

Topic/Title (Norwegian)

Epidemiologi av soppsjukdommen frukttrekraft på epler

Topic/Title (English)

Epidemiology of the fungal disease European canker of apple

Picture



European canker symptoms on the main stem of an apple tree (left, photo: D. Harteveld). The fruiting body (perithecia) that produce ascospores of *Neonectria ditissima* (right, photo: A. Podavkova)

Summary

European canker is an important disease of apple in Norway. It is caused by the fungal pathogen *Neonectria ditissima*. Spores produced by the fungus (conidia and ascospores) are causing infections of apple trees via wounds in the stem and branches. Affected trees have lower fruit yields and eventually die. The timing of spore production and risk for infections is highly variable and is influenced by environmental factors. These dynamics are currently not well understood under Norwegian climatic conditions. The aims of this project therefore include: 1) determine the effects of climatic factors on the germination, sporulation and infection of conidia and ascospores of *N. ditissima*, 2) assess conidia dynamics over time to estimate disease risk. The outcomes of this research will be used towards the development of a disease forecasting model for European canker in Norway. This project includes mostly laboratory experiments such as general microbiology and bioassays with the possibility for additional field experiments. The student will develop skills and education in the design, data analysis and scientific writing for research in plant disease epidemiology.

Subject area	Plant pathology, microbiology, epidemiology, modeling, climate
Language thesis	Norwegian and/or English
Thesis	Master
Credits	30 or 60 ECTS



Bachelor or Master thesis BIOVIT 2024/25

Project period Multiple options

Project/company NIBIO

Please contact Dalphy Hartevelde (NIBIO) dalphy.hartevelde@nibio.no , Arne Stensvand (NIBIO) arne.stensvand@nibio.no, May Bente Brurberg (NMBU, NIBIO) may.brurberg@nibio.no