

The Flowering Process and its Control in Plants: Gene Expression and Hormone Interaction

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About the Editor

Dr. Mahmoud W. Yaish was born in the Middle East where he finished his undergraduate studies. After that he obtained several fellowships to continue his postgraduate studies in Europe. After finishing his Ph.D. in plant molecular genetics from the University of Leon, Spain, he migrated with his family to Canada where he directly got a job as a postdoctoral fellow at the Department of Biology, University of Waterloo. His research was focused on the role of antifreeze proteins in the cold tolerance mechanisms in winter rye. After 3 years he moved to the University of Guelph, Canada where he spent about four years studying the mechanisms associated with development in Arabidopsis and rice. Dr. Yaish was able to publish his scientific work in some prestigious scientific journals such as Nature Biotechnology, Plant Journal, Plant Physiology and PLOS genetics.



Recently, Dr. Yaish has moved back to the Middle East where he got an Assistant Professor position at the Department of Biology, College of Science, Sultan Qaboos University, Oman.

Preface

Flowering is a reproductive stage that occurs prior to the appearance of fruits in seed-bearing plants (Gymnosperms) and it is a critical stage which determines the over whole yield produced by the plant. Flowering process is controlled by a set of interactions between genes and hormones which in turn are affected by environmental changes. Despite the tremendous progress which has been achieved toward understanding this process, some information is still unclear and therefore flowering in plants requires further investigation.

Interesting discoveries in the recent years have added new knowledge to our understanding of the physiological mechanisms associated with the flowering process in plants. In this book which is composed of sixteen chapters, scientists from fourteen different countries have reviewed and summarized recent findings and have focused on various aspects that control flowering in plants. Three chapters discuss the molecular aspects associated with floral development and evolution; four chapters present topics which cover the abiotic factors affecting flowering time such as light and sugars; four chapters discuss the role of phytohormones in flowering. In addition, five chapters of this book covers some other important issues such as the flowering signal controlled by MADS-box transcription factor in *Arabidopsis*, floral structure and size, and also flowering process *in vitro*, in the genus *Chenopodium* and in dioecious plants.

This book will serve as a useful reference for postgraduate students and researchers who are working in fields classified under the broad umbrella of plant physiology, biochemistry and genetics.

I would like to thank the authors for their outstanding contribution which led to the production of this book. Finally, I would like to thank Dr. Joseph Colasanti, University of Guelph, Canada for his encouragement in editing this book.

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