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Nota di contenuto	The Potassium Cycle and Its Relationship to Recommendation Development -- Inputs: Potassium Sources for Agricultural Systems -- Outputs: Potassium Losses from Agricultural Systems -- Rhizosphere Processes and Root Traits Determining the Acquisition of Soil Potassium -- Potassium Use Efficiency of Plants -- Considerations for Unharvested Plant Potassium -- Considering Soil Potassium Pools with Dissimilar Plant Availability -- Using Soil Tests to Evaluate Plant Availability of Potassium in Soils -- Evaluating Plant Potassium Status -- How Closely is Potassium Mass Balance Related to Soil Test Changes -- Assessing Potassium Mass Balances in Different Countries and Scales -- Considerations for Selecting Potassium Placement Methods in Soil -- Timing Potassium Applications to Synchronize with Plant Demand -- Broadening the Objectives of Future Potassium Recommendations -- Improving Human Nutrition: A Critical Objective

Sommario/riassunto

This open access book highlights concepts discussed at two international conferences that brought together world-renowned scientists to advance the science of potassium (K) recommendations for crops. There was general agreement that the potassium recommendations currently in general use are oversimplified, outdated, and jeopardize soil, plant, and human health. Accordingly, this book puts forward a significantly expanded K cycle that more accurately depicts K inputs, losses and transformations in soils. This new cycle serves as both the conceptual basis for the scientific discussions in this book and a framework upon which to build future improvements. Previously used approaches are critically reviewed and assessed, not only for their relevance to future enhancements, but also for their use as metrics of sustainability. An initial effort is made to link K nutrition in crops and K nutrition in humans. The book offers an invaluable asset for graduate students, educators, industry scientists, data scientists, and advanced agronomists.

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