

Nitrate non-utilizing mutants and vegetative compatibility groups of *Fusarium proliferatum* and *F. sacchari* isolated from rice in the Peninsular Malaysia and Kalimantan, Indonesia

ABSTRACT

A total of 26 isolates of *Fusarium proliferatum* and *F. sacchari* were isolated from rice in the Peninsular Malaysia and Kalimantan, Indonesia. Spontaneous chlorate-resistant sectors (CRSs) were recovered from all wild type of both *Fusarium* species when cultured on two chlorate media. The non-utilizing (nit) mutants were generated as crn (chlorate resistant, nitrate utilizing), nit1, nit3 and nitM based on phenotyping growth-types on diagnostic media with different sources of nitrogen. The nit mutants were paired on minimal medium (MM) for examining the vegetative compatibility. The majority of nit mutants (32.3–46.5%) recovered were nit1. Eight and seven vegetative compatibility groups (VCGs) of *F. proliferatum* and *F. sacchari* were identified, respectively. The isolates of *F. proliferatum* and *F. sacchari* were genetically diverse as shown by the number and distribution of the VCGs. No strong correlation was observed between VCGs of both species and location.

Keyword: *Fusarium proliferatum*; *F. sacchari*; Rice; Vegetative compatibility