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Plants use large amounts of water in their growth, contributing to important consequences for agriculture and the distribution of plant communities. This book is a laboratory manual and serves as a companion to the textbook, **Water Relations of Plants and Soils**, by Kramer and Boyer (1995). Much of our knowledge of plant and soil–water relations comes from thoughtful and careful measurements of the water status of the plant and its surroundings. This book emphasizes potential thermodynamic methods that can be reproduced at any time or place to indicate the energy used for water transport.

The manual begins with a brief review of relevant thermodynamics, followed by a description of principles and methods used in measuring chemical potential and its components, as well as the precautions necessary to ensure success. The book also provides an explanation of the uses of pressure chamber, thermocouple psychrometer, and pressure probes, as well as selected examples of experiments and references for further study.

Key Features

- Explains laboratory procedures for most-used water status research methods
- Introduces underlying thermodynamic principles
- Compares methods; points to possible conclusions
- Provides example experiments for immediate application



