

BAB V KESIMPULAN DAN SARAN



5.1 Kesimpulan

1. Konsentrasi asam (HCl) pada rentang 0 – 1 M yang menghasilkan nilai WRV dan YF terbesar untuk proses *pretreatment* adalah 1M.
2. Proses *pretreatment* asam dengan menggunakan HCl dengan rentang konsentrasi 0-1M menghasilkan produk dengan nilai *Water Retention Value* dalam rentang 427,539% - 882,039% dan rentang nilai *Yield of Fibrillation* 6,484% – 14,825%.
3. Semakin kecil ukuran awal partikel selulosa dan semakin tinggi konsentrasi suspensi yang digunakan, maka akan menghasilkan produk dengan diameter rata-rata lebih kecil serta nilai *Water Retention Value* dan *Yield of Fibrillation* yang makin besar.
4. Pembuatan serat selulosa dengan variasi ukuran partikel awal 35 – 160 μm dan konsentrasi suspensi 0,5 – 1,5% (b/v) menghasilkan produk dengan rentang diameter rata-rata 2,078 – 4,011 μm , *Water Retention Value* 911,088 – 1202,087%, *Yield of Fibrillation* 12,442 – 24,465% dan *hardness* 4.043 – 4455,5 g.

5.2 Saran

1. Sebaiknya dilakukan analisis morfologi tambahan menggunakan SEM untuk mendapatkan gambar sampel yang lebih mendetil.
2. Penelitian ini dapat diulang dengan menggunakan produk yang dihasilkan sebagai bahan baku untuk mendapatkan *cellulose fibrils* dengan ukuran yang lebih kecil.
3. Untuk penelitian selanjutnya dapat digunakan nilai konsentrasi suspensi yang lebih tinggi dan ukuran partikel awal yang lebih rendah.



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