

First years of regeneration in *Quercus pyrenaica* forest and *Pinus pinaster* stand after wildland fire

S. Santalla, E. Marcos, L. Valbuena, L. Calvo, R. Tárrega & E. Luis

Area of Ecology, University of León 24071 León, Spain. Telf. 00 34 987 291567. Fax. 00 34 987 291501.

E-mail: deglcg@unileon.es

Keywords: wildfire, regeneration, adaptive traits, species diversity

The effects of wildfire on vegetation regeneration in communities dominated by *Quercus pyrenaica* and those dominated by *Pinus pinaster* in NW Spain were compared. In order to study the changes in composition and structure of both types of community, permanent plots were established in areas dominated by *Quercus pyrenaica* and by *Pinus pinaster* burned by wildfires at the end of summer. In each plot a permanent transect of 20 x 1m was established. Visual cover of the plant species present was analyzed. In both types of community the values of global cover generally increased throughout the study period. In the oak communities the species that appear in the first years are those that will dominate in the mature stage, like *Quercus pyrenaica* and *Erica australis*. Both species are typical resprouters: from the shoots on the rhizome or the stem of the subterranean roots in the case of *Quercus pyrenaica* and from the lignotuber in the case of *Erica australis*. Among the other species, herbaceous perennials dominated during the first year after fire, *Luzula lactea* being the most representative. The bare soil percentage decreased very fast after the first year of regeneration. However, in the *Pinus pinaster* communities the species that appeared with higher cover values during the first and second year after fire were seeders, like *Pinus pinaster* and *Halimium alyssoides*. Other species that appeared in these communities were *Chamaespartium tridentatum*, and *Erica australis*. Amongst the herbaceous perennials the most representative species was the Liliacea *Ornithogalum umbellatum*, which appeared throughout the study period in all the burned plots. The percentages of bare soil were more important than in the oak communities. The structural parameters like diversity and specific richness were much higher in the community dominated by oak than in the pine stand. In general, regeneration after wildfire in the *Pinus* community was slower than in oak communities.