub>, silicon, boron, urea, and ammonia. Biotic and abiotic stresses affect the expression level of MIPs and influence the transportation of water and nutrients, which results in the susceptibility of plants to diseases. Expression level of MIP genes in *Musa acuminata* (MaMIPs) fruits during development and under acetylene treatment; expression of MaMIPs in the corms of banana infected with *Fusarium oxysporum cubense* (Foc), and the expression of MaMIP genes in the leaves treated with *Mycosphaerella fijiensis* were retrieved from the banana genome hub database. Expression data of roots, treated with virulent Focs at 3, 27, and 51 hours post-inoculation (hpi) were downloaded from Gene Expression Omnibus. The expression data were analyzed using MeV 4.9 program. Expression level of MaMIPs was mainly suppressed by acetylene and biotic treatments. Twenty seven and 51 hpi of roots with Foc, 88% and 63% of MaMIPs were down-regulated. However, MaNIP2-1 expression showed a significant up-regulation in all conditions. Infection of banana corms resulted in the suppression of MaMIPs. A low decrease in the expression of MaMIPs was observed, when the leaves were under *Mycosphaerella fijiensis* attack. Suppression of MaMIPs might be in line with repression of plant defense by banana pathogens as an approach for infection progression. Identification of the MIPs influenced by stresses provides the opportunity for the production of transgenic resistant cultivars.

## کلمات کلیدی:

aquaporin, Banana, Biotic stress, Expression profile, Fusarium, Mycosphaerella

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/974328>

