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Nota di contenuto	Chapter 1. History of meta-topolin and the aromatic cytokinins -- Chapter 2. Synthesis and chemistry of meta-topolin and related compounds -- Chapter 3. Cytokinin properties of meta-topolin and related substances -- Chapter 4. Occurrence, interconversion and perception of topolins in poplar -- Chapter 5. Cytokinin signalling and mechanism of action of meta-topolin and its derivatives -- Chapter 6. Determination of meta-topolin and the aromatic cytokinins -- Chapter 7. Topolin metabolism and its implications for in vitro plant micropropagation -- Chapter 8. Effect of meta-topolins on senescence -- Chapter 9. Effect of aromatic cytokinins on senescence-induced alterations in photosynthesis -- Chapter 10. Meta-topolin derived cytokinins as a solution to some in vitro problems -- Chapter 11. The role of meta-topolin in plant morphogenesis in vitro -- Chapter 12. Meta-topolin: advantages and disadvantages for in vitro propagation -- Chapter 13. Role of meta-topolin on in vitro shoot regeneration:an insight -- Chapter 14. Meta-topolin “an aromatic cytokinin” promotes improved micropropagation, rhizogenesis and ex vitro establishment of

an India Ipeca (Tylophora indica Burm f.) -- Chapter 15. Use of meta-topolin in somatic embryogenesis -- Chapter 16. Meta-topolins: in vitro responses and applications in large-scale micropropagation of horticultural crops -- Chapter 17. Optimization of micropropagation of some woody plants using meta-topolin -- Chapter 18. Biotechnological application of meta-topolin as highly active aromatic cytokinin in micropropagation of medicinal plants -- Chapter 19. The use of the meta-topolin in tissue culture for increasing production of secondary metabolites -- Chapter 20. Effects of meta-topolin on the growth, physiological and biochemical parameters in plant tissue culture -- Chapter 21. Establishment and management of an in vitro repository of kiwifruit (Actinidia spp.) germplasm.-Chapter 22. New generation of inhibitors of cytokinin oxidase/dehydrogenase from Arabidopsis thaliana affects shoot/root growth and seed yield -- Chapter 23. Topolins and related compounds and their use in agricultural applications -- Chapter 24. The pharmacological activity of topolins and their ribosides.

Sommario/riassunto

Plant tissue culture (PTC) technology has gained unassailable success for its various commercial and research applications in plant sciences. Plant growth regulators (PGRs) are an essential part of any plant tissue culture intervention for propagation or modification of plants. A wide range of PGRs are available, including aromatic compounds that show cytokinin activities, promote cell division and micro-propagation, viz. kinetin, N6-benzyladenine and topolins. Topolins are naturally occurring aromatic compounds that have gained popularity as an effective alternative for other frequently used cytokinins in in vitro culture of plants. Among them, meta-topolin [6-(3-hydroxybenzlyamino) purine] is the most popular and its use in plant tissue culture has amplified swiftly. During the last few decades, there have been numerous reports highlighting the effectiveness of meta-topolin in micropropagation and alleviation of various physiological disorders, rooting and acclimatization of tissue culture raised plants. .