Soil Carbon Dynamics in Savannah Ecosystems” is a nice complement to both these chapters in that it discusses the role that legumes have in both soil carbon and nutrient release. The remaining three chapters are studies that describe organic matter and plant nutrient levels under maize culture in Zimbabwe, the isotopic composition of organic carbon in soils of semi-arid Africa, and the influence of cultivation on soil aggregates in Southern Nigeria. While the reader will find the reviews valuable resources, the three published studies seem more appropriate for a journal than for a book.

**Part II. Decomposition of Crop Residues.** The five chapters that make up this section are dominated by single, unrelated local studies that provide specific examples of this section's theme. Nitrogen recovery from maize residue, the use of coffee husks as an organic amendment, and nitrogen release from decomposing roots are three of the topics covered. In contrast, Mafongoya and Dzowela's “The Use of Tree Prunings as Sources of Nitrogen for Maize” provides an interesting literature summary of the chemical composition and mineralization patterns of tree prunings and it attempts to answer some practical management questions about the effect that timing of the application of prunings has on maize's ability to recover the applied nutrients and the subsequent maize productivity. Those readers interested in assessing nitrogen mineralization relative to plant-litter quality will also find a comprehensive statistical evaluation of a wide variety of plant litters in Mtambanengwe et al.'s “Assessment of Plant-Litter Quality Related to Short-Term Carbon and Nitrogen Mineralization in Soil.” Correlations between plant tissue chemical characteristics and N mineralization are provided along with a small discussion.

**Part III. Tree–Soil–Crop Interactions in Agroforestry Systems.** The role that individual trees and shrubs display in nutrient dynamics of a savanna is addressed in Belskys and Amundson’s “Influence of Savannah Trees and Shrubs on Understorey Grasses and Soils: New Directions in Research.” The authors begin by listing and discussing the influences that individual trees have under savanna conditions. Their major contribution is a summarization of research questions that should be addressed. This chapter is based on original data, but draws from the literature to justify the authors' ideas. Their ideas could have been better supported by drawing more heavily on traditional forestry literature from the temperate climate zone. They would have found useful material to support their theme regarding the effects that individual trees have on soil properties, as well as the importance of trees in cycling nutrients from the subsoil to surface horizons.

Noordwijk et al.'s contribution, “Tree–Soil–Crop Interactions in Sequential and Simultaneous Agroforestry Systems,” begins with useful statements about the futility of sustainability in an agricultural system without including inputs to replace harvest losses. It then continues by trying to put tree–soil–crop interactions into a quantitative approach. It is an approach that deserves consideration and the authors' use of literature on the theme is very thorough. They also discuss in detail the relationships between nitrogen, phosphorus, and potassium in the context of agroforestry systems. The chapter has a single sub-section titled “Nutrient dynamics of a savanna” in which information is beyond the study area, but is a very useful benchmark for this area and, possibly, others.

Saka et al.'s “Simulation of Nitrogen Leaching and Plant Uptake in the Maize Root Zone under Rainfall in Malawi” is an application of a simulation model in the tropics. It is interesting in that it gives an idea of what nitrogen leaching is to be expected with dry land farming. The model is limited because there is little data used to support the simulations.

**Part V. Reflections on Present and Future Directions for Research in the Tropics.** This section provides the reader with lessons learned from past work and a future outlook for research in the tropics. The chapters by Scoones, Raussem, and Swift each take on different topics but tend toward giving the reader a message. The message is that agricultural research in the tropics is necessary, but researchers must do a better job of understanding the social context of their research. History, small-farmer perception, etc. are important, but must be better melded with the research. The message is that research should be more effective and extension professionals need to be better trained so that farmers are able to make relevant and profitable decisions. Space, time, and scale are important criteria that need more consideration in agricultural research.

In general, at least half the chapters in this book provide a learning experience. The reviews are informative, the last section on lessons that have been learned, and the directions for research should be useful for many. There is a need for more work in the tropics, particularly the tropics in the COMERFORD, 2169 McCarty Hall, Soil and Water Science Department, University of Florida, Gainesville, FL 32611 (nbc@gnv.ifas.ufl.edu).

**Forest Ecology, Fourth Edition**


“Biology without its ecological context is an impoverished discipline, and an impoverished science is an impoverished society.” The distinguished Canadian ecologist, J. Stan Rowe; and so is forest ecology without its ecological context. But it must be admitted that for many decades most physiognomic vegetation studies have been discussed in their larger ecological context. More recently, studies on forest ecosystems have received the attention they deserve and these, in turn, have strengthened, indeed revolutionized, the foundations of the science of ecology itself.森林生态学 first written in 1964 by Stephen H. Spurr, 349 pages in length. The book is divided into six parts and each part is divided into chapters. The book is a much-expanded and updated textbook for students with suggested readings for each chapter.