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**Journal of Forest Science** 

Effects of spruce, beech and mixed commercial stand on humus conditions of forest soils

Fabiánek T., Menš k L., Tomá šková I., Kulhavý J.:

J. For. Sci., 55 (2009): 119-126

[fulltext]

A pedological survey was carried out in a spruce monoculture, beech stand, and in a mixed stand at a field research station in Rájec-Němčice of the Institute of Forest Ecology (IFE), Mendel University of Agriculture and Forestry (MUAF) in Brno in the region of the Drahanská Upland in 2004–2006. The aim of the paper was to evaluate (i) humus reserves and forms, (ii) soil reaction, (iii) reserves of total carbon and nitrogen for the forest floor layers and (iv) carbon/nitrogen ratio. Soil analyses were carried out on samples taken at the end of the growing season in a spruce, beech and mixed stand. The highest reserves of forest floor were found in the spruce stand (71.8 t/ha), which also corresponded to the exchangeable soil reaction 3.3 ± 0.4, the C/N ratio being 27.3 ± 3.0. The lowest reserves were found in the beech stand (46.7 t/ha), the soil reaction was 3.6 ± 0.5 and the C/N ratio was 26.0 ± 5.2. The mixed stand represented an intermediate value between extreme positions.

### **Keywords:**

tree species composition; soil; forest floor reserves; humus forms; pH; C/N ratio

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