

Harwood, J.L. (ed.): **Plant Lipid Biosynthesis. Fundamentals and Agricultural Applications.** - Cambridge University Press, Cambridge 1998. ISBN 0-521-62074-0. 378 pp.; GBP 65.00, USD 105.00.

This book has arisen from contributions at the Society for Experimental Biology meeting held at the University of Kent in April 1997, and it is Seminar series No. 67. The importance of the topic is outlined by an excellent introductory chapter. Lipids represent one important group of compounds constituting plants. Their role can be very wide, comprising also energy reserve in seeds. Lipids have structural function as they are principal compounds of all membranes. Important role is superficial defence as different plant coverings. Further, lipids may take part in metabolism and regulations through their biological activities. Some molecules have special functions as photosynthetic pigments and lipid soluble antioxidants. All these roles are important for plant and in consequence also for a man.

The book is divided into four parts: 1. *De novo* fatty acid biosynthesis. 2. Fatty acid modifications. 3. Complex lipids: assembly, genetic manipulation and environmental aspects. 4. Summary. Individual contributions represent a thorough review of given topic. It can be seen from the fact that there are only 14 articles altogether. First chapter begins with advances in understanding of a role of biotin in lipid metabolism. The attention is paid to biotin-dependent carboxylases and to enzymes involved in biotin synthesis and ligation. Next article deals with regulation of fatty acid biosynthesis what is very important for commercial implications. A tool for such studies were several antisense plants. Deep knowledge of fatty acid biosynthesis and its regulation may lead to manipulation of plant oil composition. Papers in second part deal with modulation of fatty acid composition in order to get improved oil quality. One target of such research was appropriate lipid composition to get oil of required features and another aim was plants with higher resistance to stresses.

The last part concerns several aspects of complex lipids. It is concentrated to enzymes involved in lipid biosynthesis that are important for manipulation of lipid composition. This, in turn, has consequences for plant adaptability to different environments. One paper discusses impact of adverse environmental factors on lipids and their metabolism. The final article outlines the future industry progress based on plant lipid research. Contributions in this book represent advances in our knowledge on lipid metabolism and its manipulation what is important for influencing plant lipid composition. Our understanding of this topic has great importance not only as a tool for improving human and animal nutrition quality but also for various industrial purposes as pharmaceuticals, cosmetics, detergents, or even fuels. The book can be recommended for all experts interested in this field or working for industrial use.

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