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SOME PHYTOPATHOLOGICAL ASPECTS OF SCOTS PINE (*PINUS SYLVESTRIS* L.) SEED STORAGE

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The work was performed in southern Poland in Katowice, Cracow and Wrocław State Forest Regions, basing on Scots pine seed lots stored in Seed Testing Laboratory in Siewierz (Siewierz Forest District) in the years 1990–2005.

Species composition of fungi communities inhabiting Scots pine seeds during several years of storage was recognized and the effect of the fungi on seed quality during storage was analysed. Also the effect of long term storage on seed quality (including also the role of fungi in long term storage of seed lots, based on data from 1996–2000) was investigated.

Seeds extracted from cones in Lasowice Małe Extraction Plant and seeds individually extracted from cones were considered. Seed extraction process did not influence the structure of fungal communities on seeds (the seeds were extracted a few months after cone collection). The number of isolated fungal colonies depended on the time of storage and on the medium used for isolation of fungi.

The structure of fungal communities isolated from seeds has changed with the time of storage: the communities became more and more similar with the increase of the storage time. The storage time effected the fungal communities structure more than the region of seed origin. Seed disinfection before fungi isolation had hardly any effect on species spectrum of the main group of fungi isolated – it seems that the inner part of seeds was usually inhabited by the same group of species. The share of non germinating seeds with fungi infestation symptoms increased with the increasing storage time.

The most often found fungal species and genera inhabiting Scots pine were *Alternaria* spp. (particularly *A. alternata, A. tenuissima* – the most often occurring ones), *Aspergillus* spp. (particularly *A. niger*), *Cladosporium cladosporioides, Fusarium* spp., *Penicillium* spp., *Sclerotinia sclerotiorum, Trichoderma* spp., and fungi representing the family of *Mucoraceae*. They are saprotrophs and week parasites, which seem to have no preference towards the region of seed origin.

Great floods and precipitation exceeding the yearly average by several hundred percent, that occurred in 1997 all over the area of Katowice, Cracow and Wrocław State Forest Regions, must have contributed to considerable increase of loss caused by fungi in Scots pine seeds from that year.

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