

USE OF HPTLC FOR DIRECT MONITORING OF METABOLISM OF CYANO-OXIMES SHOWING FUNGICIDAL ACTIVITY BY CELL-FREE EXTRACTS OF DIFFERENT STRAINS OF *BOTRYTIS CINEREA*

Frédérique Tellier¹, Abel Carlin-Sinclair², René Fritz¹, Jean-Claude Cherton² and Pierre Leroux¹

¹Unité de Phytopharmacie et Médiateurs chimiques, INRA, route de Saint-Cyr, 78026 Versailles Cedex, France

²Département de Chimie, SIRCOB EP CNRS 102, Université de Versailles, 45 avenue des Etats-Unis, 78001 Versailles, France

We compared the metabolism of three cyano-oximes [RCOC(CN)=NOCH₃, **1a** (cymoxanil) R= EtNHCONH, **1b** R= NH₂, and **1c** R= EtO], showing an anti-botrytis activity, by cell-free extracts resulting from strains of *Botrytis cinerea* belonging to three different sensitive phenotypes towards cymoxanil, one resistant, one slightly sensitive and the last highly sensitive [1].

The disappearance of these cyano-oximes and the appearance of their metabolites was directly monitored in enzymatic extracts by using HPTLC [2]. Avoiding the problems caused by an extraction of polar metabolites, the direct chromatography allowed us a faster and easier analysis. Using silica plates, we showed that **1a** et **1c** were quickly metabolised in presence of cell-free extract from the more sensitive strain. The use of C₁₈ plates, pretreated by (tBu)₄NBr ions, allowed us to confirm that the disappearance of cymoxanil was accompanied by the appearance of two main metabolites, one of them seems to lead to an acid compound.

[1] F. Tellier, R. Fritz, A. Carlin-Sinclair, J.-C. Cherton and P. Leroux, XIIth International Botrytis Symposium, July 3-7, 2000

[2] F. Tellier, R. Fritz, P. Leroux, A. Carlin-Sinclair and J.-C. Cherton, *J. Chromatogr B* 769 (2002) 35