

## **Nutrient demand and nutrient cycling with fast growing trees and options for integration in organic farms**

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Fast growing trees have a potential for regional bioenergy production, for an increase in landscape biodiversity, wind protection and carbon sequestration in soil. They might be used as shelter for poultry and also transfer of soil nutrients via biomass ashes is possible. Additionally they can be used for phytoremediation of soils contaminated with trace elements and for waste water application. Organic farming aims at developing regional production and use of food and fibre and looks for local nutrient recycling and natural keeping conditions for livestock. To address these goals short rotation coppices with fast growing trees in areal and strip form are an interesting option. Nutrient uptake of short rotation coppices can be high, but 60-80% of nutrients and carbon remain on sites via litterfall. Options for optimal integration of fast growing trees in organic farms, their nutrient demand and uptake are reviewed from literature and suitable growing regimes in organic farming are discussed.