

## ADVANCES IN THE MICROPROPAGATION OF SERVICE TREE (*SORBUS DOMESTICA* L.)

**Paraskevas Nikolaou<sup>1</sup>, Dimitris Zagas<sup>1</sup>, Vassilis Scaltsoyiannes, Evangelos Balas<sup>3</sup>,  
Vassiliki Xilogianni<sup>3</sup>, Parthena Tsoulpha<sup>1</sup>, Maria Tsaktsira<sup>1</sup>, Eleni Voulgaridou<sup>1</sup>, Ivan Iliev<sup>2</sup>,  
Katerina Triantafyllou<sup>4</sup>, and Apostolos Scaltsoyiannes<sup>1\*</sup>**

<sup>1</sup>Aristotle University of Thessaloniki, Department of Forestry and Natural Environment,  
Laboratory of Forest Genetics and Plant Breeding, P.O. Box 238, 54124 Thessaloniki Greece,

\*Fax: + 302310992777, \*E-mail: skaltsoy@for.auth.gr

<sup>2</sup>Department of Dendrology, University of Forestry, 10 Kliment Ohridski blvd., 1756 Sofia, Bulgaria

<sup>3</sup>Fytotechniki, Plant Tissue Culture Company, Filothei, 47042, Arta, Greece

<sup>4</sup>Modagri Plants, Plants Cultivation & Selling Co, Modi 57014, Thessaloniki, Greece

### REFERENCES

- Appelgren M. (1991). Effects of light quality on stem elongation of *Pelargonium in vitro*. *Scientia Horticulturae*, 45: 345-351.
- Arrillaga I., Marzo T., Segura J. (1991). Micropropagation of juvenile and adult *Sorbus domestica* L. *Plant Cell, Tissue and Organ Culture* 27: 341-348.
- Bignami C. (2000). Service tree (*Sorbus domestica* L.). Description and use of service tree. *Italy Informatore-Agrario*, 56: 55-58.
- Demesure B. (1998). Mountain Ash (*Sorbus* spp.). In: Turok J., Collin E., Demesure B., Eriksson G., Kleinschmit J., Rusanen M., Stephan R. (Eds.). *Noble Hardwoods Network*: 48-50.
- Hartmann H. T., Kester D. E., Davies F. T. Jr., Geneve R. L. (2002). *Plant propagation: principles and practices*. 7th ed. Prentice Hall, Upper Saddle River, N.J., 645 pp.
- Heller R. (1953). Resherches sur la nutrition minerale des tissues vegetaux cultives *in vitro*. *Annales des Sciences Natureles Botanique et Biologie Vegetale*, 14:1-223 (in French).
- Jámbor-Benczúr E., Ónadi K., Szafián Z., Batiz E., Schmidt G. (1996). The effect of growth regulators and carbon source on *in vitro* multiplication of *Sorbus rotundifolia* L. In: *Physiology and control of plant propagation in vitro*. Proceedings of the workshop held at Humboldt University, COST 822, Berlin: 77-84.
- Loreti F., Muleo R., Morini S. (1990). Effect of light quality on growth of *in vitro* cultured organs and tissues. *Proceedings of International Plant Propagators' Society*, Vol. 40: 615-623.
- Meier-Dinkel A. (1998). *In vitro* Vermehrung von Speierling (*Sorbus domestica* L.). *Corminaria* 9: 9-13 (in German).
- Moreira da Silva M. H., Debergh P. C. (1997). The effect of light quality on the morphogenesis of *in vitro* cultures of *Azorina vidalii* (Wats.) Feer. *Plant Cell, Tissue and Organ Culture* 51: 187-193.
- Muleo R., Thomas B. (1997). Effects of light quality on shoot proliferation of *Prunus cerasifera in vitro* are the result of different effects on bud induction and apical dominance. *Journal of Horticultural Science* 72 (3): 483-491.
- Murashige T., Skoog F. (1962). A revised medium for rapid growth and bioassays with tobacco cultures. *Physiologia Plantarum*, 15: 473-497.
- Ördögh M., Jámbor-Benczúr E., Tilly-Mándy A., Lelik L. (2006). The effect of growth regulators in proliferation of *Sorbus redlina* 'Burokvölgy'. *International Journal of Horticultural Science*, 12 (1): 77-83.
- Piagnani C., Bassi D., Pinnavaia S. (2002a). Effetto della concentrazione dei sali minerali e di IBA sulla radicazione *in vitro* di *Sorbus domestica* e *S. torminalis*. *Italus Hortus*: 9 (3): 76-77 (in Italian).
- Piagnani C., Iacona C., Intrieri M. C., Muleo R. (2002b). A new somaclone of *Prunus avium* shows diverse growth pattern under different spectral quality of radiation. *Biologia Plantarum* 45: 11-17.
- Pinker I., Zoglauer K., Göring H. (1989). Influence of light on adventitious root formation in birch shoot cultures *in vitro*. *Biologia Plantarum (Praha)*, 31 (4): 254-260.
- Read P. E., Economou A. (1982). Effect of red and far-red light on microcutting production and rooting of hardy deciduous azaleas. *XXI International Horticultural Congress*: 1784 (Abstract).
- Rotach P., (2003). EUFORGEN Technical Guidelines for genetic conservation and use for Service tree (*Sorbus domestica*). International Plant Genetic Resources Institute (IPGRI), Rome, Italy. 6 pages PDF; 0.3 MB
- Scaltsoyiannes A., Tsoulpha P., Iliev I., Theriou K., Tzouvara A., Mitras D., Karanikas C., Mahmoud S., Christopoulos V., Tsaktsira M. (2007). Vegetative propagation of *Prunus avium* L. genotypes selected for wood production. *Journal of Forest Genetics* (in press).
- Schenk R. V., Hildebrandt A. C. (1972). Medium and techniques for induction and growth of monocotyledonous and dicotyledonous plant tissue cultures. *Canadian Journal of Botany*, 50: 199-204.