Record Nr. UNINA9910298336503321 Nutrient Use Efficiency in Plants [[electronic resource]]: Concepts and **Titolo** Approaches // edited by Malcolm J. Hawkesford, Stanislav Kopriva, Luit J. De Kok Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa **ISBN** 3-319-10635-X Edizione [1st ed. 2014.] 1 online resource (287 p.) Descrizione fisica Plant Ecophysiology, , 1572-5561;; 10 Collana Disciplina 581.1335 Soggetti Plant ecology Plant physiology Soil science Soil conservation Plant Ecology Plant Physiology Soil Science & Conservation Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index at the end of each chapters. Nota di contenuto Preface -- 1 Physiological basis of plant nutrient use efficiency concepts, chances and challenges for its improvement -- 2. Natural variation as a tool to investigate nutrient use efficiency in plants -- 3. Macronutrient use efficiency – sulfur in Arabidopsis thaliana -- 4. Efficient mineral nutrition: Genetic improvement of phosphate use efficiency in crops -- 5. Micronutrient use efficiency - cell biology of iron and its metabolic interactions in plants -- 6. Boron: A promising micronutrient for the increase in growth and yield of plants -- 7. Role of autophagy in plant nutrient deficiency -- 8 Mineral nutrient depletion affects plant development and crop yield -- 9 Crop nutrition and nutrient use efficiency under elevated CO2 -- 10. Monitoring plant nutritional status -- Index. Nutrient Use Efficiency in Plants: Concepts and Approaches is the ninth Sommario/riassunto

volume in the Plant Ecophysiology series. It presents a broad overview

of topics related to improvement of nutrient use efficiency of crops. Nutrient use efficiency (NUE) is a measure of how well plants use the available mineral nutrients. It can be defined as yield (biomass) per unit input (fertilizer, nutrient content). NUE is a complex trait: it depends on the ability to take up the nutrients from the soil, but also on transport, storage, mobilization, usage within the plant, and even on the environment. NUE is of particular interest as a major target for crop improvement. Improvement of NUE is an essential pre-requisite for expansion of crop production into marginal lands with low nutrient availability but also a way to reduce use of inorganic fertilizer.