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Titolo	Annual report of the Director-General / / Department of Transport
Pubbl/distr/stampa	[Brisbane, : The Dept., 1990]-
Descrizione fisica	1 online resource
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Soggetti	Transportation - Australia - Queensland Transportation Periodicals. Queensland
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2. Record Nr. UNINA9910139211803321

Autore	Davey M. R (Michael Raymond), <1944->
Titolo	Plant cell culture : essential methods / / Michael R. Davey and Paul Anthony
Pubbl/distr/stampa	Chichester, West Sussex, UK ; ; Hoboken, NJ, : Wiley-Blackwell, c2010
ISBN	9786612689130 9781282689138 1282689134 9780470686522 0470686529 9780470686515 0470686510
Edizione	[1st ed.]
Descrizione fisica	1 online resource (359 p.)
Classificazione	WC 5102 WN 5200
Altri autori (Persone)	AnthonyPaul
Disciplina	571.6/382
Soggetti	Plant cell culture Plant tissue culture
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa

Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Plant Cell Culture; Contents; Preface; Contributors; 1 Plant Micropropagation; 1.1 Introduction; 1.2 Methods and approaches; 1.2.1 Explants and their surface disinfection; 1.2.2 Culture media and their preparation; 1.2.3 Stages of micropropagation; 1.2.4 Techniques of micropropagation; 1.3 Troubleshooting; References; 2 Thin Cell Layers: The Technique; 2.1 Introduction; 2.2 Methods and approaches; 2.2.1 TCL; 2.2.2 Choice of material: Cymbidium hybrid; 2.3 Troubleshooting; 2.3.1 General comments; References; 3 Plant Regeneration - Somatic Embryogenesis; 3.1 Introduction 3.2 Methods and approaches3.2.1 Selection of the cultivar and type of explant; 3.2.2 Culture media; 3.2.3 Preparation of culture media; 3.2.4 Sterilization of tissues and sterile technique; 3.2.5 Culture and growth of tissue; 3.2.6 Culture and induction of somatic embryos; 3.2.7 Embryo development; 3.2.8 Transfer to soil - the final stage of regeneration; 3.3 Troubleshooting; References; 4 Haploid Plants; 4.1 Introduction; 4.2 Methods and approaches; 4.2.1 Androgenesis; 4.2.2 Diploidization; 4.3 Troubleshooting; References; 5 Embryo Rescue; 5.1 Introduction; 5.2 Methods and approaches 5.2.1 Identification of the time and type of barrier in hybridization5.2.2 Isolation of plant material after fertilization; 5.2.3 Culture conditions and media; 5.2.4 Confirmation of hybridity and ploidy; 5.2.5 Conditions for regeneration of embryos to plants; 5.3 Troubleshooting; References; 6 In vitro Flowering and Seed Set: Acceleration of Generation Cycles; 6.1 Introduction; 6.2 Methods and approaches; 6.2.1 Protein legumes [7]; 6.2.2 Arabidopsis thaliana [13]; 6.3 Troubleshooting; References; 7 Induced Mutagenesis in Plants Using Physical and Chemical Agents; 7.1 Introduction 7.2 Methods and approaches7.2.1 Determination of the optimal doses of mutagens for inducing mutations; 7.3 Troubleshooting; 7.3.1 Factors influencing the outcome of mutagenesis using chemical mutagens; 7.3.2 Factors influencing the outcome of mutagenesis using physical mutagens; 7.3.3 Facts about induced mutations; References; 8 Cryopreservation of Plant Germplasm; 8.1 Introduction; 8.2 Methods and approaches; 8.2.1 Main principles; 8.2.2 Slow (two-step) freezing; 8.2.3 Vitrification; 8.2.4 Encapsulation-dehydration; 8.2.5 DMSO droplet freezing; 8.2.6 Combined methods 8.2.7 Freezing of cold-hardened buds8.2.8 Freezing of orthodox seeds; 8.2.9 Freezing of pollen and spores; 8.3 Troubleshooting; References; 9 Plant Protoplasts: Isolation, Culture and Plant Regeneration; 9.1 Introduction; 9.2 Methods and approaches; 9.2.1 Protoplast isolation; 9.2.2 Protoplast culture; 9.3 Troubleshooting; References; 10 Protoplast Fusion Technology - Somatic Hybridization and Cybridization; 10.1 Introduction; 10.2 General applications of somatic hybridization; 10.3 Methods and approaches; 10.4 Troubleshooting; References; 11 Genetic Transformation - Agrobacterium 11.1 Introduction
Sommario/riassunto	The ability to culture cells is fundamental for mass propagation and as a baseline for the genetic manipulation of plant nuclei and organelles. The introduction to Plant Cell Culture: Essential Methods provides a general background to plant cell culture, including basic principles, technologies and laboratory practices that underpin the more detailed techniques described in subsequent chapters. Whilst each chapter provides a background to the topic area and methodology, a crucial

aspect is the provision of detailed protocols with emphasis on trouble shooting, describing common pr