

Identification of oil palm (*elaeis guineensis*) spear leaf metabolites using mass spectrometry and neutral loss analysis.

Abstract

Plant metabolites characterisation is an arduous challenge due to their structural diversity as a result of complicated biosynthetic pathways. These metabolites are not only important for metabolic events description but are also harnessed as valuable nutraceuticals. The detection and description of important plant tissue metabolome such as oil palm spear leaf can be carried out using a broad-range, non-targeted analytical tool such as mass spectrometry (MS). Identification of oil palm spear leaf constituents such as carboxyl group- and sugar-containing metabolites was facilitated by tandem mass spectrometry (MS/ MS) with neutral loss information of 44 and 162 amu. A total of 13 metabolites ranging from carboxylic acids, catechins, phenolic acid glycosides and a stilbenoid were characterised in this manner and the results presented here demonstrated the usefulness of MS in characterising metabolites in a complex sample such as oil palm spear leaf tissue.

Keyword: Metabolites; Oil palm spear leaf; Mass spectrometry (MS); Tandem mass spectrometry (MS/MS); Neutral loss