



CRC

for

Premium

Quality

Wool

Style Effects in Processing

Produced for the CRC for Premium Quality Wool undergraduate program by;
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Specific Style Effects in Topmaking

- **crimp**
 - frequency
 - definition
- **fibre damage**
- **staple tip structure**

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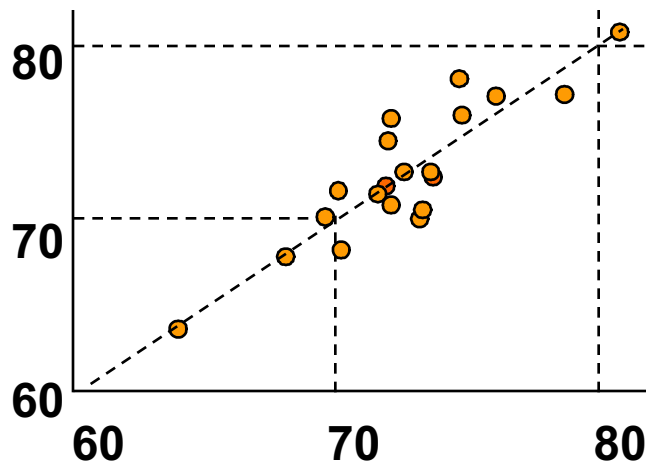
Wool



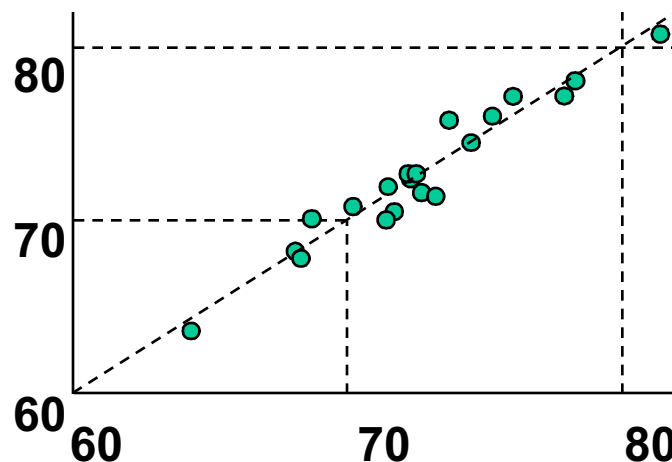
Crimp

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Measured Hauteur (mm)



H predicted without crimp (frequency & definition)



H predicted with crimp (frequency & definition)



Fibre Damage

- **environmental factors**
 - staple crimp definition
 - ultraviolet light
 - dust contamination
- **position of damage**
 - problems with detection

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Staple Tip Structure

Mean Fibre length (mm)

120

100

Staple length

Fibre length to staple length ratio: $120/100 = 1.20$

Fibres

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Staple Tip Structure

	Lot A	Lot B
Diameter (μm)	20.6	20.7
Staple Length (mm)	77	73
CV Staple Length (%)	18	16
Staple Strength (N//kt)	33	42
% Mid Breaks	55	58
Fibre Length		
* Predicted	61	61
* Actual	62	51
* Actual - Predicted	1	-10
Ratio of fibre length to staple length (FL/SL)	1.20	0.97
Incorporate actual FL/SL		
* Predicted	62	51
* Actual - Predicted	0	0

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Summary of STYLE effects

crimp frequency: 4mm H per 1-1.5 crimps/cm
definition: 8mm H between extremes

fibre damage: up to 10% card waste
(weathering) up to 7mm H (depending on severity)

tip shape: 8mm H adult / hogget

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