



# Staple Strength: The Potential Role of Initial Diameter, Rate of Change in Diameter and L/D Ratio

CRC  
for  
Premium  
Quality  
Wool

Produced for the CRC for Premium Quality Wool undergraduate program by;  
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# Diameter response to increasing nutrition: the influence of “initial” fibre diameter

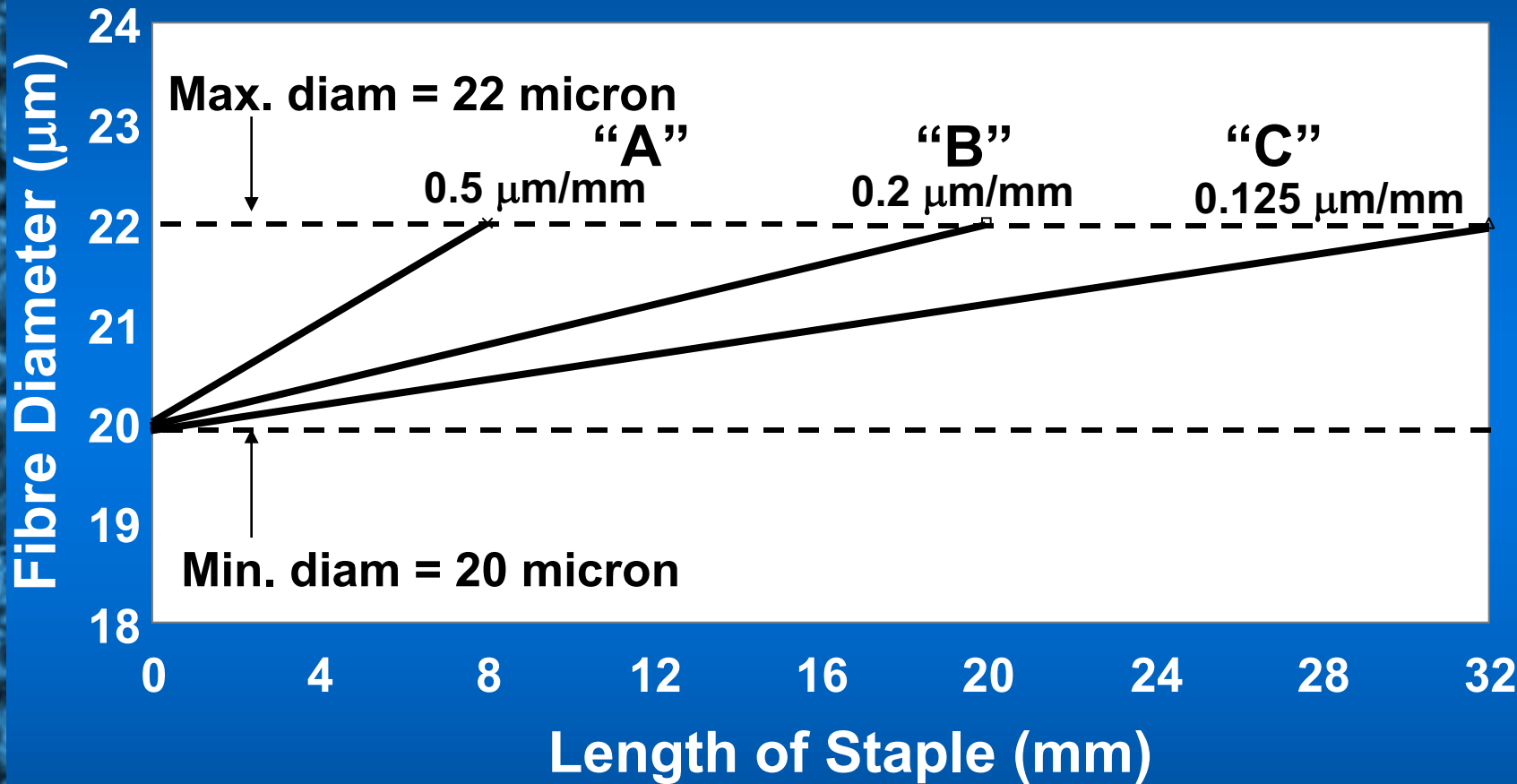
Initial FD	Final FD	Abs. change in FD	% change in FD
18.0	21.0	3.0	16
22.0	26.0	4.0	18
24.0	29.0	5.0	21
26.0	31.7	5.7	22
28.0	34.3	6.3	23

***NB: phenotypic, not genetic***

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# Rate of Change in Diameter (micron per mm)



*Hansford and Kennedy (1988)*

→ rate of change vs SS: -0.43 (P<0.05)

→ rate of change >> minimum FD

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# Response in fibre length and diameter to nutritional change: the influence of L/D ratio

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Trait	$\Delta$ FD	$\Delta$ L	$\Delta$ L/ $\Delta$ D
Initial FD	<u>+ 0.53</u>	- 0.16	<u>- 0.54</u>
L/D	<u>- 0.66</u>	- 0.08	<u>+ 0.51</u>

*NB: phenotypic, not genetic*