



## Impact of Different Agroforestry Systems on Depth Wise Distribution of Physico-Chemical Properties and Soil Carbon Stock in North-West India

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**Abstract:** The present study compares the physico-chemical properties and carbon in soil under different agroforestry systems (*Populus* + wheat and *Eucalyptus* + wheat) and sole wheat mono cropping at different depths at Shahbad (Kurukshetra). 224.75±4.53 kg ha<sup>-1</sup> of available nitrogen was reported in *Eucalyptus* + wheat agroforestry system, while highest soil organic carbon (1.17±0.04%), soil organic matter (2.01±0.06%) and soil organic carbon stock (29.17±0.84 Mg ha<sup>-1</sup>) was reported in *Populus* + wheat agroforestry system. Results support the hypothesis that adoption of the agroforestry system would be ecologically beneficial over sole cropping systems since adopting agroforestry practices can increase farmers profitability, marketability, and most importantly, sustainability.

**Keywords:** Agroforestry, Agronomy, Carbon stock, *Populus*, *Eucalyptus*

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