

Influence of silvicultural treatment on Ecology, Quality and Fire Resistance in *Quercus ilex* Coppice Stands in North Greece.

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ABSTRACT

We studied the influence treatment on ecology, quality and fire resistance in *Quercus ilex* stands in North Greece. The research area is characterized by a Mediterranean – type climate with a mild sub-humid winter and a relatively long xerothermic period. Sampling was done on three blocks of 0.5 ha in the study area. In each block, four sample plots of 0.1 ha were defined, one as control plot and the other three for thinning of different intensities (light: removal of 10% of basal area; moderate: removal of 20% of basal area; heavy: removal of 30% of basal area). The vitality, developmental tendency and stem quality of trees were relative low because of the high stand density (the average stem density is 4.300ha⁻¹) and the lack of any silvicultural treatment in the past. Two years later, the results of thinning on structural characteristics show that the quality and ecological stability of *Quercus ilex* stands were improved. This happened because the “elite” trees were favored by the appropriate thinning intensity that took into account the special stand conditions. In stands with great basal area, the appropriate thinning was that of heavy intensity and vice versa. The fire resistance was increased because of the different treatments in respect to the rate of thinning as well as the thin-chopping of dry organic material (dead stems and branches) and residues of harvesting.