ANTAGONISTIC MICROORGANISMS EFFICIENT FOR BIOLOGICAL CONTROL OF FUNGAL PATHOGEN OF *PINUS* SPP.

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Pine (*Pinus*) stands occupies the largest area in Lithuanian forests (34,6%). This genus of coniferous has tremendous economic importance, but emerging plant pathogens are posing serious threat to the forests. The latest observations of forest health indicated that 1,5% of pine trees were damaged by fungal diseases in Lithuania [1].

In 2017, the observation and evaluation of disease symptoms on *Pinus* spp. trees was done. Special attention was given to the pine needles, which showed tip dieback, red bands and small black fruit bodies. These disease symptoms are similar to Dothistroma Needle Blight (DNB), also commonly known as "red-band disease", "red spot" or "red-band needle blight" and is one of the most important foliage diseases of *Pinus* spp. worldwide [2][3][4]. Then, plant material (needles, buds and twigs) from native and introduced trees of seven species of *Pinus* (*P. sylvestris* 'Beuvronensis', *P. mugo* 'Frisia', *P. strobur*, *P. nigra*, *P. banksiana* xp *contorta*, *P. ponderosa* var. *scopulorum* and *P. parviflora* 'Glauca') was selected. During our research, 187 fungal isolates were obtained and a fungal pathogen *Dothistroma* spp. was detected and identified.

DNB affects over 80 species of *Pinus*, as well as other species in the Pinaceae [5]. Therefore, the second part of our work was to perform proof of the concept experiments with specific fungal antagonistic species in order to get better understanding on their biological control properties. In this study, 78 fungal isolates from 36 morphogroups obtained from *Pinus* spp. and 24 fungal isolates from Laboratory of Plant Pathology (Nature Research Centre, Vilnius) collection for antagonistic activity against *Dothistroma* spp. were investigated. As screening of potential biocontrol agents is essential for their further development and suitability to use them for biocontrol, further research will be followed with effects of the pathogen *in vivo*.

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