



Prospecting of aromatic plants in the Brazilian Cerrado

Roberto F. Vieira¹, Humberto R. Bizzo²

¹ Embrapa Genetic Resources and Biotechnology - Brasilia, Brazil

² Embrapa Food Technology - Rio de Janeiro, Brazil
roberto.vieira@embrapa.br

Keywords: essential oil, Brazilian Cerrado.

Aromatic plants are widely used by the cosmetic industries, hygiene, food, pharmaceutical and agrochemical. Recently there has been an increasing demand for raw materials suppliers of essential oils from plants of Brazilian biodiversity. Brazil is an important player in the essential oil world market, being the fourth largest producer, after India, China, and Indonesia. Most of this commercial standing is due to the citrus essential oils, since they are a byproduct of the large Brazilian orange juice industry (1). Among a few important and potential native aromatic species, it can highlight rosewood (*Aniba rosaeodora*), sacaca (*Croton cajucara*), pripioca (*Cyperus articulatus*), sassafras (*Ocotea odorifera*), long pepper (*Piper hispidinervum*), alecrim pimenta (*Lippia sidoides*), erva baleeira (*Cordia verbenaceae*), and candeia (*Eremanthus erythropappus*) (2). Some exotic and cultivated species are also important in the Brazilian market, mainly in the south and southeast Brazil, such as Japanese mint (*Mentha arvensis*), and eucalyptus (*Eucalyptus* spp.). There are few reports on the production of essential oils in the Brazilian central western region, although this is considered a major agricultural frontier, and has a vast flora still to be explored. The Cerrado is a savannah-like vegetation occurring in Central Brazil, covering almost 2 million km², and more than 12,000 plant species cataloged. The huge biodiversity from this biome may be a great source of fascinating natural scent. Given the scarcity of information on the essential oil production of plant species in this region, a project "Aromatic Species of the Cerrado" was launched to make a survey on native plant species of the Cerrado biome, for their use in the fragrance industry, food, drugs and veterinary products. The collecting samples are being carried out in state and national areas of preservation, and georeferenced herbarium specimens are deposited in the herbarium of Embrapa Genetic Resources and Biotechnology (CEN). Samples of each plant are collected and the essential oil extracted by hydrodistillation, and subsequently analyzed by gas chromatography (GC-FID and GC-MS). Volatile collections through headspace is also part of the search for new flavors. Biological activity assessments and scent of the most promising samples have been carried out through various collaborations. To date, 118 essential oil samples have been collected from a total of 50 plant species identified, belonging to 10 plant botanical families. Sustainable exploitation of aromatic plants could constitute a viable alternative for farmers in the region, whether for marketing fresh or dried products, essential oil and extracts, among other products with higher added value. A database of available samples is being prepared, including field data collection, plant images and chemical analysis.

1. Bizzo, H.R.; Howell, A.M.C.; Rezende, C.M. *Química Nova*, 2009, **32**, 588-94.

2. Vieira, R.F.; Bizzo, H.R.; Deschamps, C. *Isr. J. Plant Sci.*, 2010, **58**, 263-271.

Acknowledgements: Embrapa, Faperj, CNPq, CAPES. UnB