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DETERMINATION OF PESTICIDE RESIDUES, COUMARIN LEVELS, AND PHARMACOLOGICAL ACTIVITY IN MIKANIA GLOMERATA SPRENG (GUACO) TINCTURES MARKETED IN THE STATE OF RIO DE JANEIRO

Thais Morais de Brito[1]; Angélica Castanheira de Oliveira[2]; Fabio Coelho Amendoeira[1]; Esdras Barbosa Garcia[1]; Lucia Helena Pinto Bastos[2]; Maria Helena Wohlers Morelli Cardoso[2]; Leandro Machado Rocha[3]; Armi Wanderley da Nobrega[2]; Fausto Klabund Ferraris[1]

[1]Laboratório de Farmacologia, Instituto Nacional de Controle de Qualidade em Saúde – FIOCRUZ, Rio de Janeiro, Brasil.
[2] Laboratório de Resíduos de Agrotóxicos em Alimentos, Instituto Nacional de Controle de Qualidade em Saúde – FIOCRUZ, Rio de Janeiro, Brasil.
[3] Laboratório de Tecnologia de Produtos Naturais, Universidade Federal Fluminense, Rio de Janeiro, Brasil.

Introduction: *Mikania glomerata* is commonly used as a complementary treatment for respiratory diseases such as bronchitis and asthma. It has been distributed for therapeutic purposes by both private and public entities, including the Municipal Health Department of the State of Rio de Janeiro (RJ), through the “Farmácias Vivas” program. **Objective:** This study aimed to evaluate the quality of 10% *M. glomerata* tinctures sold in the state of RJ. **Methods:** Tests recommended in its monograph, in accordance with RDCs 26/2014 and 105/2016, were conducted, along with *in vitro* pharmacological evaluation using a macrophage activation assay. **Results:** An *in vitro* nitric oxide (NO) production assay in macrophages was performed to test five commercial tinctures (CT1 to CT5). CT1 and CT2 demonstrated low efficacy across all dilutions compared to the reference tincture (RMgT). CT3 and CT4 reduced NO production up to a dilution of 1/500, while CT5 showed efficacy even at a dilution of 1/1000. Tinctures with lower pharmacological activity were found to contain 8.3 and 38.4 µg/mL of coumarin (CMR), the species' chemical marker, while RMgT contained 369.3 µg/mL. CT4 and CT5 had CMR values close to RMgT (225.7 and 488.1 µg/mL), but CT3 showed a significant batch variation, with a difference of 234.5 µg/mL. Our group validated a detection method for 268 pesticides in the RMgT matrix using UPLC-MS/MS; and traces of carbendazim and dimethomorph were found in 5 of 15 analyzed samples. **Conclusion:** In addition to the lack of therapeutic activity likely due to CMR variation, the presence of fungicide residues in some samples highlights the need for standardization of raw materials and extractive processes, along with stricter regulatory oversight.

Palavras-chave: *Mikania glomerata*; Tincture, Quality Control.

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