Session IX

PROPAGATION AND *IN VITRO* MANIPULATION

Poster Communications

SIX.8p EFFECT OF DIPHENYLUREA DERIVATIVES ON ADVENTITIOUS ROOTING AND SOMATIC EMBRYOGENESIS IN WOODY SPECIES
Enrico Rolli, Carmen Diaz-Sala, Angela Carra, Ada Ricci*

SIX.9p TRANSFORMATION OF *PINUS PINASTER* FOR STUDYING NITROGEN METABOLISM REGULATION
Ana Milhinhos*, Célia Miguel, M. Margarida Oliveira, Susana Tereso

SIX.10p IN VITRO CLONING OF CHERIMOYA (*ANNONA CHERIMOLA* MILL.)
C.L. Encina*, E. Carmona Martín, I.M.G. Padilla, N. Westendorp, E.Caro

SIX.11p CHERIMOYA (*ANNONA CHERIMOLA* MILL.): REGENERATION AND GENETIC TRANSFORMATION
C.L. Encina*, I.M.G. Padilla, E. Carmona Martín, N. Westendorp, E.Caro

SIX.12p TOWRADS A BETTER UNDERSTANDING OF CONIFER SOMATIC EMBRYO DEVELOPMENT VIA PROTEOMIC ANALYSIS
Caroline Teyssier*, Ludovic Bonhomme, Domenico Morabito, Michel Vallance, Philippe Label, Marie-Anne Lelu-Walter

SIX.13p STUDIES OF BACTERIAL ENDOPHYTES AS A NECESSARY PRECONDITION FOR SAFE MICROPROPAGATION AND GENE TRANSFER
Dietrich Ewald*, Kristina Ulrich

SIX.14p SOMATIC EMBRYOGENESIS IN ZYGOTIC EMBRYOS FROM HALF-SIB FAMILIES OF SELECTED *PINUS PINEA* TREES
Elena Carneros*, Inmaculada Hernández, Jesús Jiménez, Dolores López-Vela, Jesús Alegre, Mariano Toribio, Cristina Celestino

SIX.15p *IN VITRO* ESTABLISHMENT AND MULTIPLICATION OF THE HYBRID *EUCALYPTUS BENTHAMII* MAIDEN & CAMBAGE X *E. DUNNII* MAIDEN
Gilvano Ebling Brondani, Leonardo Ferreira Dutra*, Fernando Grossi, Ivar Wendling, Fabricio Augusto Hansel, Jefferson Hornig Azevedo

SIX.16p MINICUTTING OF *LIQUIDAMBAR STYRACIFLUA* L.: SUBSTRATUM EFFECT AND TYPES OF PREPARATION
Gilvano Ebling Brondani, Ivar Wendling, Leonardo Ferreira Dutra*, Fabricio Augusto Hansel

SIX.17p MICROPROPAGATION OF SELECTED ADULT PLANTS OF *ARBUTUS UNEDO* L. (STRAWBERRY TREE)
Filomena Gomes*, Maria L. Lopes, Jorge Agrela, Jorge M. Canhoto

SIX.18p RELATIONSHIP BETWEEN EMBRYO DEVELOPMENTAL STAGE AND SOMATIC EMBRYOGENESIS INDUCTION IN TWO SPANISH POPULATIONS OF MARITIME PINE
Alicia Humanez, Jesús Muñoz-Bertomeu, Neftali Mesa, Carmen Brisa, Juan Segura, Isabel Arrillaga*

SIX.17p

MICROPROPAGATION OF SELECTED ADULT PLANTS OF *ARBUTUS UNEDO* L. (STRAWBERRY TREE)

Filomena GOMES[1]*, Maria L. LOPES[2], Jorge AGRELA[1], Jorge M. CANHOTO[2]

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Arbutus unedo L. is a species characteristic of Mediterranean climates, widely represented in southern Europe. The genus *Arbutus* (*Ericaceae*) includes about 20 species from which *Arbutus unedo*, known as strawberry tree, is the most interesting from an economic point of view. Several aspects contribute to the economic interest of this plant including 1) fruit production (fresh or processed to make jellies); 2) production of a spirit called "Medronheira", that represents the main income for strawberry tree producers and (3) the more recent utilization of shoots in the floral industry. Moreover, the plant is highly resistant to forestry fires, as a result of its low resin content and its ability to produce new shoots after burning. From an ecological perspective it should also be me mentioned that *A. unedo* has the capacity to grow in poor as well as in water deficient soils making the tree an ideal species to recover degraded lands and to prevent forestry fires.

Adult plants of strawberry tree, growing in different regions of Portugal were selected for its potential for fruit production. Branches (30 – 40 cm length) of these trees were collected in the field and maintained in the greenhouse until epicormic shoots start to develop. Following sterilisation, shoot tips (< 2 mm) and nodal segments (10-20 mm) were then used to establish the *in vitro* cultures.

Best results (38.7 ± 9.8 %, survival rate) were obtained when shoot tips (< 2 mm) were used. Optimum shoot proliferation was achieved on a basal De Fossard medium (FS; De Fossard *et al*., 1974), containing Murashige and Skoog (1962) micro-nutrients, FS organics, sucrose, and 9 µM benzyladenine (BA). Rooting of the formed shoots occurred following auxin treatments. The highest root (93.3 %) rates were achieved when shoots were inoculated in root induction medium, Knop (Gautheret, 1959), with 24.7 µM 3-indolebutyric acid (IBA, during 6 days) or dipped on 9.8 $x10^3$ µM IBA (for 15 sec), and followed by its subculture (5 weeks) on the same medium without growth regulators and containing charcoal (1.5 %). Rooted plantlets were transferred to pots and 84.7 ± 4.6 % of them acclimatized.