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Nota di contenuto	Introduction to subsoil constraints for crop production -- The geological, geomorphological, climatic, and hydrological background of Tropical Regoliths and hostile subsoils: The Brazilian landmass -- Soil acidity and acidification -- Salinity, Sodicity and Alkalinity -- Pyritic subsoils in acid sulfate soils and similar problems in mined areas with sulfidic rocks -- Physical subsoil constraints of agricultural and forestry land -- Subsoil and surface soil constraints of mined land and tailings -- Sand and gravel subsoils -- Soilborne pathogens -- Root systems of agricultural crops and their response to physical and chemical subsoil constraints -- Roots and beneficial interactions with soil microbes -- Nutrient acquisition with particular reference to subsoil constraints -- Water acquisition by roots from the subsoil: impact of physical

constraints on the dynamics of water capture -- Deep soil carbon – characteristics and measurement with particular bearing on kaolinitic profiles -- Live subsoils: tropical regolith and biota interactions -- Subsoil constraints for crop production: recent advances, new technologies and priorities for further research.

Sommario/riassunto

This book will address the major subsoil physical and chemical constraints and their implications to crop production. Plant growth is often restricted by adverse physical and chemical properties of subsoils yet these limitations are not revealed by testing surface soils and hence their significance in crop management is often overlooked. The major constraints can be physical or chemical. Physical limitations such as poor/nil subsoil structure, sandy subsoils that do not provide adequate water or gravelly subsoils and, etc. On the other hand, chemical constraints include acidity/alkalinity, high extractable Al or Mn, low nutrient availability, salts, boron toxicity and pyritic subsoils. Some of these constraints are inherent properties of the soil profile while others are induced by crop and soil management practices. This aim of this book is to define the constraints and discuss amelioration practices and benefits for crop production. This book will be of interest to readers involved with agriculture and soil sciences in laboratory, applied or classroom settings.