

PROJECT TITLE

Quantification of progression of fluorescently labelled *Phytophthora cinnamomi* Rands in different genotypes of *Castanea* spp., using SignalSCREEN instalation

CONSORTIUM

P 1	Rita Costa		
P 2	Patricia Fernandes		

SUMMARY OF THE REPORT

Two (2) access units were used for this project as described below (see Description of work).

The project aims to study the progression of *Phytophthora cinnamomi* (*Pc*), the causal agent of root rot/ink disease, in hybrid genotypes of chestnut obtained from controlled crosses, using Signal Screen Platform. The plant material includes six different genotypes: *Castanea sativa*, very sensitive to *Pc*, *Castanea crenata*, resistant used respectively as female and male parents, and four hybrid genotypes obtained from controlled crosses. The project is supported by a breeding program that aims the introgression of resistance genes of Asian species (*Castanea crenata* and *Castanea mollissima*) into the European chestnut (*Castanea sativa*) very sensitive to the *P. cinnamomi*, for the selection of genotypes with improved resistance to the pathogen. The analysis with Signal screen platform enabled the ranking of the hybrid genotypes in terms of hyphal coverage after inoculation, varying between the two parents CC14 (*C. crenata*) and CS12 (*C. sativa*) namely from the less to the most covered genotype: SC51 SC1202, SM904 and SC09.