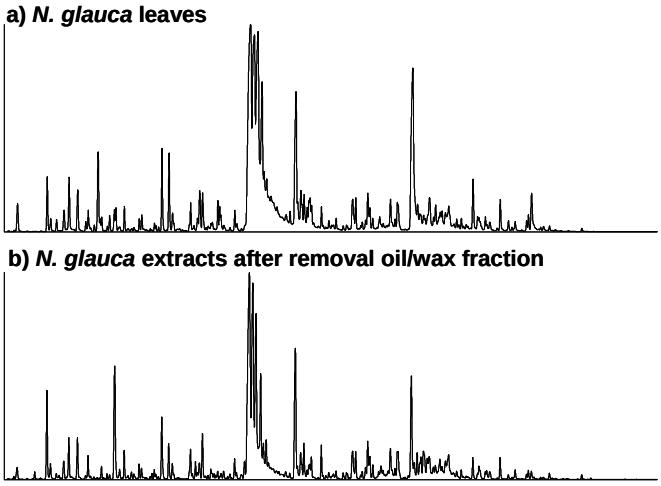

Figure 1: Mass chromatogram of a) *N. glauca* leaves used for extraction and b) *N. glauca* extracts after removal oil/wax fraction.

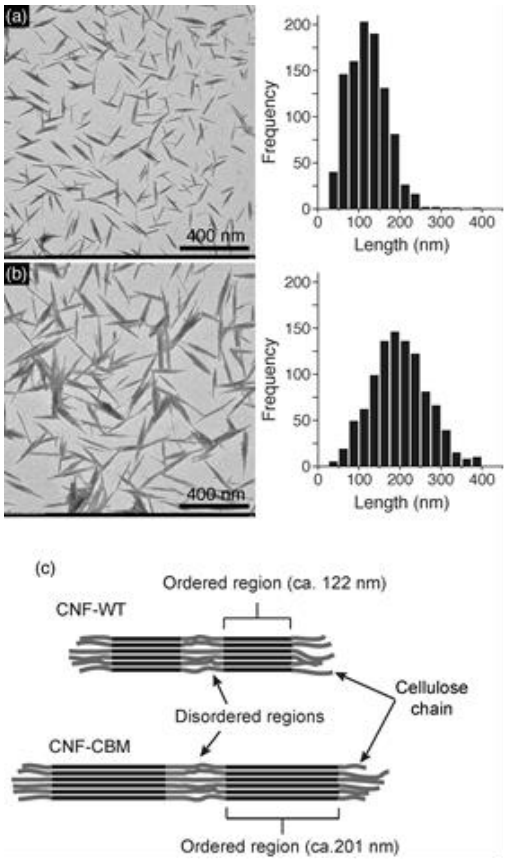

Figure 2: Micrographs (electron microscopy) and corresponding histograms of length distribution are shown for cellulose nanocrystals hydrolyzed from the wild-type (a) and CBM3 (b) lines. (c) Schematic illustration of a possible distribution of ordered regions along the corresponding cellulose nanofibrils.

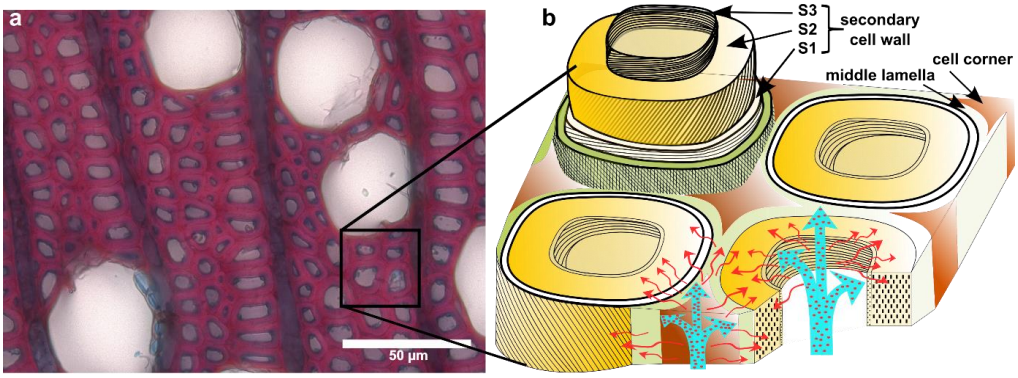

Figure 3: a) Optical micrograph of cross-section of poplar wood. b) Cell wall model with potential diffusion pathways of aqueous media. The secondary cell wall with distinct layers, S1, S2, S3, differentiated through chemical composition and microfibril angle.

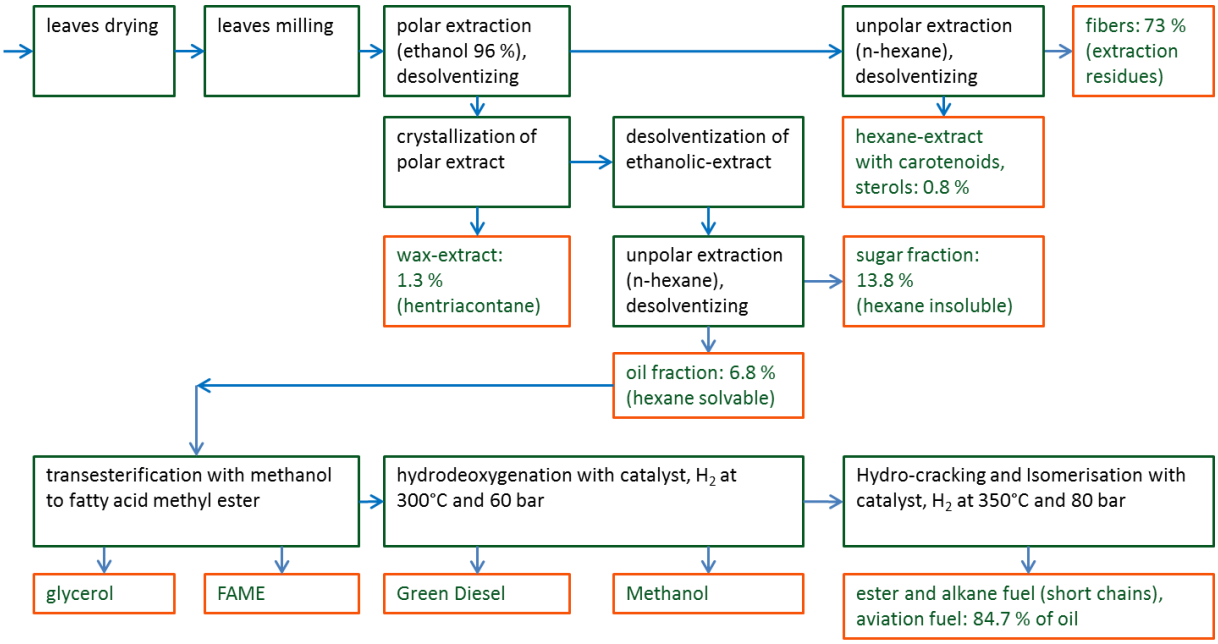

Figure 4: Biorefinery process for *N. glauca*

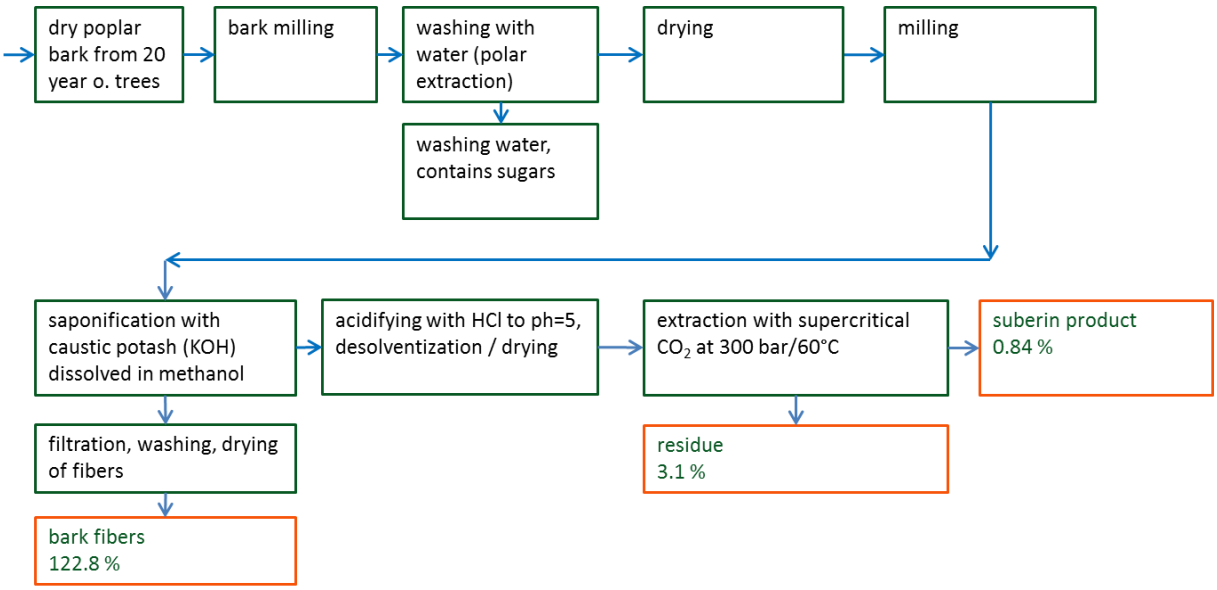

Figure 5: Biorefinery process for poplar bark

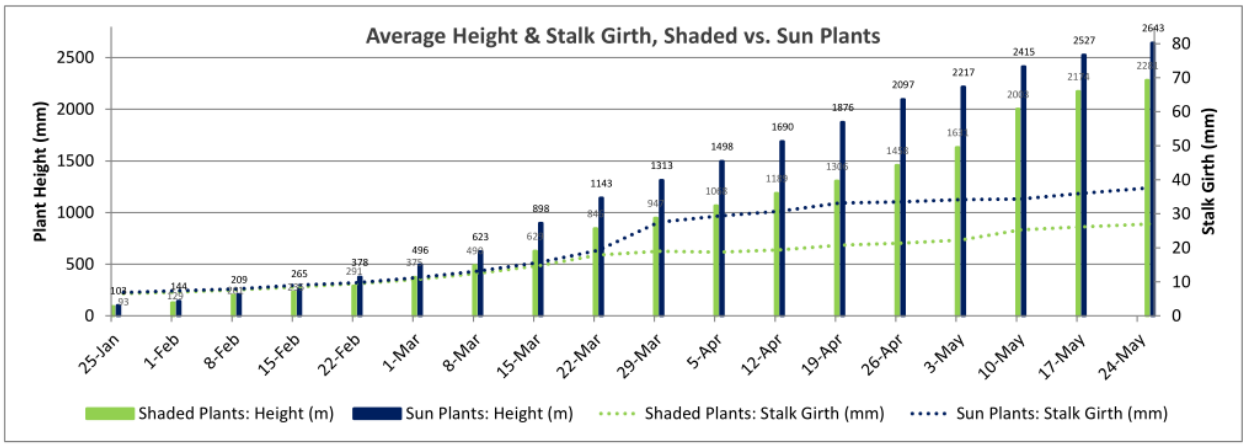

Figure 6: Physical measurements of UAE trial plants

Table 1: Irrigation regimes

Intensity	**Rate (litres/m²/day)**
Low	3.5
Medium	7
High	10.5
Very high	13

Table 2: Physical characteristics of wild type *N. glauca* from UAE trial

Av. Height (cm)	Av.Leaf Width (cm)	Av. Leaf Length (cm)	No.of plants harvested	Leaf mass weight (kg)	Leaf to Stalk ratio
146	7	12	17	8.5	0.8
149	7.5	12.1	19	9	0.8
162	8.3	12.5	16	6.1	0.81
133	7.1	11.6	13	3	1.54
160	8.8	12.7	15	9.3	0.81
136	7.7	11.9	15	6.5	0.69
171	6	10.3	12	5.6	0.79
131	7.9	12	11	5.7	0.82

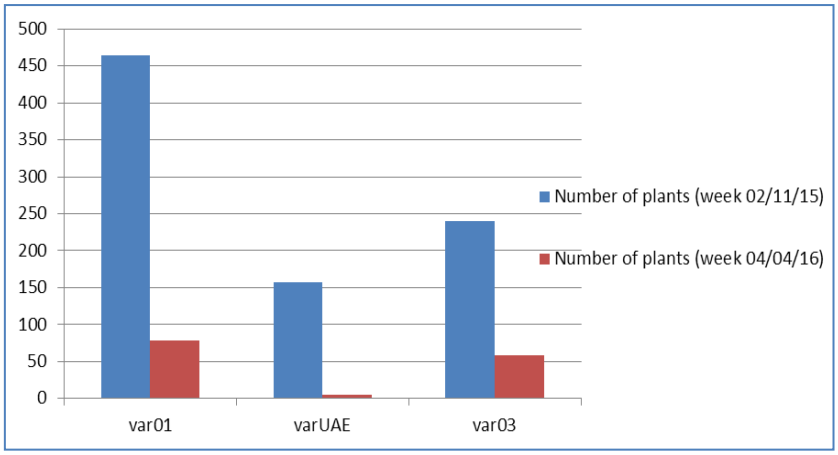

Figure 7: Number of live specimens of each variety in week 2/11/2015 compared to week 4/4/2016