BIOMASS HARVESTING AND HANDLING OPERATIONS IN *PINUS HALEPENSIS* FORESTS

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ABSTRACT: On Kassandra peninsula, forested areas are covered by *Pinus halepensis* stands with evergreen broadleaved shrubs as understory vegetation. These forests are threatened by natural and human-caused fires. Dense understory vegetation is an adverse factor that helps severity of fire. Additionally, it creates adverse conditions that minimize *Pinus halepensis* natural regeneration. Basic management purposes of these forests have to take aesthetics as well as erosion protection, adjustment of water flow and resin production. Annual thinning of the understory and overstory vegetation would create favourable conditions for fire protection, wood productivity and pines regeneration. The main purpose of that work was to estimate the harvesting and handling cost per product unit of comminuted biomass at the roadside that was exploited by age-mate *Pinus halepensis* forests and can be used forbioenergy purposes. A stratified random sampling was used to establish plots for harvesting in order to estimate the removable biomass. The average cost per productive factor for harvesting and handling of the removable biomass was estimated at 68.43 EURO/t, 14.83 EURO/t and 11.23 EURO/t for labour, machinery and variable costs respectively. The saved money would support favourable forest management plans for the protection of the pines forests, promoting energy schemes in Greece.

Keywords: biomass production, costs, thinning.