

Accepted Manuscript

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PII: S0168-1605(16)30556-6
DOI: doi: [10.1016/j.ijfoodmicro.2016.10.022](https://doi.org/10.1016/j.ijfoodmicro.2016.10.022)
Reference: FOOD 7423

To appear in: *International Journal of Food Microbiology*

Received date: 8 April 2016
Revised date: 28 September 2016
Accepted date: 17 October 2016



Please cite this article as: Van Long, Nicolas Nguyen, Vasseur, Valérie, Coroller, Louis, Dantigny, Philippe, Le Panse, Sophie, Weill, Amélie, Mounier, Jérôme, Rigalma, Karim, Temperature, water activity and pH during conidia production affect the physiological state and germination time of *Penicillium* species, *International Journal of Food Microbiology* (2016), doi: [10.1016/j.ijfoodmicro.2016.10.022](https://doi.org/10.1016/j.ijfoodmicro.2016.10.022)

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Temperature, water activity and pH during conidia production affect the physiological state and germination time of *Penicillium* species.

Nicolas Nguyen Van Long¹, Valérie Vasseur¹, Louis Coroller², Philippe Dantigny¹, Sophie Le Panse³, Amélie Weill¹, Jérôme Mounier¹, Karim Rigalma¹

¹Université de Brest, EA 3882, Laboratoire Universitaire de Biodiversité et Ecologie Microbienne, IBSAM, ESIAB, Technopôle Brest-Iroise, 29280 Plouzané, France

²Université de Brest, EA 3882, Laboratoire Universitaire de Biodiversité et Ecologie Microbienne, IBSAM, UMT Spore Risk, IUT Quimper, 6 rue de l'Université, 29334 Quimper, France

³Plateforme Merimage, Station Biologique de Roscoff, CNRS-UPMC, Place Georges Teissier, CS90074, 29688 Roscoff Cedex, France

Abstract

Conidial germination and mycelial growth are generally studied with conidia produced under optimal conditions to increase conidial yield. Nonetheless, the physiological state of such conidia most likely differs from those involved in spoilage of naturally contaminated food. The present study aimed at investigating the impact of temperature, pH and water activity (a_w) during production of conidia on the germination parameters and compatible solutes of conidia of *Penicillium roqueforti* and *Penicillium expansum*. Low temperature (5 °C) and reduced a_w (0.900 a_w) during sporulation significantly reduced conidial germination times whereas the pH of the sporulation medium only had a slight effect at the tested values (2.5, 8.0). Conidia of *P. roqueforti* produced at 5 °C germinated up to 45 h earlier than those produced at 20 °C. Conidia of *P. roqueforti* and *P. expansum* produced at 0.900 a_w germinated respectively up to

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