

- TAGLIASACCHI, A. M., VOCATURO, R. : Effect of seed ageing of *Triticum durum* cv. Cappelli on the length of mitotic cycle as measured by ^3H -thymidine incorporation in the root meristem. – *Caryologia* 30 : 225–230, 1977.
- YOUNG, N. D., GALSTON, A. W. : Putrescine and acid stress-induction of arginine decarboxylase activity and putrescine accumulation by low pH. – *Plant Physiol.* 71 : 767–771, 1983.

BOOK REVIEW

DAVIS, T. D., HAISSIG, B. E., SANKHLA, N. (ed.): ADVENTITIOUS ROOT FORMATION IN CUTTINGS. – *Advances in Plant Sciences Series Vol. 2.* Dioscorides Press/Timber Press, Portland, Oregon 1988. 315 pp. US \$ 39.95 + 3.00.

Root formation in cuttings has been of interest to plant scientists and horticulturists for many years. The ability of cuttings to form adventitious roots and to restore the whole plants provides a means of propagation of plants with unique properties. Many of the procedures increasing the rooting capacity are still used without understanding why they are effective, although adventitious root formation attracted much attention of research workers interested in morphogenesis. The need of a better understanding of the control of plant regeneration from cuttings stimulated fundamental investigation in physiology, biochemistry and genetics. The editors succeeded in preparation a book which brings together and evaluates the involvement of physiological and morphogenetic factors which interact in the process of regeneration. The book is an excellent example of plant physiology focussed on a single problem of morphogenesis. It is a comprehensive and well balanced treatment of the problem, informing the reader about the literature data, but also pointing to the controversies and to the areas which need further investigation. It contains 22 chapters written from different aspects by 26 contributors from 10 countries. Some of the chapters are devoted to the physiological status of the stock plant. Environmental conditions for plant cultivation and cutting storage are discussed. Much attention is given to the relationship between maturation of the stock plant and reduction of rooting capacity. About one-third of the book deals with hormonal regulation of root formation. Attention is paid mostly to auxins and their commercially used analogs. Convincing evidence of root-promoting properties of auxins and the confusing data on the variations in levels of and sensitivity to auxins point to gaps in understanding the regulatory mechanisms. The multistage nature of rooting is shown in all chapters devoted to phytohormones. About one-third of the book concerns other areas of plant physiology in relation to rooting behaviour of cuttings. Chapters on mineral nutrition, carbohydrate metabolism, enzyme activities, photosynthesis and water relations are included. There is also a chapter briefly summarizing literature on root formation in tissue culture and another one on root formation in plants transformed with T-DNA of *Agrobacterium rhizogenes*. Perspectives and outlooks are added in conclusion. There is a reasonable amount of references given at the end of each chapter and an adequate subject index at the end of the book.

The book is very important to horticulturalists which rely on adventitious root formation. It is useful to plant scientists working on any of the problems of morphogenesis, and teaching plant physiology. It should be available in the libraries of institutions engaged in research programs of plant development and morphogenesis.

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