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Determination of some soil properties in black pine, beech and fir stands

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Abstract: The soil is the three dimensional entity one of the most important natural resources on earth and one of the basic elements of life, which is the result of physical fragmentation and chemical decomposition of the main rock, food source for plants, containing water and air. The soil properties, which are composed of different minerals, affect the composition of the forest and the growth rate significantly. In the well-developed forest soils, the dead cover layer covering the soil surface ensures that the soil surface maintains the structure and the surface flow decreases, whereas the infiltration increases the amount of water entering the soil. The aim of this study is to determine the rates of colloid-humidity which has an erosion tendency index, the amount of available water, pH, organic matter and texture (sand, clay, dust) for black pine, beech and fir stands. Soil specimens taken from the cylinders at depths of 0-20 cm were became dried and then sifted through 2 mm sieves. The differences and similarities between these properties were analyzed. As a result of the study, it was determined that the highest pH and dust values are in Black pine, the highest sand value is in Beech, and the highest clay, organic matter and available water value are in Fir. The low colloid-humidity ratio indicates that the stands soils are not resistant to erosion.
Keywords: Black pine, Beech, Fir, Soil properties, Kastamonu, Turkey