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IN VIVO AND IN VITRO PROPAGATION OF *CORDIA*
VERBENACEAE L., A MEDICINAL PLANT FROM BRAZIL

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Medicinal plants have been used in pharmacology and popular medicine since the early days of civilization. *Cordia verbenaceae* L. (Boraginaceae), a native Brazilian bush called Erva baleeira, is such a medicinal plant. Extracts from leaves of this plant contain analgesic and antiinflammatory agents for the treatment of arthritis, rheumatism, and spinal column ache. The active ingredients appears to be flavonoids. We report here optimization of plantlet growth and the first micropropagation of this plant from bud tissue. Plantlet growth was optimized for minerals using macro and micro nutrients. Procedures for micropropagation of bud explants were developed based on Murashige and Skoog medium supplemented with kinetin and naphthaline acetate and indole butyrate for shoot and root formation, respectively. Also, shoot formation is favored by chlorogenic acid. Starting with leave disks, callus formation was optimized by variation of cytokinin and auxin concentration. Thiadizuron in excess of 2µM stimulates callus growth. Cell suspension cultures were started. Flavonoids from mature leaves and callus cultures were isolated. We identified 7,4'-dihydroxyisoflavone as a major secondary compound. While callus contains a bit less of this compound than leave tissue, the isolation from calli is a lot easier than from the green tissue.

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ESTABLISHMENT AND ANATOMIC COMPARISON IN
VITRO AND IN VIVO OF *BROSIMUM GAUDICHAUDII*
TREC., A MEDICINAL PLANT FROM BRAZIL

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Brosimum gaudichaudii (Moraceae) an important Brazilian medicinal plant is commonly used in a skin disorder (Vitiligo). It is native Brazilian bush called Mama cadela, and of difficult propagation by cutting or seeds (recalcitrant). We report here optimization of micropropagation of this plant from nodal tissue on Murashige & Skoog medium without growth regulator. And formation of multiple shoots was achieved through seed (embryo) when cultured on MS medium supplemented with thiadizuron (TDZ). Anatomic organization between in vivo and in vitro tissue were different. Cross section of a leaf in vivo showed one layer of parenchymatous palisade cells, and two layers of parenchymatous spongy cells. In vitro, the mesolhyll of the lamina consisted 3 - 4 layers of cells without format difference among them. Cross section of stems in vitro showed a lot of trichomes, and in vivo it was not observed.

