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Carbon and nutrients inputs to the soil in a mixed plantations trial

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Abstract: The present study was conducted in an 11 year old trial of mixed plantation located in the Northeast of Portugal. Sampling occurred in the three following treatments: pure black locust (PR), pure wild cherry (PP) and admixture of wild cherry and black locust (MPR). To better understand the effect of the consociation of the N-fixing species (black locust) with broadleaves quality timber production (wild cherry) we assessed the inputs of the litterfall, carbon and nutrients (N, P and K) to the soil. Until now, litterfall production was not significantly different among treatments. The amounts of litterfall ranged from 1.1-1.9 Mg ha⁻¹. The corresponding inputs of carbon ranged from 0.56-0.96 Mg ha⁻¹. The treatments containing black locust cycled higher quantities of N through litterfall than the wild cherry monoculture. The quantities of K returned to the soil through litterfall were greater in the pure black locust plantation than in the other treatments. The amounts of P were similar among treatments.