



## Beneficial Microbes to Optimize pest control in Sustainable Tomato production

### BeMOST HFRI-FM17-50

#### D1.1 Plant-mediated effects of selected BM (fungi/bacteria) against herbivores

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##### Summary

In the context of the WP1 objectives, D1.1 reports on the effects of microbe-induced resistance on the performance of BeMOST herbivores. Selected beneficial microbes with plant-protecting capabilities were included in our experiments with the aim to assess their plant-mediated effects against herbivores and to identify the most potent microbes to be adopted for further experimentation. In total, we tested 16 strains (bacteria/fungi) per arthropod species belonging to the five BeMOST arthropod groups (whiteflies: *T. vaporariorum*; thrips: *F. occidentalis*, aphids: *M. persicae*, mites: *T. urticae*, moths: *T. absoluta*). Plants were inoculated with the beneficial microbe and then infested with a standard number of pest individuals, depending on the herbivore species under study. Differences in oviposition, survival and/or development of each herbivore among microbe-inoculated and control plants were recorded. For the best performing microbes, the impact of herbivores on microbial colonization and context-dependency were assessed. Overall, our results show that different bacterial and fungal strains show potential in suppressing herbivore populations via the plant. Yet, there is variation in the effects of the different microbes depending on the herbivore species as well as the plant cultivar attacked by the pest.

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