EVALUATING POPULUS NIGRA ABSOLUTE AGE OF EXPLOITATION WITH DIFFERENT PLANTING DISTANCES IN THE CENTRAL ZAGROS

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ABSTRACT  
This research aims to determine absolute operation age of Populus nigra. This means the age which average growth increment is maximized and equal to the current eruption. Considering that a study has never been done on such issue, studying this on this matter is required. In order to conduct this study, 100 base of Populus nigra in 5 plantation area located in the central Zagros has been used in five spacing (3×6), (3×5), (3×4), (3×3) and (3×2). After cutting down trees, disks were prepared from a height of 0.3 and 1.3 meter and other disks with 2 meter intervals from the diameter. Diameter growth and height growth were measured through the analysis of trunk. Medium growing and the current density were measured at different ages by measuring the trees shape coefficients in different age of volume inventory. The absolute operation age of trees has been obtained using the results of current and medium growth increment. The results showed that the optimal operation age of planting season at (3×6), (3×5), (3×4), and (3×3) meters occur respectively at 13, 11, 7, 10 and 11 years old. The trees at planting distances of (3×4) have the highest growth and volume inventory. It is recommended that reforestation with species Populus nigra be withdrawn at 3×4 plant spacing and at 10.4 years old.  
KEYWORDS: GROWTH INCREMENT; EXPLOITATION AGE; CENTRAL ZAGROS; CRITERION OF WOODSMAN.

1- INTRODUCTION  
Increasing pressure caused by timber exploitation reduces levels of natural forests of north of Iran and even valuable forests of West. According to complex situation of the country's natural resources and increasing population, the country's wood need will increase day by day. In case of planning and applying management and implementation of forestry a small fraction of need will meet (Hamzehpour et al. 2006). However, in order to cope with this increased demand, it is necessary to increase the production level of wood on the outside of natural forest, especially on the inside or marginal of agricultural land as agricultural of wood or Agro forestry (Peterson and Peterson, 1992). In order to arrange this problem, we propose plantation with fast-growing species. Spruce trees are fast-growing trees with numerous species. Hybrid varieties of them are reproduced either naturally or artificially. They have been reproduced and now they have economic aspects (Taylor, 2002). Spruce is widely planted because of the fast growth in latitude temperate zones, widely used in the manufacture of paper, laminated board and match making (Hansen, 1991; Heilman et al., 1994; Zsuffa et al. 1996). Iran Spruce Research began in 1954 which was coincided with Iran's membership in the International Spruce Commission. The Studies were investigated on the selection of clones and hybrids making, transplantation, genetically modified, pest and diseases and methods of operation. Determining the duration of