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CARBON SEQUESTRATION POTENTIAL OF DEODARA (*CEDRUS DEODARA)*: A PROMINENT MEDICINAL PLANT OF HIGH HILLS

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ABSTRACT

A dynamic growth model (CO2FIX) has been used for estimating the carbon sequestration potential of Deodara (*Cidrus deodara*), an indigenous multipurpose tree used for timber, fuel wood, fiber and in addition to its medicinal value. The present study has been carried out in the campus of V.C.S.G. College of Horticulture, U.U.H.F., Bharsar, Pauri Garhwal, Uttarakhand. The altitude of the location is ranging from logitude78.59':20.28'E, latitude 79.00':30.05'N and 2000 m MSL altitude. The temperature and rainfall of this hilly area ranged from -4.0 to 28.0^{o}c and more than 10000 mm respectively. It is capable of thriving on snow and heavy rainfall condition. CO2FIX was parameterized for a simulation of 100 years respectively. The results indicate that the long term tree biomass accumulated was179.27t/ha in Biomass Carbon (Above Ground Biomass) and 139.67t/ha in Soil Carbon (Below Ground Biomass) component respectively at the end of simulation period assuming a tree density of 640t/ha (approximately). The net annual carbon sequestration for Pine over the entire simulation period was 3.189MgCha^{-1}yr^{-1} (t/ha/yr).

KEYWORDS: Carbon Sequestration Potential, CO2FIX, *Cedrus, deodara*, Soil Carbon, Tree Biomass, etc