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Título del artículo: Essential oils of lavandin (*Lavandula x intermedia* Emeric ex Loisel.) of Spain: a case study on clones 'Grosso' and 'Super'

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RESUMEN: Lavandin (*Lavandula x intermedia* Emeric ex Loisel.) is a sterile natural hybrid obtained from the crossing of lavender (*L. angustifolia* Mill.) and spike lavender (*L. latifolia* Medik.), and its cultivation has gained great importance in Spain. This work is aimed to study the chemical composition of essential oils (EOs) of lavandin from clones 'Grosso' and 'Super' cultivated in Spain. For this purpose, 215 EOs, obtained by steam distillation between 2016 and 2022 in agricultural farms located in 13 provinces of Spain, were analyzed by gas chromatography (GC) in three public R&D centers: the Regional Institute for Agrifood and Forestry Research and Development of Castilla-La Mancha (IRIAF), the Agrarian Technological Institute of Castilla y León (ITACyL) and the Agrifood Research and Technology Center of Aragon (CITA). The chemical composition of the EO of lavandin showed great inter- and intra-varietal variability, with the main compounds being linalool, linalyl acetate, camphor and 1,8-cineole. The results showed that the contents of camphor and 1,8-cineole were higher in 'Grosso' (7.2% vs 5.0% and 5.7% vs 3.8%, respectively), while those of linalool and linalyl acetate were higher in 'Super' (35.8% vs 34.2% and 33.7% vs 27.2%). Among minor compounds, the lavandin 'Super' exhibited a higher content of β -Z-ocimene and β -E-ocimene, and a lower content of terpinen-4-ol compared to 'Grosso'. Additionally, eleven compounds of lavandin 'Grosso' were compared within the ranges established by ISO 8902:2009 standard, revealing that only 18% of the samples complied with it for all of these compounds. In this sense, the contents of α -terpineol, linalool and lavandulyl acetate were above the upper limit of the standard in respectively 49%, 23% and 21% of the samples. On the contrary, 36% of the samples for β -Z-ocimene and 32% for linalyl acetate were below the range of this regulation. Unfortunately, these discrepancies with the ISO regulation exclude numerous EOs from the market despite their value in different sectors like perfumery, cosmetics, aromatherapy, phytosanitary or pharmacy. This work could serve as a guidance and/or reference study of Spanish essential oil of 'Grosso' and 'Super' clones for stakeholders involved in the lavandin EO market.

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