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ABSTRACTS

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A NEW METHOD TO SELECT WOOD SPECIES SUITABLE FOR SURFACE DENSIFICATION

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Surface densification improves many properties of solid wood. This opens up new applications for low-density species e.g. flooring or wooden structures, and adds value to these species. Research into the surface densification of wood has been focused mainly on Scots pine, Norway spruce, aspen and poplar. In order to propagate the use of surface densification techniques, it is necessary to find more wood species that have a particularly high potential for an increase in value through such a treatment.

The purpose of this study was to select wood species, which are suitable for surface densification and being used in a specific product, by applying a systematic and quantifiable selection method. The method that was presented in detail in an earlier work is designed around a workflow consisting of multiple stages, takes into account weighted selection criteria and provides a quantified ranking of the most suitable species [1].

The results suggest that several species such as alder, basswood, cedar, and obeche that have not been considered for surface densification may be suitable candidates. Aspen, poplar and pine were confirmed as suitable by being among the top scoring species in the ranking.

References

[1] Neyses, B., & Sandberg, D. (2015). A new methodology to select hardwood species for wooden products. *Wood Material Science and Engineering*, 10(4), 344-352.