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BOOK REVIEW

CRESTI, M., GORI, P., PACINI, E. (ed.): SEXUAL REPRODUCTION IN HIGHER PLANTS. – Springer-Verlag, Berlin-Heidelberg-New York-London-Paris-Tokyo 1988. 502 pp., hard cover DM 168.–.

The series of international meetings on sexual reproduction in higher plants continued in 1988 by the Tenth Symposium held at the University of Sienna, Italy. This proceeding volume encloses 71 lectures and 31 poster abstracts presented at the meeting.

The present interest in various aspects of sexual reproduction is reflected in the number of contributions to the 9 specialized lecture sessions: 1. Gene expression and transcription (5), 2. Pollen quality and selection (8), 3. Gametophyte and sporophyte transformation and manipulation (9), 4. Microsporogenesis and pollen development (8), 5. Pollen tube and sperm cells (19), 6. Stressed gametophyte (4), 7. From pollination to fertilization (15), 8. From ovule to seed (9), 9. Embryology and taxonomy (3). There is a continuing focus on problems related to pollen selection and gametophyte manipulation as possible tools for breeding purposes (1, 2, 3, 5, 6). Convincing results on successful selection of sporophytic traits on the level of gametophyte remain so far rather rare and the progress achieved is mainly of methodical character. The field of genetic transformation is, in difference to previous meetings, contributed only by one paper on T-DNA related male sterility in tobacco. A number of other possibilities of gametophyte manipulation are examined, such as *in vitro* ovule and ovary culture, preparation and use of pollen protoplasts, androgenesis in cereals, sperm cell and embryo sac isolation, developmental manipulation of young tobacco pollen *in vitro* and stress effects on pollen. Contributions on changes of nucleolar and nuclear structure, organelle behaviour and plastid differentiation during meiosis, studies of cytoskeleton in pollen tubes, and application of modern techniques in the research of pollen-pistil interaction and embryogenesis dominated the classical topics of microsporogenesis, pollen development, fertilization and the development of fertilized ovule.

The quality and the form of presentation of research reports vary from rather preliminary observations to the usual standard in scientific journals. The book is of interest to research specialists, mainly as a source of information on the present trends and ideas in this field of plant research.

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