



Laser desorption ionization mass spectrometry as an analytical tool for the investigation of *Malus X Domestica* treated by selected plant resistant inducers

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Résumé en anglais Apple is a very important agricultural plant, and globally cultivated fruit tree. For its protection against pathogens, pesticides are commonly used, which poses a heavy burden on the environment. Therefore alternative methods of crop protection are being widely explored, some of them focusing on the stimulation of the plant's immune defense (e.g. development of resistant genotypes, use of plant resistant inducers). In this respect, the induced formation of protective plant metabolites (phytoalexins) represents the most interesting strategy. Phytoalexins are monitored mostly by liquid chromatography coupled with mass spectrometry (LC-MS). For phenolic phytoalexins, matrix free laser desorption ionization (LDI) may provide a promising supplement or alternative, particularly as many phenols exhibit close structural similarities to commercial matrices used in matrix assisted laser desorption ionization (MALDI). Contrary to LC-MS, LDI-MS can be performed without time consuming sample preparation or chromatographic method optimization and is not limited to specific solvents.

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