Title Quality of Fibre Separated from Unretted Hemp Stems by Decortication
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Abstract

Hemp grown for fibre production is normally retted to allow the separation of the fibre from the core tissue of the stem. Retting requires stems to be exposed in field for several weeks, and both retting and subsequent drying are weather-dependent. If fibre could be extracted from hemp without the need to ret, production costs would be lower. A decorticator developed for flax and retted hemp was adapted to process unretted stems. Fibre was produced from both retted and unretted hemp, and the yield and fibre properties are investigated. The same machine was able to process both materials. The yield, length distribution and strength of fibre from unretted stems were the same as for fibre from retted stems. Unretted fibre was coarser and contained almost 4% impurities, compared with 2% for retted fibre. The light colour of unretted fibre and low amount of fungal material were considered a marketing advantage. Applications in pulp products and in reinforcement of composite materials would be appropriate.