

BIOLOGICAL RULE OF SHORT ROTATION *Populus nigra* PLANTATION IN ENVIRONMENTAL EQUILIBRIUM.

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ABSTRACT

This study has been conducted of irrigated *Populus nigra* plantation in Warso village – Zakho – Governorate of Dohuk at the Northern part of Iraq . The aims were to determine the dry weights biomass for different tree and stand parameters above ground surface ; in order to gain a clear view on carbon stock retainer for different tree for different tree parts .

The basic data of this study were collected from the stands according to the Stratified Random Sampling through felling of 27 poplar trees whose parts , above ground surface , were weighted in addition to sub samples from each whole tree parameters in order to prepare estimating dry weights . By using the data and different available regression methods within Statgraphics program system , it become possible to prepare different tree parameters biomass forecasting equations . These equations were tested according to different precision measures ; Adjusted Determination Coefficient , Standard Error , Ohtomo test , Furnival index and Residual Analysis Test. Access at best equation to estimating carbon stock retainer .

Key words : carbon stock , biomass , growing stock , Allometric equation