

Processed Fibre Quality Analysis

Vision

- To develop a quantitative method for evaluating processed flax fibre quality including shive and cellulose content – critical for composite characteristics and integral to green building products.
- To design the first technical evaluation system to be incorporated in-line in a commercial flax processing environment.

Project Overview

- Developed flax fibre and shive models from samples of linseed flax most commonly found in Manitoba:
 - ▶ Obtained Near Infrared Spectroscopy (NIR) spectra to create models for three different types of NIR apparatus.
 - ▶ Performed lignin, cellulose and moisture content tests on each sample and correlated results to the final NIR model.

Partners in Innovation

- SWM International (Client): the world's largest flax processor, Canadian operations located in Carman and Winkler Manitoba.
- Light Light Solutions: spectroscopy expertise
- Composites Innovation Centre (CIC): project manager, funding support, sample preparation and NIR spectrum acquisition used for model creation.

Success Achieved

- Flax fibre quality NIR models were created for three different types of NIR apparatus including the CIC's own Polychromix Phazir and a custom built unit designed for operation in a commercial processing facility.
- The technology is fully operational in SWM International's (SWM) flax processing plant.

