

CONIFERS RESISTANCE MECHANISMS TO THE CAUSATIVE AGENT OF ROOT ROT

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Introduction. Resistance to basic biotic and abiotic stresses is one of the main requirements that are imposed on modern varieties of cultivated plants. A major damage to forestry is caused by the pathogenic fungus *Heterobasidion annosum*, causing the death of many hectares of coniferous forests. Infection of trees is transmitted by basidiospores. Settling on the stumps, spores germinate, and the mycelium passes into the roots. The further contamination of plantings in the areas results by contact or fusion of diseased and healthy trees. The root rot leads to decay and a decrease in the protective properties of the trunk. The plant resistance mechanisms study will help to create the resistant to this pathogenic fungus coniferous plantations.

Aim. The aim of this work is the coniferous tree species resistance to the root rot pathogen mechanisms and factors study.

Results and discussion. In the plants protection from infectious diseases phytoncides take part. The phytoncidal effect is due to so-called enzyme poisons, which act when they come into contact with the pathogen. The plants resistance is also provided by phenolic compounds found in the root system. They fall into the soil and exert a certain influence on the microflora (inhibit spore germination and growth of the phytopathogenic fungi hyphae). When injured plants exudate oleoresin. Root rot is a highly pathogenic fungus in different conditions. It was shown that different coniferous tree species have a variety of antibiotic activity. This is manifested in the fungus germination intensity and parameters. Empirically established that the extracts of wood with greater antibiotic activity can inhibit the root rot mycelium growth and with less activity stimulate its growth. Exudates of most coniferous plants have a stimulating effect on *H. annosum*; however, among them there are species that inhibit the spores germination (*Pinus ponderosa*, *Pseudotsuga menziesii*). The pathogenic fungus growth is also affected by soil microorganisms. Their groups in the root zone of trees which vary in a root rot resistance degree differ significantly. Metabolic activity of the fungus is also limited by the temperature and wood condition.

Conclusion. Studied the root distribution in conifer plantations and characteristics of pathogenic fungus on samples of pine wood. Further in-depth studies of the conifers resistance mechanisms to root rot will be important for the control of phytopathogenic fungi on the territory of Ukraine.