IX International Symposium on In Vitro Culture and Horticultural Breeding (13-17 March 2016), Horticulture Research Institute (HRI), Giza, Egypt

Abstracts Book

Edited by

Prof. Dr. Adel A. Abul-Soad

Prof. Dr. Jameel M. Al-Khayri

Prof. Dr. Maurizio Lambardi

Published by

Horticulture Research Institute, Agricultural ResearchCenter, Giza, Egypt

Mycorrhizal synthesis between *Lactarius deliciosus* and *Arbutus unedo* L

Prof. Dr. Filomena Gomes, Instituto Politécnico de Coimbra, Escola Superior Agrária Coimbra, CERNAS, Bencanta, Apartado 7036, 3045-601 Coimbra, Portugal; fgomes@esac.pt (presenting author)
Fani Plácito, Instituto Politécnico de Coimbra, Escola Superior Agrária, CERNAS, Bencanta, Apartado 7036, 3045-601 Coimbra, Portugal; faniplacito@gmail.com (co-author)
Diego Suárez, Instituto Politécnico de Coimbra, Escola Superior Agrária, CERNAS, Bencanta, Apartado 7036, 3045-601 Coimbra, Portugal; diemasu@hotmail.com (co-author)
Marta Clemente, Instituto Politécnico de Coimbra, Escola Superior Agrária Coimbra, CERNAS, Bencanta, Apartado 7036, 3045-601 Coimbra, Portugal; mssclemente@gmail.com (co-author)
Patrícia Figueiredo, GREENCLON LDA, R. António Jardim N 24 , Rc Dto Frente, 3000-035 Coimbra, Portugal;pfigueiredo@greenclon.pt (co-author)
Maria João Barrento, INIAV, IPL-INIA, Av. República, Quinta do Marquês , 2780-159 Oeiras, Portugal;mjoao.barrento@iniav.pt (co-author)
Dr. Helena Machado, INIAV, IPL-INIA, Av. República, Quinta do Marquês , 2780-159 Oeiras, Portugal;helena.machado@iniav.pt (co-author)

Keywords: Arbutoid mycorrhizae, strawberry tree, pure culture synthesis, nursery inoculation, ex vitro persistence

Abstract

The use of strawberry tree plants artificially inoculated with mycorrhizal fungi allows the installation of more productive orchards benefiting from particular advantages conferred by the introduced fungi as, in the case of *Lactarius deliciosus*, the production of edible mushrooms.The compatibility between micropropagated *Arbutus unedo* plants and two isolates of *Lactarius deliciosus* was confirmed *in vitro* using synthesis tubes filled with a mixture of sterilized peat, vermiculite and perlite imbibed with nutrient solution. The effect of inocula type and fungal isolate on the success of mycorrhiza establishment was analyzed. Mycorrhizae synthesized *in vitro* persisted nine months after plants acclimatization and maintenance under nursery conditions.The viability of direct inoculation under nursery conditions was evaluated using seedlings germinated in unsterilized substrate. Plants were inoculated with four *L. deliciosus* isolates multiplied in solid substrate. Inoculation success was evaluated after 4 to 6 months.All the mycorrhizal plants will be installed on orchards with different edaphoclimatic conditions and monitored during 4 to 10 years, to confirm long term

persistence of mycorrhizae and evaluate the fungal colonization level required to guarantee mushroom production.