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BOOK REVIEW

GENSLER, W. G. (ed.): *ADVANCED AGRICULTURAL INSTRUMENTATION. DESIGN AND USE*. — Martinus Nijhoff Publishers, Dordrecht–Boston–Lancaster 1986. 480 pp. Dfl. 215.00. US \$ 94.50. £ 65.95.

The book represents the proceedings of the Conference held in Pisa (Italy), May 27–June 9, 1984. The basic approach of the Conference was to bring together instrument designers and instrument users from industry, universities and research, to discuss the conceptions and to test the use of individual instruments under laboratory and field conditions.

The book is divided into five sections. In the first, the instruments for photosynthetic measurements (the portable LI-COR model LI-6000; open, semi-closed and closed gas exchange systems; fluorescence measurements) and radiation measurements were examined. In the following section environmental measurements were treated: measurements of air humidity, of soil moisture by neutron probes, water potential by thermocouple psychrometers, and temperature by infrared thermometry. A leaf-environment model that coupled photosynthesis, stomatal conductance, leaf energy balance, and leaf and soil water status for a C₃ plant, its outputs and limitations, were dealt with in section three. Nutrient analysis, plant nutrient status in the field and greenhouse, experimental growth systems for regulation of plant growth rate, development of electrochemical sensors, and ion transport in plant roots were the topics of the following chapters. In the final section, instruments for measurements of plant water status were considered: heat pulse instrumentation to measure the kinetics of water transfer, and biophysical and electrochemical methods assessing the water status of field crops.

The book contains plenty of figures, photographs and tables, lists of references at the end of individual chapters and is equipped with a subject index. It will be a very useful manual for people working in biological and agricultural laboratories as well as for students and research workers in these and related branches.