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# Depth Wise Assessment of Soil Fertility in Seabuckthorn in Comparison to Willow and Poplar in Cold Arid Himalayas

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***Abstract:*** *Hippophae* L. is a multipurpose plant in the cold deserts of Himachal Pradesh. The aim of the study was to understandthe effect of seabuckthorn plantation on soil fertility and to compare it with willow and poplar at Khangsar village, soil samples were collected from three depths, i.e., 0-15 cm, 15-30 cm and 30-45 cm and analysed for pH, organic carbon, available N, P, K, S, exchangeable Ca, Mg and micronutrient cations following standard procedures. All the available nutrients, pH and organic carbon were higher in seabuckthorn plantation except available K, which was higher in wasteland. With the increase in depth, the decrease in content of available nutrient was observed in all three plantations. Soil pH was negatively correlated with available N, P, K, S, exchangeable Ca, and Mg, whereas soil organic carbon was positively correlated with available N, P, K, S, exchangeable Ca, and Mg. Comparatively the soils under seabuckthorn are more fertile and it can be recommended for the sustainability of cold arid Himalayas.

***Keywords*:** Seabuckthorn, Macronutrients, Micronutrients, Himalayas, Soil fertility, Exchangeable Ca and Mg