Bark Characteristics of Scots Pine Logs

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Abstract: The wood of Scots pine (*Pinus sylvestris*, L.) shows good properties as building and construction timber but also as furniture or pulp and paper and, thus, is commercially one of the most important European tree species. Scots pine are mostly harvested and processed with a high degree of mechanization. In Northeast Germany (federal states of Brandenburg and Berlin), 36 % of harvested Scots pine have a DBH between 7 and 19.9 cm. As a typical industrial wood assortment, a large proportion of the resulting small-sized logs are used in the wood industry to produce boards. Although bark is considered as a by-product or waste product from the industry, no actual study quantifies bark thickness, bark volume, bark mass and bark damage of such Scots pine logs. Therefore, bark characteristics from 50 logs from 10 different piles were analyzed. Bark volume was quantified using water displacement method, bark mass by weighting, bark thickness with precision caliper and bark damage by tape measurements. The diameters of the analyzed 150 log discs were normally distributed and the mean value was 12.9 cm. The results showed average bark damages from 12.0 % which were mostly caused during felling and processing the logs with the harvester. No significant correlation was found between double bark thickness (mean: 3.0 mm) and the diameter; whereas fresh bark volume (mean: 5.6 %) and dry bark mass (mean: 3.3 %) were significantly affected by diameter. As shown for spruce by other authors, bark characteristics may change over time and, therefore, should be measured regularly. Moreover, it was shown that bark parameters are site dependent. Thus, quantifying bark characteristics for economically important tree species in both local and national scale is of great relevance. A single paragraph of about 200 words maximum. For research articles, abstracts should give a pertinent overview of the work. We strongly encourage authors to use the following style of structured abstracts, but without headings: (1) Background: Place the question addressed in a broad context and highlight the purpose of the study; (2) Methods: Describe briefly the main methods or treatments applied; (3) Results: Summarize the article's main findings; and (4) Conclusions: Indicate the main conclusions or interpretations. The abstract should be an objective representation of the article, it must not contain results which are not presented and substantiated in the main text and should not exaggerate the main conclusions.