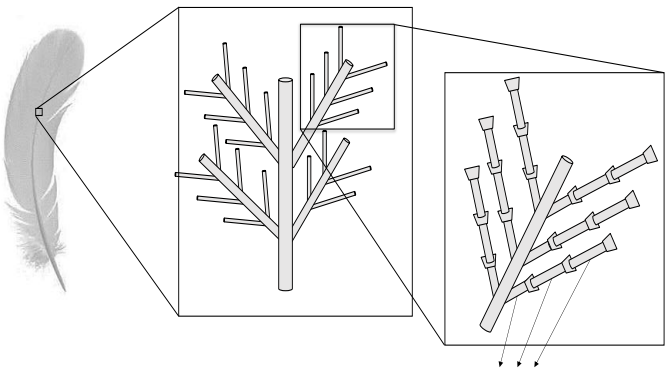
Keratin-rich microfibers

a new biodegradable material made from feather waste

The keratin-rich microfiber is a completely unique and new material with interesting properties.

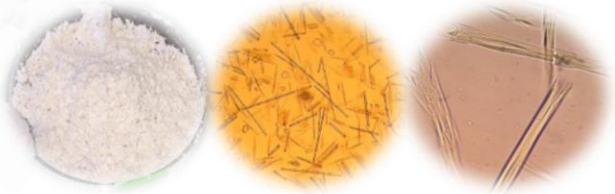
About the new material

Bioextrax has a biobased technology for converting waste from the poultry industry (feathers) into soluble protein hydrolysate and microfibers (patent pending). The fibers are strong, have low density, and possess good absorption and resilient properties (including high thermo-stability). Further, they are biodegradable and does not cause any environmental pollution. They are also cheap to produce using a chemical-free technology, and based on a readily available raw material.



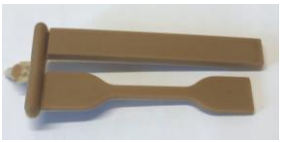
Microfibers

The keratin-rich microfibers represent the microscopic fibrous structure of bird's feather barbules internodes (30-150 um length, 2-6 um width). The fibers have a hollow-cylindric structure. The microfibers are chemically composed of 91% beta-keratin, 1% lipids, and 8% water



Proposed applications

Materials and composites produced from feather microfibers will have low density, low dielectric constant, excellent compressibility and resiliency, heat retention and ability to dampen sound. All are unique properties making them highly interesting for applications such as textiles, insulations, membranes, or even biodegradable electric circuit boards.



80% PLA, 20% fibers, injection moulded sample

80% PHB, 20% fibers, monofilament

About Bioextrax

Bioextrax has a biobased extraction technology that can hydrolyze a number of different protein rich materials, such as cell walls of bacteria, feathers, insects and algae. We were founded in 2014 as a spin-off from the department of biotechnology at Lund University.

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