

## IN VITRO CULTURES OF CONIFERS

**Salajová, T., Jasik, J. & Salaj, J.:** *In vitro cultures of conifers*. VEDA Publishing House of the Slovak Academy of Sciences, 1998, 87 pp. ISBN 80-224-0521-3. [In English].

The monograph summarizes the results achieved during micropropagation of the species *Picea abies* and *Pinus nigra* as well as the two *Abies* interspecific hybrids. However, in combination with the numerous literature data which refer to the achievements of the kind in other coniferous species, the monograph provides also a relatively compact review on the subject applicable for conifers in general.

Among in vitro approaches attempted so far, the three methods which are commonly used in micropropagation of conifers are detailed. In the four consequent chapters the nutritive and hormonal requirements of cultivated tissues and organs are specified as ascertained at the levels of callus culture establishment, axillary bud development, adventitious bud development and somatic embryogenesis. In addition, each step of the micropropagation process is illustrated cytologically what endows the monograph with an exceptionally high instructive value.

Initiation and growth of the callus cultures of *Picea abies* and *Pinus nigra* are illustrated with respect to the composition of culture media and light conditions. Cytological illustration involves both tissue and cellular levels with special reference

to the presence of tannin and phenolic substances within the cells. The ultrastructural aspects of plastid biogenesis are presented as well. Axillary and adventitious bud developments refer to *Pinus nigra* only. The problems with rooting of shoots so characteristic of the former has been overcome partially in the latter. Somatic embryogenesis was shown in this connection to be the most perspective method of micropropagation of conifers. Using either immature or mature zygotic embryos of *Pinus nigra* and *Abies* hybrids, the authors were able to induce efficiently corresponding embryogenic calli with a high morphogenetic potential. As a result, the process of somatic embryogenesis has been induced sharing most of the morphological features which are typical also for zygotic embryos. In both cases, completely regenerated plantlets were obtained. Cytological illustration of this part of study is exceptionally neat. Containing a lot of useful references and methodological recommendations, the monograph may be of interest to those who are concerned with micropropagation of conifers.

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## THE HILLIER GARDENER'S GUIDE TO TREES AND SHRUBS

*The Hillier Gardener's Guide to Trees and Shrubs*. Editor John Kelly, David & Charles, Newton Abbot, U.K., 1995, 640 pp., hardcover, ISBN 0-7153-0130-6, £ 35.00

Within minutes of receiving a review copy of *The Hillier Gardener's Guide to Trees and Shrubs I* discovered just how useful it could be. Really, this book is a delight both to hold and to read. A new volume, derived from the extremely popular editions of *The Hillier Manual of Trees and Shrubs*, provides detailed descriptions over 4000 temperate-zone trees and shrubs representing more than 400 genera. The inspiration for this book is the Sir Harold Hillier Gardens and Arboretum collection of rare and unusual hardy woodies, a mecca for tree lovers in Europe. As the emphasis is given to the practical value, the guide addresses primarily gardeners and landscapers seeking serious information from initial plant selection through to aftercare.

The book is divided into two sections. The first one entitled 'Practicalities' contain nine chapters that focus on the basic biological mechanisms how trees and shrubs live and work, selection, purchase, care and maintenance of plants, propagation techniques, pests and diseases, and much more. All displayed in clear prose alongside graphic and imaginative line drawings. Since the volume is intended to be fully comprehensive, the exciting 'Plant Selector' chapter on a selection of recommended trees and shrubs for particular sites and specific effects is included, too.

The major and substantial part of the book is organized in the second section entitled 'Plant Directory'. The plants are

listed alphabetically by botanical name whereby their range is excellent. Each entry is characterized by a full description including size, colours of flowers and leaves, growth rate, hardiness rating and in many cases the Royal Horticultural Society Award of Garden Merit. A unique feature of the guide is the impressive range of the most popular and garden-worthy cultivars. Special attention is targeted to favourite genera of ornamentals like *Acer*, *Camellia*, *Hydrangea*, *Prunus* and *Rhododendron*. This visual feast with 3000+ colour plant identification photographs represents monumental aesthetic appreciation. Though not everything is novel or earth-shaking in this treatment, but having all of it in one place and easy accessible is much valuable contribution that has few classic rivals.

The amateur will find the volume the best source from which to select and care for popular temperate-zone trees or shrubs. The expert will find it a careful, comprehensive and authoritative description of the best available cultivars.

The scope, readability and usefulness make it a truly "must have" book that will remain valuable for many years and certainly stand the test of time. Generously presented excellent and intelligent guide, spectacular photographs of charming trees and shrubs, simply a fine record.

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