

*Pēcdoktorantūras pētniecības atbalsta projekts 1.1.1.2/VIAA/2/18/298 Sakņu piepes *Heterobasidion spp.* izplatība un citu sēņu sabiedrības parastās egles audzēs uz bijušajām lauksaimniecības zemēm*

**No šī gada 6.maija līdz 11.maijam LVMI Silava pētniece Dārta Kļaviņa piedalījās Norvēģijas Dabas zinātņu universitātes rīkotajos NOVA kursos “NOVA-405 Epidemiology and Population Genetics”.**

Kursu tēma bija augu patogēnu epidēmiju prognozēšanas modeļi, augu-patogēnu mijiedarbības mehānismi un populāciju mainību ietekmējošie faktori. Kopumā kursam bija pieaicināti 10 lektori, kas paplašināja prezentēto tēmu klāstu. Kursu galvenie lektori bija Laurence Madden no Ohajo Štata Universitātes ASV un Eva Stukenbrock no Christian-Albrechts Universitātes Vācijā (Kīlē). Sniegtās lekcijas galvenokārt aptvēra pētījumus par fitopatoloģijas un populāciju ģenētikas pētījumiem.

Kursu auditorija bija galvenokārt Ziemeļvalstu doktorantūras studenti. Kursos dalībnieki prezentēja arī savus pētījumus stenda referātu formā, kas deva ieskatu katra pētījumos un veicināja diskusijas un pieredzes apmaiņu. Dārta Kļaviņa prezentēja savu pēcdoktorantūras granta tēmu un iegūtos rezultātus.

Kurss deva padziļinātu ieskatu fitopatoloģijas pētījumos, metodēs un problemātikā, kā arī deva iespēju apspriest pēcdoktorantūras pētījuma tēmu un jo īpaši metodolģiskos risinājumus ar kursa lektoriem un dalībniekiem.

Kursu ietvaros tika prezentēts posteris: Kļaviņa D. Determining the risk of *Heterobasidion* root-rot and fungal communities in roots of Norway spruce stands on former agricultural land.



## Determining the risk of *Heterobasidion* root-rot and fungal communities in roots of Norway spruce stands on former agricultural land

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### Introduction

This recently started postdoctoral research project proposes to study fungal impact on health and sustainability of Norway spruce (*Picea abies* (L.) Karst.) forest stands planted on former agricultural lands.

Reforestation of former agricultural lands remains an important issue in Europe. Norway spruce is one of the most frequently used tree species in reforestation. Those stands are characterized by high wood productivity but also with high infection risk of root-rot fungi (*Heterobasidion* spp.) after first thinning (Fig.1).

### Objectives

The study focuses on three aspects: i) a genet analysis of *Heterobasidion* root-rot infection and its spread among the trees; ii) assessment of economic losses caused by *Heterobasidion* root-rot on former agricultural lands; iii) analysis of fungal communities in roots and wood.

The results will contribute to forest management sector by providing deeper knowledge on risks of *Heterobasidion* infection in stands on former agricultural land; a better understanding on tree-fungi relationships. The new knowledge generated would be important for future forest management in such areas. The data will also provide a better understanding of biology and ecology of *Heterobasidion* spp. and other fungi belowground.

### Methods and Preliminary results

So far, we have done an inventory of 24 spruce stands on previous agricultural lands detecting presence / absence of *Heterobasidion* root rot and collecting wood samples of 3 to 10 trees if some disease symptoms were observed.

*Heterobasidion* infection was detected in 11 stands; from those we have chosen three stands with higher infection rate for analysis of genets of *Heterobasidion* root-rot infection and its spread among the trees. Preliminary results of *Heterobasidion* root-rot in two of those stands are presented here (Fig.3).



Fig. 1. Wood disc from spruce on former agricultural lands(30 years old) and root rot caused damage in spruce stands.



Fig. 2. Spruce stands on former agricultural lands.

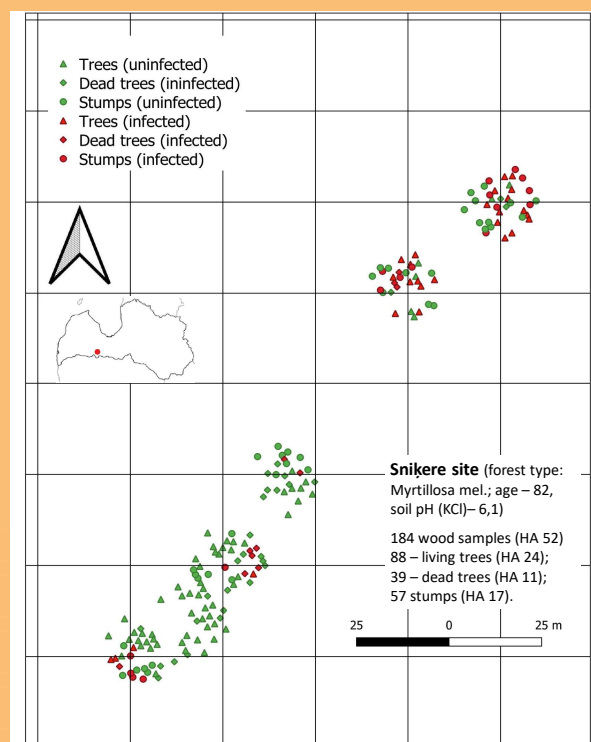
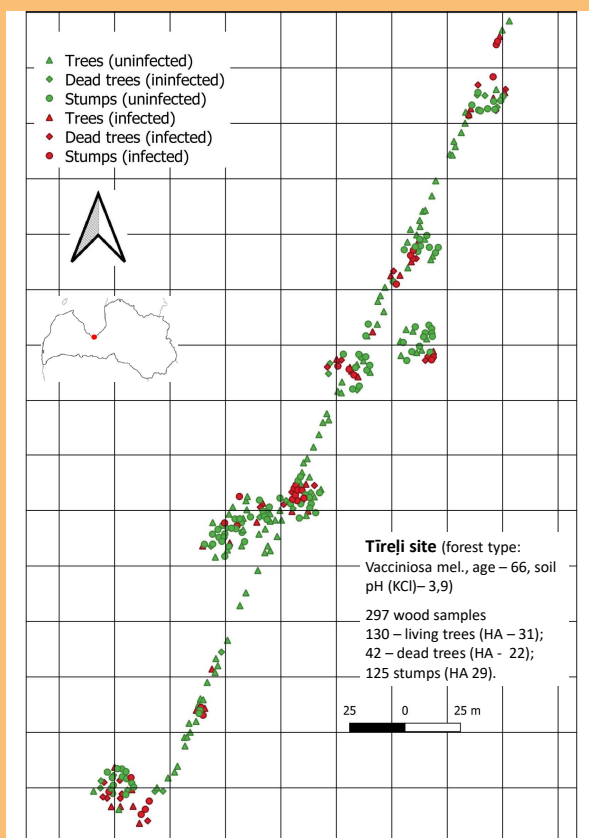


Fig. 3. *Heterobasidion* root rot infection in two Norway spruce stands on drained former agricultural lands.