

CASE STUDY

PROJECT SIZE: SMALL (<\$5,000)

TIMEFRAME: 3 – 5 WEEKS



Assessing the Retting Level of Straw

Client: A fibre processor had received shipments of flax straw from different producers and was interested in assessing the quality of the raw material.

Problem: The client wanted to evaluate the retting level of straw samples obtained through different growing and harvest practices. They needed to know how it would process on their decortication line and the quality of fibre that could be expected to be produced as an end product.

Details:

- Flax straw was produced by different farmers at locations within Manitoba and Saskatchewan.
- There were three samples in total to be assessed.
- All samples were of the same seed variety of flax.

Recommended Tests & Rationale:

FibreCITY recommended a comprehensive testing program for all three samples to determine how easily the stalks would be processed through the client's decortication line and the quality of fibre that would be produced.

- **Organoleptic Testing** – comparing the samples using the senses of sight, smell and touch following a consistent approach to assess overall quality
- **Fried Test** – assessing degree of ret to identify how significantly the samples may have been altered through retting in the field while being harvested
- **Fibre Content** – hand decortication to determine if the straw samples differ in the quantity of fibre they produced
- **SEM Imaging of Stem Cross-sections** – to compare the fibre morphology of the samples, particularly the structure of the fibre bundles and amount of pectin binding the individual fibres together



Outcome

Samples grown in different locations were found to have comparable fibre content. However, the degree of retting and overall fibre quality were found to differ significantly. From this information, the client could determine which fibre could be used for certain end applications.

