GC-MS and MALDI-TOF MS Profiling of Sucrose Esters from *Nicotiana tabacum* and *N. rustica*

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Matrix-assisted laser desorption/ionization-time-of-flight mass spectrometry (MALDI-TOF MS) has been applied for the first time to the analysis of the sucrose esters from the surface of *Nicotiana* L. leaves. The profiles obtained for the model plant *N. tabacum* were similar to those from the gas chromatography-flame ionization detector (GC-FID) analysis. The most reproducible results were obtained using a dihydroxybenzoic acid (DHB) matrix. The main advantage of this method is that crude plant extracts can be analysed without sample clean-up. GC-MS analysis of Aztec tobacco (*N. rustica*) extracts revealed the presence of three types of sucrose esters. All identified compounds had three C_4–C_8 acyl chains substituting the glucose moiety, while the fructose part of the molecule was substituted with 0, 1, or 2 acetyl groups. MALDI-TOF MS analysis of the sucrose ester fraction revealed the presence of compounds not eluting from a GC column. Combining the data from both GC-MS and MALDI-TOF MS experiments, we obtained a full sucrose ester profile, which is based on the molecular weight of the compounds and on the number of acyl chains in the molecule.

Key words: Nicotiana L., MALDI-TOF MS, Sucrose Esters