

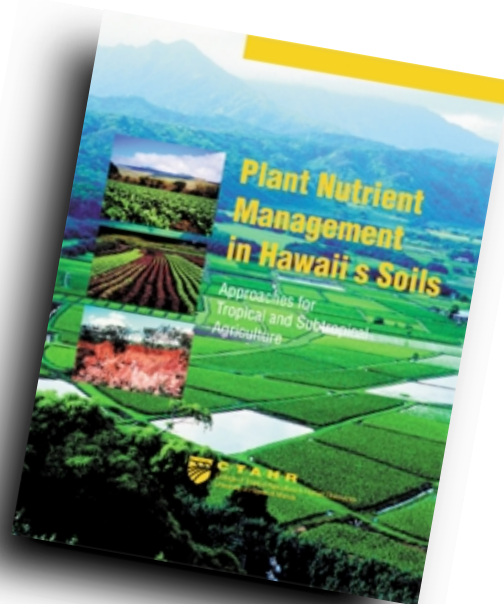
# Plant Nutrient Management in Hawaii's Soils

## Approaches for Tropical and Subtropical Agriculture

Today's approach to crop production considers not only the effects of fertilizer applications on crop yield and quality but also includes awareness of the potential of fertilizer nutrients to adversely affect the environment. Managing crop nutrients deliberately and carefully takes on special significance in Hawaii, where imported nutrient inputs are costly and the environment—particularly the underground aquifer and coastal waters—is vulnerable to pollution.

This book contains a distillation of decades of CTAHR research on soils, fertilizers, and crop nutrient needs, written for the lay reader and intended to provide a solid base of knowledge for the serious agriculturist. While the text makes reference to Hawaii's crops and soil conditions, its basic information is transferrable to similar tropical and subtropical locations throughout the world.

158 pages, 16 pages in color



### Contents

Managing fertilizer nutrients to protect the environment and human health  
 Sampling and analysis of soils and plant tissues  
 Essential nutrients for plant growth: nutrient functions and deficiency symptoms  
 Recommended plant tissue nutrient levels for some vegetable, fruit, and ornamental foliage and flowering plants in Hawaii  
 Use of information from soil surveys and classification  
 How fertilizer recommendations are made  
 Interpreting soil nutrient analysis data: definition of "low," "sufficient," and "high" nutrient levels

Collection of calibration data for interpreting soil and plant tissue analyses  
 Predicting soil phosphorus requirements  
 Soil acidity and liming  
 Plant tolerance of low soil pH, soil aluminum, and soil manganese  
 Inorganic fertilizer materials  
 Biological nitrogen fixation: nature's partnership for sustainable agricultural production  
 Mycorrhizal fungi and plant nutrition  
 Organic soil amendments for sustainable agriculture: organic sources of nitrogen, phosphorus, and potassium  
 Plant-parasitic nematodes and their management  
 Soil and water salinity

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