

Discovery, development and technology transfer of biocontrol agents for postharvest disease control

D. Spadaro, A. Garibaldi, M.L. Gullino

Acta Horticulturae 1053: 23-36. (2014)

Abstract

Several biocontrol agents (BCAs) have been discovered and tested for their efficacy in controlled and semi-commercial conditions. After the efficacy evaluation and preliminary studies on the mode of action, patenting is an essential step before contacting potential private companies interested in developing biofungicides. Several small enterprises are interested in developing BCAs, but the long and expensive registration process in Europe often discourages them. Further steps undertaken by the research sector include a comprehensive characterization of the mechanism of action, and the development of molecular tools to track the microorganisms in the environment. The biomass production process and the development of appropriate stabilization and formulation are key issues to extend the shelf life of the biocontrol product and to develop a commercial biofungicide. These steps need a close collaboration between industry and the research sector. Other possible ways of introducing the BCA on the market could include the creation of university spin off companies. To introduce biofungicides in the postharvest sector, appropriate technology transfer and outreach activities are very important in order to involve the producers and the packinghouses, which are often reluctant to introduce BCAs in the food chain. The current manuscript offers an overview of the results achieved at the University of Torino during the last number of years.