

CHARACTERIZATION AND EVALUATION OF THE NEMATICIDE ACTIVITY OF CHEMICAL CONSTITUENTS OF THE AERIAL PART OF *MUCUNA PRURIENS* VAR *UTILIS*

Bonilla, C. S. M.¹, Demuner, A. J.¹, Barbosa, L. C. A.², Montanari, R.M.¹, Otoni, W.C.¹, Monteiro, E.¹

¹Universidade Federal de Viçosa, Viçosa, Brazil;

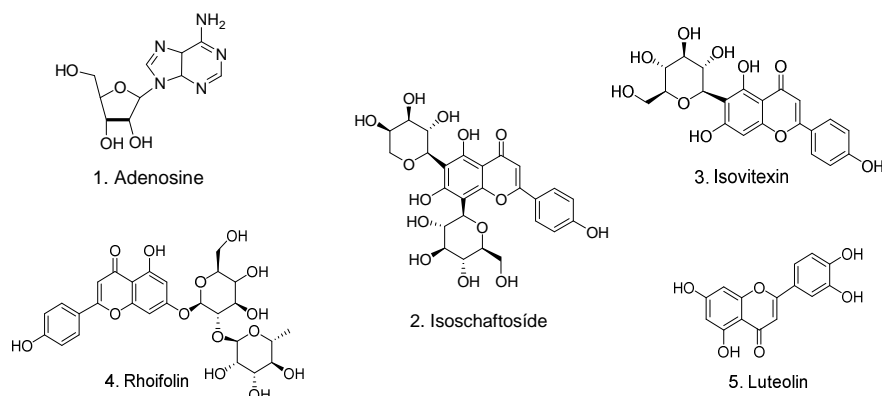
²Universidade Federal de Minas Gerais, Belo Horizonte, Brazil;

Sandra_milena2613@hotmail.com

The nematodes cause significant damage in almost all cultures with economic importance in the world. Its control is performed by using chemicals with high toxicity for humans, animals, and the environment. Some studies show that the use of antagonistic plants are the best way to eliminate it. One of the most used antagonistic plants belongs to the genus *Mucuna* [1]. This work proposes a study of secondary metabolites of the aerial part and exudates the roots of *Mucuna pruriens* var. *utilis*. The identification of compounds was performed for the first time using liquid chromatography coupled to mass spectrometry with electrospray ionization (ESI-LC-MS/MS, analyses were performed on a Nexera UHPLC system (Shimadzu) hyphenated to a maXis ETD high-resolution ESI-QTOF mass spectrometer (Bruker) and controlled by the Compass 1.5 software package (Bruker). The identified compounds were adenosine (1), isoschaftoside (2), isovitexin (3), rhoifolin (4) and luteoline (5). In addition, were isolated three compounds that were identified as a triacylglycerol, stigmasterol and glutinol. All isolated compounds were characterized by IR spectroscopy, mass spectrometry, ¹H NMR and ¹³C spectroscopy. Isolated substances and extracts were submitted to bioactivity tests against the nematode *Meloidogyne javanica* that is one of the most aggressive for crops, soybeans and rice [2]. In general, moderate activities were observed for most samples evaluated. However, fractions rich in fatty acids, and flavonoids obtained of the methanol extract of the aerial part and the fraction in ethyl acetate from the root exudates of *Mucuna* showed control percentages above 90%. This study provides information about phytochemicals present in *Mucuna pruriens* and a possible application of these compounds in the control of nematode cyst.

[1] Rojano, A. M.; Cruz, H.; Prado, R.; Castro, M. D. L., Franco, A. R. 2012. Limited uptake, translocation and enhanced metabolic degradation contribute to glyphosate tolerance in *Mucuna pruriens* var. *utilis* plants. *Phytochemistry*.73. 34-41.

[2] Humphreys, D. A. Elling, A. A. 2014. Mitochondrial genomes of *Meloidogyne chitwoodi* and *M. incognita* (Nematoda: *Tylenchida*): Comparative analysis, gene order and phylogenetic relationships with other nematodes. *Molecular and Biochemical Parasitology*.194 (1–2). 20-32.



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