

## United States Patent 6,302,997

### Process for producing a pulp suitable for papermaking from nonwood fibrous materials

On October 16, 2001, United States Patent 6,302,997 was issued to Mr. Robert W. Hurter and Dr. Medwick V. Byrd for a "Process for producing a pulp suitable for papermaking from nonwood fibrous raw materials". The process is assigned to North Carolina State University (NCSU) and HurterConsult Incorporated.

The process includes the steps of providing a nonwood fiber source material; digesting the nonwood fiber source material with an alkaline pulping solution at at least about atmospheric pressure; reducing the pH of the nonwood fiber source material to an acidic pH with an acid solution; treating the nonwood fiber source material having an acidic pH with ozone; and treating the nonwood fiber source material with a bleaching solution to form a papermaking pulp. Representative nonwood fiber source materials include corn stover and wheat straw.

Several of the key features of the process include:

- low temperature, low pressure "extraction" step instead of traditional high temperature and pressure cooking resulting in lower energy consumption
- ozone application in a manner that does not degrade fragile nonwood plant fibers
- acid/ozone steps act as chemical depithing agents as well as traditional bleaching steps
- ability to complete the bleaching using any of a variety of bleaching agents for either elemental chlorine free (ECF) or totally chlorine free (TCF) bleached pulp production
- very short bleaching sequences which achieve moderate to high brightness depending on papermaking application
- maintenance of high pulp freeness and excellent pulp properties

The full text of the patent can be viewed at the US United States Patent and Trademark Office web site: <http://www.uspto.gov> - click on the link to Patents Search and then search for patent number 6,302,997.

For further information regarding the technology and licensing opportunities, please contact one of the following:

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