

# Berry Soil and Nutrient Management – A Guide for Educators and Growers



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## Dedication

This publication is dedicated to Cathy Heidenreich who was tragically killed in an automobile accident in December, 2014. Cathy put her heart and soul into her work, and this guide was the last project she had worked on before her death.



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## Preface

Commercial berry growers in the Northeast have traditionally made standardized fertilizer applications based on crop age or past fertilization practices, and not on site specific data of plant nutrient status. This practice continues today, some 20 years or more after commercial berry crop guidelines for analysis-based fertilization programs became widely available. Adoption of soil health improving practices (including the consideration of physical and biological soil properties) has also been slow.



Research demonstrates a soil and leaf analysis-based approach to berry crop nutrition provides increased yields along with improving fruit quality and plant health. Use of soil health management practices (i.e. cover cropping, reduced tillage, compost amendments etc.) has been shown to reduce weed, nematode and soil-borne disease pressure, along with improving soil tilth, organic matter and nutrient content. Rising costs of products and concerns about environmental impacts of fertilizers make a whole farm approach to berry crop nutrient and soil management highly desirable.

Commercial berry growers who are beginning to adopt an analysis-based approach to berry crop nutrition often struggle with issues such as which test(s) to use, when to use them, how to interpret the test results received, and

what types of related management practices will improve their soil and nutrient management.



Moreover, Ag educators are frequently called on to cover multiple commodities and/or information areas outside their field of expertise, and also struggle to assist commercial berry growers with berry crop soil and nutrient problems.

This manual has been designed as comprehensive resource, a “one-stop-shop”, for commercial berry growers interested in improving berry crop soil and nutrient management and the Ag educators advising them.

## Chapter 1: Introduction to Soil Management in Berry Production – Dr. Harold van Es, Cornell University

### What is soil?

The Soil Science Society of America defines soil as, “the unconsolidated mineral or organic material on the immediate surface of the earth that serves as a natural

