

PREAMBLE TO CHAPTER 6

Although the theme of this volume is the role of inorganic substances in the nutrition of higher plants, it has been neither possible nor desirable to confine attention narrowly to this topic. Soil is the chief medium through which roots are nourished, and its properties as a physicochemical system were presented in Chapter 1. The role of microorganisms in the over-all economy of nature justifies the separate discussion of their inorganic nutrition in Chapter 3, and because of the special role of microorganisms in the economy of nitrogen through its fixation, this topic was selected for separate discussion in Chapter 5. These special chapters, however, do not exhaust the soil as a complex biological system or its implication for the interpretation of the nutrition of higher plants. This concluding chapter, therefore, provides a further opportunity to consider the soil in this way, to describe it as a complex system which itself carries out metabolic transformations through its microbial activities, for these in turn make nutritional demands on the constituents of soil. This chapter also provides the opportunity to consider both the organic constituents of soil and that immediate vicinity, or intimate environment, of roots which is termed the rhizosphere. Although this might well have been an appropriate point of departure from which to begin the study of inorganic plant nutrition, it is nevertheless a suitable way to end it; namely on the note that inorganic plant nutrition is the resultant of many complex interactions, including those between plants and soils, which need to be both appreciated and understood.