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KARAKTERIZACIJA ZEMLJIŠTA VINOGRADA U SRBIJI: VAŽNOST, VREME I OBIM ANALIZA

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Autentičnost vina i zaštićene geografske oznake vina povezuju se s mestom nastanka, odnosno prirodnim karakteristikama područja, uključujući zemljište, kao i za druge komponente *terroir*-a. Kod karakterizacije zemljišta vinograda kao identiteta jedne vinarije, često se opisno navode karakteristike zemljišta bez utemeljenih istraživanja i analiza. Ovaj rad se bavi potrebnim elementima karakterizacije zemljišta, počev od pedoloških istraživanja i određivanja autohtonog tipa zemljišta, fizičkih karakteristika, parametara plodnosti uključujući makro i mikroelemente, sadržaja opasnih i štetnih materija, do bioloških karakteristika zemljišta. Pored toga, navedeni su razvijeni modeli za geostatističku obradu i prostorno mapiranje podataka. Materijal objedinjuje karakterizaciju zemljišta šest vinogradarskih rejona tokom prethodno realizovanih projekata: Pocersko-Valjevskog, Vranjskog, Niškog, Mlavskog, rejona Tri Morave i Šumadijskog. U ovom radu se razmatra i adekvatno vreme analiza i karakterizacije zemljišta. Zemljište pod vinogradima je pod jakim antropogenim uticajem, gde čovek moćnim meliorativnim merama u zasnivanju u velikoj meri menja prirodne karakteristike zemljišta, stvarajući tip zemljišta Rigosol. Detaljnije analize zemljišta se najčešće sprovode prilikom zasnivanja vinograda, dok naknadno sprovedene meliorativne mere značajno menjaju ovo početno stanje. Nivo intervencije prilikom zasnivanja je neophodan u cilju unapređenja zemljišta i stvaranja optimalnih uslova za rast i razvoj vinove loze, što se odražava na kvalitet grožđa i time predstavlja zaštitu i održivost cele investicije. Nakon zasnivanja vinograda, zemljište je potrebno ponovo karakterisati, dalje pratiti i pažljivo održavati u stalno dobrom stanju. Ovo se posebno odnosi na meliorativne mere koje je potrebno kontinuirano sprovoditi, kao što su kalcizacija i fosfatizacija u većini ispitivanih vinogradarskih rejona. Investicija u analize i karakterizaciju zemljišta je opravdana u poređenju sa ostalim potrebnim ulaganjima u vinogradarstvu i spram rezultata koji se mogu ostvariti unapređenjem zemljišta.

Ključne reči: zemljište, vinogradi, tipovi zemljišta, analiza zemljišta, karakterizacija zemljišta

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VINEYARD SOIL CHARACTERIZATION IN SERBIA: IMPORTANCE, TIMING, AND SCOPE OF ANALYSIS

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The authenticity of wine and protected geographical indications are associated with the place of origin, specifically the natural characteristics of the area, including the soil, as well as other components of the *terroir*. In the characterization of vineyard soils as the identity of a winery, soil characteristics are often described without substantiated research and analysis. This paper addresses the necessary elements of soil characterization, starting with pedological research and the determination of the indigenous soil type, water-physical characteristics, fertility parameters including macro and microelements, the absence of hazardous and harmful substances, and biological soil characteristics. Additionally, developed models for geostatistical processing and spatial mapping of data are presented. The material consolidates the characterization of soils from six vineyard regions during previously implemented projects: Pocerina-Valjevo, Vranje, Niš, Mlava, Tri Morave, and Šumadija regions. This paper also examines the appropriate timing for soil analysis and characterization. Vineyard soils are under strong anthropogenic influence, where powerful ameliorative measures at the establishment significantly alter the natural soil characteristics, creating a type of soil known as Rigosol. Detailed soil analyses are most often conducted at the time of vineyard establishment, while subsequent ameliorative measures significantly change this initial state. The level of intervention at the establishment is necessary to improve the soil and create optimal conditions for the growth and development of the vine, which affects grape quality and thus represents the protection and sustainability of the entire investment. After the vineyard is established, the soil needs to be re-characterized, further monitored, and carefully maintained in a consistently good condition. This is particularly true for ameliorative measures that need to be continuously implemented, such as liming and phosphatization in most of the examined vineyard regions. Investment in soil analysis and characterization is justified compared to other necessary investments in viticulture and the results that can be achieved by improving the soil.

Keywords: soil, vineyards, soil types, soil analysis, soil characterization