Identification and quantitative composition of nematicidal ingredients in leaves of some *Aloe* species

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Abstract

Phytochemical and infrared analyses were carried out for eight *Aloe* species: *Aloe schweinfurthii* (ASF), *Aloe succotrina* (AST), *Aloe vera* (AVR), *Aloe chinensis* (ACS), *Aloe arborescens* (AAR), *Aloe kevyl* (AKY), *Aloe macrocarpa* (AMC) and *Aloe schweinfurthii* x *Aloe vera* (ASV) that showed nematicidal activity in *in vitro* on *Meloidogyne incognita*. The phytochemical analyses revealed that the *Aloe* species had similar phytochemicals: tannins, saponins, flavonoids, cardenolides, phenols, alkaloids and anthraquinones. However, total phenol (14.3 mg/g), tannins (14.5 mg/g) and saponins (59.8 mg/g) were highest in AKY than in other aloe. Flavonoid content (3.7 mg/g) was highest in AAR while alkaloid content was highest in AST. The infrared analyses revealed that the *Aloe* species had similar functional groups: amines, hydroxyl, unsaturated aromatic compounds, ketone, aldehyde and phenol. The nematicidal potentials of these *Aloe* species might be due to the type and quantity presence in these phytochemicals. The presence of the nematicidal principles identified in *Aloe* species used in the management of *M. incognita*. 