

- STEFAN, K.: The influence of sampling of the results of chemical foliar analysis. — Working group on Diseases of the International Poplar Commission, FAO. Vienna, Austria, 8th to 12th September 1969.
- THIEME, H., BENECKE, R.: Die Phenolglykoside der Salicaceen. — *Die Pharmazie* 26 : 227—231, 1971.
- VANDEN BERGHE, D., IEVEN, M., MERTENS, F., VLIETINCK, A.: Screening of higher plants for biological activities. II: Antiviral activity. — *Lloydia* 5 : 463—471, 1978.

BOOK REVIEWS

- FEDDES, R. A., KOWALIK, P. J., ZARADNY, H.: SIMULATION OF FIELD WATER USE AND CROP YIELD. — Pudoc, Wageningen 1978. 189 pp. Dfl. 30.00.

This monograph concentrates on the crop production under limiting water supply. Two models, which can be used either separately or conjointly, are presented here. Model "SWATR" (described in detail in chapter 8) can be applied to the problems dealing with the transport of water in soil-plant-atmosphere continuum. The main output data are: the actual transpiration, water uptake and soil water content. The underlying theory is given in chapters 2, 3 and 4. First, the soil moisture characteristics and the flow of water in heterogeneous soil systems are described. The rate of water uptake in dependence on the soil moisture, the rooting depth and the transpiration rate is further evaluated. The potential transpiration and the soil evaporation are estimated from a combined energy balance — vapour transport approach. A one-dimensional numerical scheme approximating the flow in the soil-root system is derived. The model "SWATR" was verified by two field experiments concerning a water balance study of red cabbage grown on clay and of potatoes grown on loamy sand, and good agreement between the predicted and the experimental data was reached.

The second model "CROPR" (chapter 9) calculates the actual yield of a crop. The mathematical description of the plant growth (chapters 5 and 6) resulting in the growth equation takes into account besides the potential growth rate also the actual transpiration, the water use efficiency factor, etc. A method for calculation of the potential production is given in chapter 7. The model was verified by the production experiments with red cabbage, potatoes and grass and their yield was predicted fairly well from this model. The complete listing of the programs (written in FORTRAN), the full instructions for input and the examples of input data are given in chapters 10 and 11.

This very interesting monograph has a very broad application. The theoretical background of presented models contributes to the widening of general knowledge in this field and, on the other hand, the programs described in it can be used to evaluate soil, water and crop management practices.

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- KNOX, R. B.: POLLEN AND ALLERGY. — Edward Arnold, London 1979. 60 pp., £ 1.75.

The booklet appeared as No. 107 in the series Studies in Biology sponsored by The Institute of Biology in London. It provides a valuable introduction to pollen biology with special emphasis on the role of pollen in human allergic diseases. The description of pollen formation and structure is accompanied by excellent scanning electron micrographs and instructive schematic illustrations. The importance of often beautifully intricate sculptured walls of pollen grain consists not only in protective function and in pollen dispersal but it is also the site of informational protein and glycoprotein molecules acting as recognition factors, on the one hand, in acceptance or rejection of pollen on stigma surface, and on the other hand, in induction of allergic response. The explication of the mechanisms behind these responses, is the main focus of the book together with the description of some aspects of pollen ecology related to pollen dispersal.

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