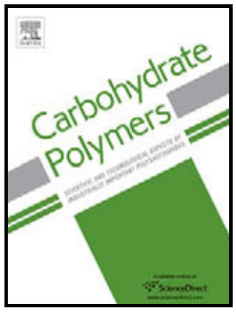

Title: Production of nanofibrillated cellulose with superior water redispersibility from lime residues via a chemical-free process

Authors: Saranya Jongaroontaprangsee, Naphaporn Chiewchan, Sakamon Devahastin

PII: S0144-8617(18)30376-X
DOI: https://doi.org/10.1016/j.carbpol.2018.04.008
Reference: CARP 13462

To appear in:

Received date: 24-10-2017
Revised date: 19-3-2018
Accepted date: 1-4-2018

Please cite this article as: Jongaroontaprangsee, Saranya., Chiewchan, Naphaporn., & Devahastin, Sakamon., Production of nanofibrillated cellulose with superior water redispersibility from lime residues via a chemical-free process.*Carbohydrate Polymers* https://doi.org/10.1016/j.carbpol.2018.04.008

Production of nanofibrillated cellulose with superior water redispersibility from lime residues via a chemical-free process

Saranya Jongaroontaprangsee[a], Naphaporn Chiewchan[a,*] and Sakamon Devahastin[a,b]

[a]Advanced Food Processing Research Laboratory, Department of Food Engineering, Faculty of Engineering, King Mongkut's University of Technology Thonburi, 126 Pracha u-tid Road, Bangkok 10140, Thailand

[b]The Academy of Science, The Royal Society of Thailand, Dusit, Bangkok 10300, Thailand

**Corresponding author*

E-mail: naphaporn.rat@kmutt.ac.th

Highlight

- The feasibility of using lime residues to produce dried NFC was investigated.
- NFC was produced using autoclaving, high-shear and high-pressure homogenization.
- NFC having diameters of 5-28 nm could be obtained without the use of chemicals.
- Dried NFC could retain their original characteristics and properties.
- Pectin associated with NFC helped prevent fiber aggregation during drying.