

The state of health of forty years old Scots pine (*Pinus sylvestris* L.) in forest site type *Myrtillosa* one year after a wildfire in Latvia

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Even if wildfire is advisable for biological diversity, it doesn't always benefit tree stand. And even if Scots pine is relatively more resistant in comparison to Latvia's second most widespread coniferous tree species – Norway spruce (*Picea abies* (L.) Karst.), the physiological state of trees worse, and they can become objects of increased attacks of forest pests and sicknesses that may lead to mintage of trees. The aim of research – to explore the state of health of forty years old Scots pine stands in forest site type *Myrtillosa* (structure 9P1E₄₀) in South of Kurzeme, in Nīca forest region a year after a wildfire; the territory of plot - 9.6 ha, 4.1 ha of it was affected by wildfire. There were 2 plots established for research, each 2250 m² (50x45 m), one was arranged in part affected by wildfire, other – in that not impacted. A year after outbreak of wildfire it can be concluded, that in the plot affected by wildfire the number of dead trees is by 11% bigger than in other plot – not impacted by wildfire. Also the intensity of trees impacted by forest pests was by 3 % higher in the area affected by wildfire, making 94% of survived trees in area not impacted by wildfire. At the same time in the area affected by wildfire the trees survived were only 83 %. As the result of wildfire, the undergrowth was forming, at some points it could be observed, that spruce had sowed 21±5 seedlings on ha (the arithmetic mean ± standard error). Researching undergrowth, it could be observed, that almost 90% of common juniper (*Juniperus communis* L.) had been withered away by impact of wildfire. Also – the biggest part of dead trees in main stand consist of Norway spruce (*Picea abies* (L.) Karst.) being in admixture, that might be explained by a thin bark and low crown, that may be affected even by a wildfire of weak intensity in height of 0.5 m. Damaged trees of Norway spruce, which were not withered away by the influence of wildfire, have been perished because of damages of spruce bark beetle (*Pityogenes chalcographus* L.), while living soil cover is completely destroyed and even during a year has not been able to recover in poor sandy soil.

Key words: forest fire, forest pest damage, undergrowth

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