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Norway Spruce Provenances and Breeding

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ABSTRACTS

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Adaptive and non-adaptive traits the results of provenance trials
NORWAY SPRUCE PROVENANCE TRIALS IN BULGARIA

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Twenty five years old provenance trials of *Picea abies* (L.) Karst., including 13 provenances of the species from Germany, Denmark, Poland, Slovakia, Romania and Byelorusia were studied. They were established in Bulgaria at two different sites: in the Experimental station Jassenkovo (450 m a.s.l.) and in the Experimental station Govedartzi (1,250 m a.s.l). The influence of the factors provenance and site conditions on the parameters survival, diameter, height and forkness was found. It is proved that the survival was significantly affected by the macrosite as well as by the microsite conditions. The experimental test in Govedartzi, established at typical spruce habitat shows much higher survival rate than that in Jassenkovo. The provenance also exerts statistically significant influence on the survival. The studied factors affect the mean diameter with high level of statistical significance. The diameter of the spruce trial in Govedartzi is significantly higher than those in Jassenkovo, but it was found also statistically significant provenance × site interaction. The mean height was not influenced significantly either by the site condition, or by the provenance. Significantly higher percentage of forked stems is found for the test in Jassenkovo, while the origin of seeds does not influence significantly this parameter. Summarising, best growth and survival among the studied spruce provenances possess some famous ones such as Westerhof 98a (Germany) and Istebna (Poland), followed by Nodebo 327 (Denmark) and Habovka Vitanová (Slovakia).