

## **F20. Selection and evaluation of antagonistic yeasts in the control of strawberry postharvest rots and effect on the fruit microbiome**

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Strawberries are highly susceptible to fungal decay. The use of yeasts as biocontrol agents is a promising tool to control postharvest diseases of fruits. In this study, we selected some antagonistic yeasts to control postharvest rots of strawberries by assessing their efficacy, the effect on the fruit quality, and the fruit microbiome. A protocol was developed to isolate endophytic yeasts from healthy strawberries. Isolated endophytes were tested for their potential antagonistic activity, together with yeast strains present in the collection of the University of Turin. All trials were performed *in vivo* using naturally infected strawberries. The most effective strains in the screening trials, identified as *Metschnikowia pulcherrima* and *Aureobasidium pullulans*, were selected to set up efficacy trials. All the tested yeasts showed a significantly lower rot incidence and severity compared to the untreated control both after 10 days of storage at  $1 \pm 1$  °C and after 2 days of shelf-life at  $19 \pm 1$  °C. Additionally, results were comparable to those obtained for the treatment with a commercial biofungicide based on a strain of *Metschnikowia fructicola*. None of the tested yeasts significantly affected fruit firmness, total soluble solids content, and titratable acidity. Metabarcoding analysis of the strawberry microbiome, sampled during the efficacy trials, highlighted significant modifications in the microbial community in response to the treatments. The findings of this work provide new insights for the development of sustainable strategies for reducing postharvest losses while preserving fruit quality.

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