

## Research Article

# Dry Matter Accumulation and Nutrient Uptake by Wheat (*Triticum aestivum* L.) under Poplar (*Populus deltoides*) Based Agroforestry System

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Wheat (*Triticum aestivum* L.) being grown with association of boundary plantations of poplar (*Populus deltoides* M.) has to face competition for water and nutrients uptake. Field experiment was carried to study the dry matter accumulation pattern and nutrients uptake by wheat grown in association with boundary plantations of three- and four-year-old poplar plants under irrigated condition. Dry matter accumulation of wheat declined considerably due to presence of poplar tree line during all the growth stages as compared to pure crop. Maximum reduction in dry matter accumulation in wheat was observed near the tree line (0–3 m) under both three- as well as four-year-old plantation (21.1 and 17.8 per cent under three- and four-year-old trees, resp.) which tapered off beyond that, but synergetic effect caused by existence of trees increased dry matter significantly between 3–6 m distance and 6–9 m distance under both three- as well as four-year-old plantation. Similarly, minimum concentration of nutrients (nitrogen, phosphorus, and potassium) as well as their uptake in wheat plants was observed near the tree line (0–3 m) and increased subsequently with increase in distance from tree line.