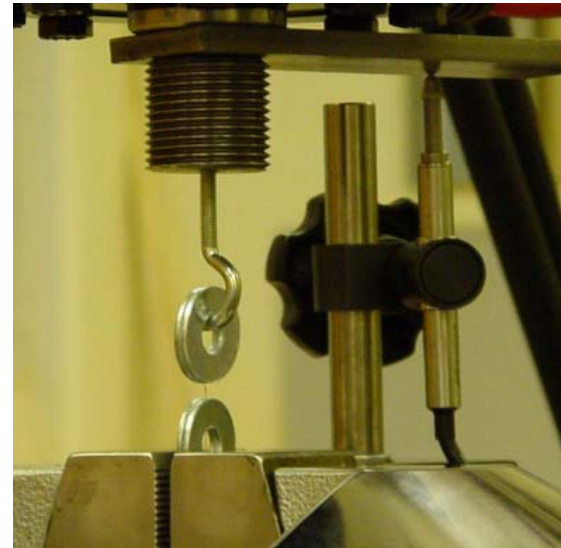


Fibre strength, stiffness and thickness of Swedish grown hemp – a study of plant development and fibre conditions

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Results

Year	Growth time, days	Strength, MPa average , 95 % conf. int.		Fibre diameter, μm average , 95 % conf. int.	
		Beniko	Futura75	Beniko	Futura75
2004	141	353 ± 37	257 ± 27	-	-
2005	123	304 ± 24	496 ± 43	119 ± 4	127 ± 4
2006	128	307 ± 31	335 ± 33	117 ± 5	109 ± 3

Surface treatment	Single fibre strength, MPa average			Stiffness, GPa average
	L= 3 mm	L= 9 mm	L= 27 mm	
Not glued	732	654	435	50.4
Glued	820	735	599	65.1

Conclusions

- **Average tensile strength of fibre bundles varied between 257 and 496 MPa for two hemp varieties**
- **Average thickness of fibre bundles varied between 109 and 127 μm for two hemp varieties.**
- **The single fibre tests showed fibre strength between 435 and 820 MPa and fibre stiffness between 50 and 65 GPa.**
- **Fibre strength and stiffness are affected by free fibre length and by glue embedment.**