

Meyerozyma guilliermondii SQUCC-33Y suppresses postharvest fruit rot of strawberry caused by *Alternaria alternata*

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Abstract

Strawberry fruits are vulnerable to infection by a broad range of fungal pathogens before and after harvest. In this study, *Alternaria* spp. strains associated with fruit rot of strawberry were isolated and characterized and the potential of the antagonistic yeast *Meyerozyma guilliermondii* strain SQUCC-33Y for the control of fruit rot of strawberry was evaluated. A total of seven isolates of *Alternaria* (STR2-STR8) were isolated from strawberry fruits showing symptoms of rot. On the basis of internal transcribed spacer (ITS) ribosomal RNA (rRNA) sequences, these fungal isolates were identified as *Alternaria alternata*. Pathogenicity tests revealed that most of the strains of *A. alternata* were pathogenic to strawberry. The measurement of disease severity on strawberry fruits revealed significant differences in the virulence between *A. alternata* strains. *M. guilliermondii* restricted the growth of all the strains of *A. alternata* in dual culture assay. Postharvest treatment of strawberry fruits with *M. guilliermondii* significantly reduced the fruit rot lesion size caused by *A. alternata*. This antagonistic yeast has the potential for use as a biofungicide for the control of *A. alternata*-induced postharvest fruit rot of strawberry.