

Journal of Agricultural Extension and Rural Development (JAERD)

Phytophthora-infection in a sweet chestnut (*Castanea sativa*) Orchard in Transdanubia, Hungary

J. Kovács*, I. Szabó and F. Lakatos

University of West-Hungary, Institute of Silviculture and Forest Protection, H-9400 Sopron, 5 Ady E. str., Hungary.

*Corresponding author. E-mail: csendes.judit@gmail.com.

Accepted 30 November, 2011

In the first decades of the 20th Century, a big amount of sweet chestnut (*Castanea sativa*) which stands in the South-Europe died. The cause was the ink disease. Since then, the ink disease is one of the most serious diseases of the sweet chestnut in the whole Europe. There are several *Phytophthora* species in contact with the appearance of the ink disease. The most frequent species are *Phytophthora cambivora* and *Phytophthora cinnamomi*. The appearance of ink disease is sparse in Hungary. In September 2010, we found dying trees in a sweet chestnut orchard of 14 year old in South-Transdanubia, Hungary. The symptoms were specific: small, yellowish leaves, sparse, drying foliage, necrotic bark lesions at the stem basis and main roots. The fine roots were rot. Some saplings also died in the same orchard. We isolated *Phytophthora* species on selective agar media from soil samples taken from the rhizosphaere of the dying trees and saplings by baiting with *Rhododendron* leaves. The species identification was carried out by morphologic examination and the internal transcribed spacer (ITS1) and ITS2 sequences of the ribosomal DNA. We identified *P. cambivora* from the soil of dying trees and of saplings, too. Now, the appearance of ink disease in the orchard is confined to a small clump. It is an urgent task to find the adequate methods to confine the disease.

Key words: Ink disease, internal transcribed spacer, ribosomal DNA, *Phytophthora cambivora*.

ACKNOWLEDGEMENT

Authors render thanks to the projects “TÁMOP 4.2.1/B-09/KONV-2010-0006” and “GOP-2008-1.1.1.-08/1-2008-0104” for enabling our research.

White pine needle diseases in Eastern Canada

G. Laflamme^{1*}, C. Côté¹ and L. Innes²

¹Natural Resources Canada, Canadian Forest Service, Laurentian Forestry Centre, P.O. Box 10380, Québec, QC, Canada G1V 4C7, Canada.

²Ministère des Ressources Naturelles et de la Faune, Direction de l'environnement et de la protection des forêts, 2700 rue Einstein, Québec, QC, G1P 3W8.

*Corresponding author. E-mail: Gaston.Laflamme@RNCa-NRCa.gc.ca.

Accepted 30 November, 2011

In 2009, yellowing of white pine (*Pinus strobus*) needles was reported from several regions in three Canadian provinces: New Brunswick, Québec and Ontario. A similar problem was seen also in eastern United States. Several causal agents

Journal of Agricultural Extension and Rural Development (JAERD)

were presented as hypotheses: Drought, pollution as well as several needle diseases. In 2010, samples of white pine needles were collected in areas where symptoms were seen in previous year. Samplings were done by the three provincial agencies. In addition, one white pine was sampled every month in Québec City and some endophytic fungi were isolated from diseased needles collected in June. At least 6 fungal species were more common on these needles but some were secondary fungi like *Hendersonnia pinicola*. The most common pathogen found was *Canavirgella banfieldii* which seems to be a synonym of *Lophophacidium dooksii*. The yellowing of the current year needles is visible mainly in August. The discoloration affects only a distal portion of the needles. Some white pine seems to be resistant to this disease. The teleomorph is visible mainly on previous year needles in early summer. A second pathogen, *Mycosphaerella dearnessii*, appears in June on previous year needles: the whole needle becomes yellow and red bands are visible near the infection point. Both pathogens were collected on the same tree on few occasions. All these fungi are being sequenced and this should clarify the synonymy at some fungal species level and their classification at the family level.

Key words: *Pinus strobus*, *Lophophacidium dooksii*, *Mycosphaerella dearnessii*, needles diseases.

Seasonal variation in the infection level of *Cedrus libani* needles by *Ploioderma cedri*

A. Lehtijärvi* and H. T. Doğmuş-Lehtijärvi

Faculty of Forestry, Süleyman Demirel University, 32260 Isparta, Turkey.

*Corresponding author. E-mail: asko@orman.sdu.edu.tr.

Accepted 30 November, 2011

Cedrus libani forests are presently found mainly in the Taurus Mountains of Turkey while only small populations of the once extensive and magnificent cedar forests remain in Lebanon and Syria. Since 2004, we have observed browning of needles in spring in the lower part of the canopy of the trees in some *C. libani* stands in the lakes district of Turkey. The disease occurred both on saplings growing as understory in mixed forest as well as on approximately 10 m tall trees in an even aged stand. The frequent fruiting of *Ploioderma cedri* on dead parts of otherwise green needles indicates that the fungus was the causal agent of the disease. There has been considerable variation in the level of infection from one year to another. In the present study, we estimated the effect of the disease on needle biomass.

Key words: Cedar forest, Turkey, *Ploioderma cedri*, disease.