

Some aspects of stand structure and growth dynamics in a Black Pine (*Pinus nigra*) stand in the Zloți Forest District

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Black pine (*Pinus nigra*) stands are confined mainly to Europe, with the most significant areas in Spain and Turkey. Subspecies also occur in Crimea and the Banat region. In the Republic of Moldova, black pine lies outside its natural range. It was introduced through afforestation beginning in the second half of the twentieth century, especially on degraded, eroded, or landslide-affected sites. Black pine has been used as an ornamental tree in parks and green spaces and for afforesting degraded lands near towns and villages, including steep, rugged slopes and degraded communal pastures. Black pine has a narrower climatic tolerance than Scots pine (*Pinus sylvestris*). It is adapted to warm, Mediterranean-type climates where late frosts are rare. Under such conditions, it is relatively undemanding, growing on heavy clay soils and on calcareous slopes exposed to strong sunlight and dryness. Within Moldova, the species occurs mainly in the south and partly in the central region and is less common in the north. In the Cimișlia Forest and Game Management Enterprise, black pine covers 118.75 ha with a total standing volume of 3,603 m³; in the Zloți Forest District, the area under black pine is 12.47 ha. The study stand—located in management unit (compartment) 51C, Zloți Forest District—is a pure, even-aged, planted black pine stand, 50 years old according to the management plan. It covers 0.9 ha on a level plateau at 248 m above sea level. The soil is a typical clay-illuviated chernozem. We briefly present selected biometric results from a 30 × 30 m rectangular sample plot within this stand. In terms of horizontal structure, the stand is even-aged. Mean diameter at breast height (DBH) is 23.1 cm, and mean height is 16.1 m. The trees are in good health, and the stand is uniformly stocked.

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