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 Book Reviews
 

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**Wettstein, D. von; Stenderup, A.; Kielland-Brandt, M.; Friis, J. (eds.): Molecular Genetics in Yeast.** Proceedings of the Alfred Benzon Symposium 16, Copenhagen 15–19 June 1980. Copenhagen: Munksgaard 1981. 443 pp., D.kr. 250.00.

Recombinant DNA techniques combined with classical genetics and biochemical analyses have caused a revolution in our understanding of the organization and expression of the yeast genome. The sixteenth Alfred Benzon Symposium in Copenhagen in the summer of 1980 brought together experts on different aspects of yeast genetics. The book contains a series of important papers which nicely demonstrates the state of yeast genetics as it was that summer. It also contains the transcripts of the enthusiastic and thorough discussions among the participants following each presentation.

The volume is comprised of 27 contributions divided into 8 sections. There are 6 papers dealing with chromosome structure and organization, one paper on the mating type of *Saccharomyces cerevisiae* and several papers under the heading of gene organization and regulation. These include, among others, articles on the repeated ribosomal DNA genes, the iso-cytochrome c and pyrimidine genes, mitochondrial biogenesis, 2-micron DNA and tRNA genes. Five papers are under the heading genetic transformation, and include such topics as yeast plasmid vectors, gene instability and functional analysis of genes by transformation. The remaining papers are about recombination and DNA repair, yeast systematics and yeast in medicine.

Carbon and Clarke illustrate persuasively the progress in our understanding of basic eukaryotic functions brought about by DNA cloning techniques. They show that the centromere region of the *Saccharomyces cerevisiae* chromosome III can be cloned and functions in an autonomously replicating plasmid vector. The paper by Herskowitz describes lucidly the interactions between the cassettes of genetic information at the mating type locus, *MAT*, and the two silent loci for mating type, *HML* and *HMR*. The very detailed genetic analyses of tRNA's in yeast with the aid of suppressors and the simplicity of the tRNA genes allow the correlation of DNA sequence changes with biological function. Kurjan et al. describe the results of in vitro transcription of 26 isolated mutant *SUP4* genes, revealing that sequences within the tRNA<sup>Tr</sup> coding region specify initiation of transcription. The structure of the Ty transposable element in yeast and its effect on transcription is dealt with in papers by Fink et al., Sherman et al. and Davis et al.

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**Feldmeier, C.; McRae, J.: Lilien.** 2nd ed. Stuttgart: Ulmer 1982. 246 pp., 103 figs. DM 96,—.

This revised and enlarged second edition is quite unlike the first edition of 1967 which was called "The New Lilies". One reason for this is the fact mentioned in the preface, that in 1968 about 4.2 million lilies came on the market per year from Holland, whereas in 1978, 10 years later, more than 152 million lilies are produced, that is 36 times more, whilst the culture surface in the same period increased only five times. Lilies have an increasing importance in the USA and in the Netherlands, especially with the introduction of tissue-, callus-, meristem- and embryo-culture. The fast development is reflected in the new edition of the book, with now Mrs. Judith F. McRae, of the Oregon Bulb Farms, as co-editor. Also an annotated, alphabetically arranged list of Asiatic lily hybrids of the Royal Horticultural Society in London is included. Consequently, the book is completely up-to-date: well presented, excellently illustrated, and clearly written. It is a pleasure to use it!

The arrangement of the content is as follows: development from wild lily to hybrids, new species and varieties for gardens cultivation of lilies, botany of lily, propagation, breeding of new lily varieties, even incompatibility is treated, enemies (animal, fungal and virus diseases), wild and hybrid lilies, commercial productions, tissue culture, cut flowers production, the beauty of lilies, presentation and exposition, history and future of lily breeding.

The sequence of the chapters seems to me sometimes strange, but each chapter stand on its own. Technical details are intermixed with enthusiasm and ecstasy. This may be explained from the fact that the book is above all intended to stimulate amateurs, who will find scientifically reliable information on the fast development in hybridization of lilies, the extend of the assortment, and the application of modern methods in breeding.

Besides the professional lily breeders will find an introduction of cultivation and breeding methods, which have undergo so fast a progress during the last 40 years. New knowledge and insights keep lily breeding going. Besides the 5 classical species *Lilium candidum*, *L. martagon*, *L. regale*, *L. tigrinum* and *L. bulbiferum*, a difficult to survey list of new varieties, cultivars and newly introduced species are now available for culture. Everything important to lily breeding can be found in this book, which can be recommended to professional as well as amateur lily breeders. An english edition should become available.

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