

## FACTORS INFLUENCING THE INCIDENCE AND SPREAD OF CHESTNUT BLIGHT IN NORTHEASTERN PORTUGAL

H. Bragança, S. Simões, N. Onofre and N. Santos

<sup>1</sup> Instituto Nacional de Recursos Biológicos, I.P. (ex-Estação Florestal Nacional), Quinta do Marquês,  
2784-505 Oeiras, Portugal

### SUMMARY

Chestnut blight caused by the fungus *Cryphonectria parasitica* is one of the most important mortality factors of sweet chestnut (*Castanea sativa*) in Portugal. The disease is widespread in all the regions where chestnut is a major component of the landscape. The factors involved in the spread and incidence of the disease were studied in Trás-os-Montes e Alto Douro, one of the most important chestnut areas of northeastern Portugal. Selected variables were altitude, soil type, diameter at breast height (dbh), location and orientation of cankers in the tree. The incidence of the disease in the study area was estimated to be 40%, ranging from 2% to 100%. The highest proportion of cankers was found on trees with a dbh greater than 30 cm but most frequently on the 31-40 cm diameter class. This relationship could be a consequence of the more intensive management to which those trees have been submitted. Although at the tree level a higher proportion of cankers was found on the south-facing side of the trunks and branches, no significant relationship between canker incidence and grove site exposition was detected. As well, no other factors analyzed were also directly correlated with the incidence and frequency of the disease in the study area.

*Key words:* Chestnut blight, *Cryphonectria parasitica*, *Castanea sativa*, epidemiology, dbh.