

PP44. The composition and antimicrobial activity of the essential oil of *Salvia officinalis* subsp. *oxyodon* (Webb & Heldr.) Reales, D.Rivera & Obón cultivated in the region of Murcia (Spain)

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The aerial parts of Spanish sage (*Salvia officinalis* subsp. *oxyodon* (Webb & Heldr.) Reales, D.Rivera & Obón, Lamiaceae) have been used in the traditional Mediterranean medicine for its analgesic, antioxidant, sedative and antiseptic activities since ancient times. The main goal of the present work was to evaluate the bacterial growth inhibition curves of ten *S. officinalis* subsp. *oxyodon* essential-oil chemotypes, containing varying relative concentrations of secondary metabolites, against *Shigella sonnei* CECT 413, *Escherichia coli* CECT 45, *Salmonella enterica* subsp. *enterica* CECT 443, and *Listeria monocytogenes* CECT 911. A total of 30 individual plants (3 per chemotype) were used in this assay. The essential oils were extracted by hydrodistillation and the qualitative and quantitative composition was analyzed by a gas chromatograph coupled to a mass spectrometer (GC-MS). Among the total of 65 cultivated plants, collected in an experimental plot of land (Murcia, Spain), it was possible to identify the presence of 10 different chemotypes, based on the chemical composition of their essential oils. The majority of the plants belonged to a single chemotype, represented by eucalyptol and camphor. The inhibition growth curves were monitored for 48 h and the essential-oil concentrations ranged from 625 to 40000 ppm. The essential-oil chemical variability could be represented by the following chemotypes: eucalyptol (22-25%) and camphor (17-40%); camphor (40%) and eucalyptol (28%); camphor (37%), eucalyptol (8%), and α -pinene (11%); camphor (28%), eucalyptol (19%), and α -terpinyl acetate (18%); eucalyptol (22%), myrtenyl acetate (22%), and camphor (18%); camphor (37%), myrtenyl acetate (20%), and eucalyptol (7%); camphor (40%) and myrtenyl acetate (20%); linalyl acetate (21%), camphor (20%), and eucalyptol (18%).

From the results it can be concluded, that among the chemotypes studied, the ones containing 40-37% of camphor and 20% of myrtenyl acetate, at a concentration of 5000 ppm, was the most effective against *Shigella* and *Salmonella* (48 h) strains, while at a concentration of 20000 ppm, against *E. coli* (48 h) and *Listeria* (24 h) strains.

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