

SURVIVAL OF *TRICHODERMA ATROVIRIDE* ON GRAPEVINE PRUNING WOUNDS AND LEAVES

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Esca disease causing damage in vineyard in almost parts of the world. The disease is caused by three different fungi (*Phaeoconiella chlamydospora*, *Phaeoacremonium aleophilum* and *Fomitiporia mediterranea*), on the whole these pathogen affects the shoot of the trunk and the branches with chronic or acute evolution. At the moment the prevention of pruning wounds infection by following correct cultural practices remain the main way to manage the disease but the possibility of introducing microorganisms such as biological control seems to represent an alternative or a complementary strategy. We have examined the survival of *Trichoderma atroviride* SC1, as biological control agent on grapevine pruning wounds in vineyard. The results obtained is very interesting; *T. atroviride* survived for a long time (90 days after inoculums) into the shoot, assuring by this way a potential protection of pruning wounds versus Esca fungi infection. For this trial during the winter season we have pruned the plants, and a suspension of *T. atroviride* SC1 (1×10^8 conidia/ml) was spread on fresh pruning wounds. After the inoculation the wood (7 cm long) was collected, disinfected (90% ethanol for 30 s, 2% sodium hypochlorite for 3 min and then 90% ethanol for 30 s) and five sections (1 mm thick) were cut at homogeneously distances from the inoculated point along the shoot (0, 5, 10, 15 and 20 mm) and plated onto 2% malt extract agar amended with 0.2 g/l chloramphenicol. The cultured plates were incubated at 25°C, in the dark and daily evaluated to verify the presence of the colonies of *Trichoderma*. The percentage of infected wounds (incidence of infection) was calculated, and the extent of SC1 penetration inside the wood was measured at 15, 30 and 90 days after suspension treatment. In the second trial the survival of *Trichoderma* on grapevine leaves was evaluated after treatment with two commercial pesticide, fosetil-aluminium and copper, employed in viticulture against downy mildew. The leaves of potted plants were inoculated with *T. atroviride* SC1 as previously described and after one day treated with the two different pesticides. After 2 and 8 days grapevine leaves were collected, washed in sterile water amended with NaCl (0.8 %) and the suspension was serially diluted and placed onto MEA + chloramphenicol. The plates were incubated at 25°C, and the colonies of *Trichoderma* were evaluated after three days. The survival of *T. atroviride* SC1 on grapevine leaves after fosetil-aluminium and copper treatment was confirmed.