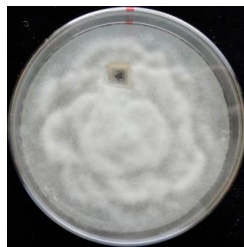
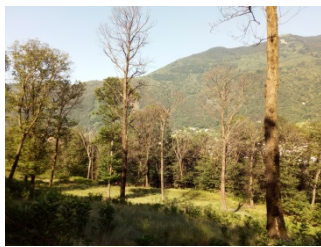




Eidg. Forschungsanstalt für Wald, Schnee und Landschaft WSL
Swiss Federal Institute for Forest, Snow and Landscape Research WSL

Master thesis project in Modeling and Phytopathology

Effect of climate change on the distribution of the sweet chestnut and two invasive pathogens



Background: Ink disease caused by the two invasive oomycete species *Phytophthora cinnamomi* and *P. cambivora* is a serious threat for sweet chestnut (*Castanea sativa*) stands in Southern Switzerland. These soilborne pathogens infect the roots and can rapidly kill a tree. In the last years an emergence of ink disease has been observed in Europe, including southern Switzerland. As both species are particularly thermophilic, this emergence has been linked to climatic changes, in particular warmer winters.

The proposed master thesis investigates the current and potential future distribution in Switzerland of the sweet chestnut (host species) and *P. cinnamomi* and *P. cambivora* (pathogens).

Link: The thesis is part of the project “Ink disease of chestnut: is climate change responsible for its emergence?” in the frame of the Pilot program “Adaptation to climate change” from the Federal Office of Environment (<https://www.nccs.admin.ch/nccs/en/home/measures/pak.html>).

Requirements: Student in ecology or related field, high motivation and willingness to learn new things. Good English skills. Experience in R programming and modeling are advantageous.

Offers: Possibility to publish the results of the study in a peer-reviewed scientific journal. Stay at WSL in Birmensdorf and possibility to interact with an international scientific community. If desired, a full immersion in the fascinating world of forest pathology, including some field and laboratory work.

Support: Simone Prospero (phytopathology, project leader), Niklaus Zimmermann (academic supervisor), Dirk Schmatz (data & technique).

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