Soils and soil fertility

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Title	**Soils and soil fertility** show extra info. - 6th ed
Author(s)	Troeh, F.R. ; Thompson, L.M.
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On paper	Get it!
Keyword(s)	soil / soil fertility / soil chemistry / soil structure / soil pollution / soil science / soil mechanics / reclamation / soil physics / fertilizers / geographical information systems / textbooks
Categories	Soil Science (General) / Soil Fertility
Publication type	Monograph
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About	Troeh and Thompson's Soil and Soil Fertility provides an excellent overview of soils for students in agriculture and the environmental sciences. Coverage includes basic topics such as soil chemistry, organic matter, mineralogy, water management, as well as more specialized areas such as urban and rural land use, artificial soils for greenhouses, and turf grass. The sixth edition incorporates discussions of GIS and GPS, humus and its function in soil structure and fertility, soil reclamation for sites contaminated by pesticides or petroleum spills, and advances in the understanding of water flow. A new chapter on soil mechanics explains the use of soils as foundation and construction material. Essential information from organic chemistry, geology, and biology is included for readers who lack that background. Students and instructors will appreciate the glossary and the useful study questions following each chapter. The book's practical emphasis increases its usefulness to horticulture students and enthusiasts, forestry students and practitioners, environmental professionals, agronomy students and consulting agronomists. Contents: 1) Soil 2) Soil Formation 3) Physical Properties of Soils 4) Soil Water 5) Soil Organic Matter 6) Soil Mineralogy 7) Soil Chemistry 8) Amending the Soil 9) Fertilizers 10) Nitrogen 11) Phosphorus 12) Potassium 13) Calcium, Magnesium, and Sulfur 14) The Micronutrients 15) Variations in Plant Composition 16) Soil Classification 17) Land Use and Soil Management 18) Water Management 19) Soil Erosion and Its Control 20) Soil Pollution
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Soil fertility is the ability of soil to sustain plant growth and optimize crop yield. This can be enhanced through organic and inorganic fertilizers to the soil. Nuclear techniques provide data that enhances soil fertility and crop production while minimizing the environmental impact. An integrated soil fertility management aims at maximizing the efficiency of the agronomic use of nutrients and improving crop productivity. This can be achieved through the use of grain legumes, which enhance soil fertility through biological nitrogen fixation, and the application of chemical fertilizers. Soil fertility management is very important for sustainable food production and maintenance of the environment. Fertilizer use and improved varieties were some of the major ingredients of the green revolution in Europe, Latin America, and Asia. Africa is the remaining region in the world with decreasing food production per capita. Soil scientists that focus on soil fertility are interested in managing nutrients to improve crop production. They focus on using commercial fertilizers, manures, waste products, and composts to add nutrients and organic matter to the soil. Sometime they also add chemicals that change the pH to a more optimum level for nutrient availability to plants. Soil fertility experts must also be careful to ensure that practices are environmentally sustainable. Inappropriate management of nutrients can lead to contamination of lakes, rivers, streams, and groundwater. In addition, adding amendments to th

Soil fertility is a complex process that involves the constant cycling of nutrients between organic and inorganic forms. As plant material and animal wastes decompose they release nutrients to the soil solution. As plant material and animal wastes are decomposed by micro-organisms, they release inorganic nutrients to the soil solution, a process referred to as. Categories. Articles containing potentially dated statements from 2008.