

Book of Abstracts



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Stimulation of conidial germination of the powdery mildew hyperparasite *Ampelomyces quisqualis*

Angeli D.¹, Colombini A.¹, Siozios S.¹, Maurhofer M.², Gessler C.², Pertot I.¹

¹Department of Sustainable Agro-Ecosystems and Bioresources (DASB), Research and Innovation Centre (FEM), 38010 S. Michele all'Adige, Italy,

²Department of Environmental Systems Science (D-USYS), Swiss Federal Institute of Technology (ETH), 8092 Zurich (CH), Switzerland

Abstract: Pycnidial fungi belonging to the genus *Ampelomyces* are the most widespread natural antagonists of powdery mildew and they are unique in their ability to actively infect and kill the causal agents of this disease (*Erysiphales*). The level of biological control of *A. quisqualis* is often inconsistent under field conditions. This research has focused on novel approaches to improve biological control of *A. quisqualis*. A major focus of our research is optimizing nutritional conditions to produce conidia that germinate rapidly. We studied the role of external factors affecting the physiological processes of the mycoparasitic fungus. Conidial germination in most filamentous fungi requires the presence of low-molecular mass nutrients, such as sugars, amino acids and inorganics salts. Conidia of *A. quisqualis* germinate poorly in the absence of any exogenous nutrients in the environment, most probably because they do not possess sufficient endogenous reserves to sustain initial growth of germ-tube. Conidia must be supplied with one or more exogenous nutrients to induce germination and growth. We measured the effect of different chitin based compounds on the hyphal growth and conidia germination of *A. quisqualis*. Furthermore, we investigate on the germination process at the molecular level by the quantification of the expression level of genes playing a role in the early signal-transduction events.

Key words: *Erysiphales*, biocontrol, mycoparasitism, conidial germination