

1. Record Nr.	UNINA9910688473103321
Titolo	Nitrogen and phosphorus nutrition of trees and forests // edited by Heinz Rennenberg and Mark A. Adams
Pubbl/distr/stampa	Basel, Switzerland : , : MDPI, , 2016
ISBN	3-03842-186-3
Descrizione fisica	1 online resource (254 pages)
Disciplina	581.1335
Soggetti	Plants - Effect of nitrogen on
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	List of Contributors -- About the Guest Editors -- Preface -- Nitrogen Nutrition of Trees in Temperate Forests-The Significance of Nitrogen Availability in the Pedosphere and Atmosphere -- Native and Alien Plant Species Richness Response to Soil Nitrogen and Phosphorus in Temperate Floodplain and Swamp Forests -- Soil Nitrogen Transformations and Availability in Upland Pine and Bottomland Alder Forests -- Juvenile Southern Pine Response to Fertilization Is Influenced by Soil Drainage and Texture -- Importance of Arboreal Cyanolichen Abundance to Nitrogen Cycling in Sub-Boreal Spruce and Fir Forests of Central British Columbia, Canada -- Growth and Nutrient Status of Foliage as Affected by Tree Species and Fertilization in a Fire-Disturbed Urban Forest -- Impact of Nitrogen Fertilization on Forest Carbon Sequestration and Water Loss in a Chronosequence of Three Douglas-Fir Stands in the Pacific Northwest -- Nitrogen Transfer to Forage Crops from a Caragana Shelterbelt -- Biomass, Carbon and Nutrient Storage in a 30-Year-Old Chinese Cork Oak (<i>Quercus Variabilis</i>) Forest on the South Slope of the Qinling Mountains, China -- Residual Long-Term Effects of Forest Fertilization on Tree Growth and Nitrogen Turnover in Boreal Forest -- Mid-Rotation Silviculture Timing Influences Nitrogen Mineralization of Loblolly Pine Plantations in the Mid-South USA -- Influence of Tree Spacing on Soil Nitrogen Mineralization and Availability in Hybrid Poplar Plantations -- Seasonal Pattern of Decomposition and N, P, and C Dynamics in Leaf litter in a Mongolian Oak Forest and a Korean Pine Plantation -- Increased

Sommario/riassunto

Nitrogen (N) and phosphorus (P) nutrition of trees has been studied for many decades, but has largely been focused on inorganic nutrient uptake and leaf level nutrient contents. In recent years it became obvious that N and P cycling at the ecosystem level is of vital importance for tree nutrition and that organic N uptake by trees is an essential part of ecosystem N cycling; in particular on N and/or P poor soils, and in cooler climates. The significance of organic P uptake by trees is still a matter of debate, especially under field conditions. The overlay of climate change on ecosystem N and P cycling has become an important issue of forest research. This overlay raises questions around competition for N and P among structural elements (overstorey vs. understorey), as well as among dominant species. Many nutritionally related aspects of changing climates, such as effects on rhizosphere and phyllosphere, remain seriously under-studied. The central aim of this Special Issue is to provide new insights into some of these topics at the tree, and the ecosystem level.
