

BIO-END OF LIFE OPTIONS FOR CELLULOSE FIBERS

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When talking about sustainability of cellulose fibers a lot of attention is going to its “bio-beginning of life”, being bio-based or renewable which is a potential major benefit compared to petroleum sourced fibers. Potential as it needs to be confirmed by life cycle analysis. Yet, also from a “bio-end of life” point of view, cellulose fibers can offer some major possibilities which often are overlooked since cellulose fibers can also be (material) recycled or incinerated with energy recovery.

In managed bio-end of life options such as industrial composting, home composting and anaerobic digestion, cellulose fiber based packaging and applications can help to divert (much) more kitchen waste away from landfill or incineration. In anaerobic digestion it even also produces energy under the form of biogas besides only compost. Mainly applications which are disposed of under moist or food soiled conditions can be interesting.

Also in unmanaged end of life situations biodegradability of cellulose may offer solutions, especially since cellulose is biodegradable under various conditions, including soil, fresh water and marine. Ready or fast biodegradation may be required for applications with a short functional life while slow to very slow biodegradation, to be seen as non-persistence, may be needed for applications with a long functional life. The presentation will discuss the pros and cons of all these various options.