

## **Postfire Regeneration and Reclamation of Mixed Broad Leaves - *Pinus halepensis* Ecosystems, in Chalkidiki, North Greece.**

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### **ABSTRACT**

Wildfires occur frequently in the Mediterranean region. Postfire reclamation, either by natural process or by artificial methods, is therefore of high importance for prevention the degradation process of these areas. The Chalkidiki region is characterized by a Mediterranean-type climate with a long xerothermic period and consequently by frequent wildfires. Three experiments were established after fire, in burned areas in the Chalkidiki region. The objectives were: (1) the study of natural process of postfire regeneration either by resprouting or from seeds and (2) the study of success of reclamation techniques by planting and seeding of the native species, *Pinus halepensis*, *Quercus ilex* and *Spartium junceum*. Two years after fire, the results of natural regeneration are satisfactory – 13 species were recorded as regenerating by resprouting and 18 species regenerating from seeds. The total amount of phytomass reach 3.336 kg ha<sup>-1</sup>; the number of *Pinus halepensis* seeding reached 1.670ha<sup>-1</sup>. The success of plantations is quite high; best results were achieved for the planting of *Pinus halepensis* seedlings (95.2% survival rate for paper-plots and 78.4% for bare-roots). *Spartium junceum* confirmed that it is one of the most appropriate species for use in heavy degraded areas, presented a quite high survival rate (72.3%). On the contrary, Holm oak seedling face difficulties to survive during the summer drought, presented only 33.7% survival rate. Seeding of *Pinus halepensis* seeds gave poor results in all treatments, therefore it is not suggested for postfire reclamation. Seeding of Holm oak acorns with parallel acorn protection from birds and rodents seem to give good results.