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IMPACT OF *SPIRULINA PLATENSIS* AND *STEVIA REBAUDIANA* ON GROWTH AND ESSENTIAL OIL PRODUCTION OF *BASIL OCIMUM CITRIODORUM*

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ABSTRACT

The constituents of essential oils isolated by diethyl ether of the *in vitro* explants of *Ocimum citriodorum* cultured on alternative media containing green algae spirulina and stevia plant powder or filtrate were examined by GC-MS. The *Spirulina platensis* green algae were added in culture medium powder at (0.5, 1.0 and 2.0 g/l) and powder filtrated at 2, 4 and 6 ml/l from concentrations 5, 10 and 15 %, respectively. Also, *Stevia rebaudiana* dry leaves were added powder at 0.5, 1.0 and 1.5 g/l and powder filtrated 5, 10 and 15 ml/l from concentrations 0.05, 0.1 and 0.15 %, respectively. FTIR and XRD were examined for both materials using as alternatively medium. The explants that were cultured on media containing spirulina filtrate at 4 ml/l and 6 ml/l scored survival 100 % and shootlets length 0.84 and 0.92 cm; shootlet number 1.98 and 2.33; leaves number 8.66 and 2.60, respectively. The explants cultured on media containing stevia filtrate 5 and 10 ml/l also gave the best results but the media turned to browning (++) and (+++), respectively. A total of 12 components were identified accounting for 94.52 % of the oils of *O. citriodorum*. The oil contained, as main components, geranial (31.24 %), Linalool (8.29 %), Estragole (4.98 %), neral (25.71%) and Neryl acetate (8.857 %).



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