

**DEVELOPMENT OF FUNCTIONAL PRODUCTS BASED ON HOREHOUND
USING INNOVATIVE EXTRACTION TECHNOLOGIES**

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Marrubium vulgare, which belongs to the genus *Lamiaceae*, has been present in pharmacopoeias for decades. *Marrubii herba* is a medicinal plant known for its diverse uses including inflammatory, gastroenterical, and respiratory disorders. In the past, white horehound was traditionally used especially in context of respiratory disorders. According to literature, this perennial herb is usually provided in the forms of herbal tea and liquid extract with ethanol. Dry powder extracts are more convenient than the liquid ones in terms of stability, reduced bulk size, and higher concentration of active compounds. Therefore, in order to obtain dry powders, spray drying of subcritical water extract of horehound was applied. Two samples (with addition of maltodextrin as carrier in concentrations 0% and 10%) were obtained and physical-chemical characteristics of powders were determined. In both powders, moisture content was lower than 5%. Powder obtained using 10% maltodextrin showed bulk density of 86.96 mg/mL and hygroscopicity of 19.83%. The powders also showed high antioxidant activity, that is, low IC₅₀ (0.02 mg/mL) and EC₅₀ values (0.07 mg/mL) which make them suitable for application as an ingredient of herbal products.