

COST 838 meeting. Pisa, ITALY - OCTOBER 10 - 12, 2002 Agúin O.¹, Mansilla J.P.^{1,2}, Vilariño A.³ and Sainz M.J.²

¹*Estación Fitopatológica "Do Areeiro", Excma. Diputación Provincial de Pontevedra, Subida a la Robleda s/n, E-36153 Pontevedra, Spain*

²*Departamento de Producción Vegetal, Universidad de Santiago de Compostela, Campus Universitario, E-27002 Lugo, Spain*

²*Instituto de Investigaciones Agrobiológicas de Galicia, CSIC, POB 122, E-15780 Santiago de Compostela, Spain*

Armillaria mellea is an aggressive pathogen for grapevine, causing a disease called white root rot. In field practice, the application of cubiet is advised when the first symptomatic plants are observed in infected vineyards, although the efficacy of this fungicide to actually control the disease is very low. A growth chamber experiment was designed to compare the effects of two fungicides, cubiet and cyproconazol, and the inoculation of *Glomus aggregatum* on the white root rot caused by *A. mellea* in three grapevine rootstocks, namely 196-17 Castel, 110 Richter and 161-49 Couderc. Previous *in vitro* studies had shown that cyproconazol had a fungicide effect on the growth of *A. mellea* mycelium.

Cuttings of each rootstock were treated with IBA and inserted in two rooting beds of sand-vermiculite. One of the beds received and inoculum of *G. aggregatum* previously raised on *Tagetes erecta*. For the experiment, mycorrhizal and nonmycorrhizal well-rooted cuttings were transferred to 1.5 L pots (one cutting per pot) filled with an unsterilized soil. Half of the plants were inoculated with an isolate of *A. mellea* previously obtained from a field-infected grapevine. Two fungicides treatments, cubiet and cyproconazol, were established for rootstocks 196-17 Castel and 110 Richter. The rootstock 161-49 Couderc provided a lesser number of well-rooted cuttings and only the effects of the cyproconazol treatment were investigated.

The application of cyproconazol decreased the *Armillaria* disease index in rootstocks 196-17 Castel and 110 Richter, but had also a strong fitotoxic effect for all grapevine rootstocks (either inoculated or not with *G. aggregatum*), which showed a dramatic reduction of shoot and root growth. Similarly, the application of cubiet also reduced the disease index in rootstocks 196-1 Castel and 110 Richter. This fungicide also inhibited the colonization of roots by AM fungi. It was remarkable that the inoculation of *G. aggregatum* had the same effect as cubiet on the control of *Armillaria* root rot for the rootstock 110 Richter. These beneficial effects of cubiet and arbuscular mycorrhiza should be integrated to better control *A. mellea* in vineyards, although this might be difficult to achieve due to the detrimental effects of cubiet on the AM symbiosis.