

- KANDLER, O.: Energy transfer through phosphorylation mechanisms in photosynthesis. — *Annu. Rev. Plant Physiol.* **11** : 37–54, 1960.
- KIHLMAN, B. A.: Action of Chemicals on Dividing Cells. — Prentice Hall Inc., New Jersey 1966.
- LEVAN, A., TJIO, J. H.: Induction of chromosome fragmentation by phenols. — *Hereditas* **34** : 453 to 484, 1948.
- MITCHELL, P.: Coupling of phosphorylation to electron and hydrogen transfer by a chemi-osmotic type of mechanism. — *Nature* **181** : 144–148, 1961.
- SHARMA, A. K., GHOSH, S.: Chemical basis of the action of cresols and nitrophenols on chromosomes. — *Nucleus* **8** : 183–190, 1965.
- SIKKA, K., SHARMA, A. K.: The effect of some herbicides on plant chromosomes. — *Proc. indian. nat. Sci. Acad.* **42** (Part B) : 299–307, 1976.
- TAKATORI, S.: Effects of some respiratory inhibitors on the durations of the different stages of the mitotic cycle of *Vicia* root tip cells. — *Cytologia* **31** : 220–235, 1965.
- VAN'T HOF, J., WILSON, G. B.: Studies on the control of mitotic activity. The effect of respiratory inhibitors on mitotic cycle times in the root meristem of *Pisum sativum*. — *Chromosoma* **13** : 39–46, 1962.
- WEINBACH, E. C.: Biochemical basis for the toxicity of pentachlorophenol. — *Science* **124** : 940, 1956.

BOOK REVIEW

FRITSCHEN, L. J., GAY, L. W.: ENVIRONMENTAL INSTRUMENTATION. — REICHEL, D. E. (ed.): Springer Advanced Texts in Life Sciences. Springer Verlag, New York—Heidelberg—Berlin 1979. Pp. 216. DM 42.—, US \$ 23.60.

Rapid advances in the knowledge of the relationships between physiological processes and environmental variables *i.e.* temperature, irradiance, humidity, wind and pressure has raised requirements on precise measurements and registration of meteorological and micrometeorological factors. This interest was also increased in consequence of man's possible alteration of environment and by the possibility of modelling biological processes facilitated by intensive computer development. The testing of biological models has demonstrated the need for more, different and precise data on environmental variables. Technological development, as *e.g.* the introduction of integrated circuits, brought about progressive recording methods for data acquisition systems coupled with computers, but the basic principles of measurement and sensors have remained in use for a relatively long time. Books on the measurement of environmental variables are out of date and new information has been scattered in numerous sources. This book was written in an attempt to bring together the information on sensors, instruments, and devices for electronic recording of environmental variables and to fill up the gap in the literature on this object.

The introductory two chapters provide an overview of measurement fundamentals and a review of the principles of energy transfer and d.c. circuits. The following chapters were devoted to measurement of "Temperature", "Soil heat flux", "Radiation", "Humidity and moisture", "Wind speed and direction" and "Pressure". The final chapter "Data acquisition concepts" deals with conversion of physical quantities (temperature, radiation, heat flux density *etc.*) into electrical signals with in turn are recorded and interpreted, and with the transducers for the conversion of information from one domain to another. All chapters are complemented by a list of references, unfortunately most of the papers cited are older than ten years and thus they do not sufficiently cover the progress achieved in the last decade. The book is closed by a detailed Subject index.

Specialists in forestry, agronomy, ecology, plant physiology and related branches now have a valuable source of information that should stimulate the application of environmental variable measurement. This well-arranged self-contained book with many illustrative figures and useful tables will certainly find its way to the library of many students and researchers.

JARMILA SOLÁROVÁ (Praž)