

Wood-based hemicelluloses: What are the key properties to enable future applications?

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Wood-based polymers are notorious for the renewable origin and intrinsic non-toxicity. Polymer engineering, however, poses various other demands regarding processing, solubility, and reproducible physico-chemical properties. I will give an overview on the opportunities and challenges of wood-based polymers for materials engineering with focus on the polysaccharides and introduce current work on wood xylans. Wood xylans are renewable natural materials that have potential for future use in bio-based engineering and we continuously work towards film applications. The poor water interaction of xylans hinders dissolution and film production but can be overcome by chemical modification of xylan to alter its properties [1].

References

[1] Palasingh, C., Ström, A., Amer, H., & Nypelö, T. (2021). Oxidized xylan additive for nanocellulose films—A swelling modifier. *International Journal of Biological Macromolecules*, 180, 753-759, 2021