

CHARACTERIZATION OF VOLATILE ORGANIC COMPOUNDS (VOCS) FROM A RESISTANT CULTIVAR OF CASSAVA (MANIHOT ESCULENTA)

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Brazil is the second largest cassava producer worldwide. Cassava cultivars are of great economical importance as they are used as one of the main food sources both for humans and animals in tropical countries. In addition, cassava has been used as raw material for many other agro-industrial products. Despite the high potential of production, this culture suffers great losses due to attack of insect pests. Among the different methods of pest control the use of resistant cultivars seems to be the most effective and economical and environmental control measure. This study aimed to identify and characterize the volatile organic compounds (VOCs) released by a resistant cultivar of cassava (Ecuador 72). This cultivar has shown resistance to various pests in the field, including mites, whitefly and the cassava lace bug (*Vatiga illudens*) (Drake, 1922) (Hemiptera: Tingidae). The VOCs were collected pre- and post infestation plants with *V. illudens* and identified using gas chromatography coupled to mass spectrometry (GC-MS). Cultivar BRS Jari, previously classified as susceptible, was used as control. Our results demonstrate that the cultivar Ecuador 72 presented constitutive emission of high levels of the monoterpene trans- β -ocimene, and the sesquiterpeno β -caryophellene and farnesol, whereas these compounds are produced in the susceptible cultivar only after the herbivore attacks. These compounds have been reported in other species as pest repellents, natural enemies attractants and involved in plant-plant communication. The results suggest that the VOCs from Ecuador 72 cultivar may play a crucial role in the resistance against pests mentioned. Furthermore, the results can also provide a novel approach in which the VOCs can be used as a potential marker to be used in selection in cassava breeding programs.