

CRC

for

Premium

Quality

Wool

# The Measurement of Wool Colour

Produced for the CRC for Premium Quality Wool undergraduate program by;  
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# Subjective vs Objective Colour

- Subjective and greasy
  - H0 no colour
  - H1, 2
  - H3 unscourable
- Objective and scoured
  - 66% H3 to H0
  - 95% H1 to H0

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# Instrument

- **Colorimeter or Spectrophotometer**

- Light Source (Illuminant C)
- Sample Holder (core sample)

- **%Reflectance (%R)**

- Red (X)
- Green (Y)
- Blue (Z)





# Standards

- **IWTO DTM 56:**
  - **Method for the Measurement of the Color of Raw Wool.**
  - **replaces pre-existing Australian and NZ standards**
  - **covers differences in both test methods**

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# Range of Wool Colour

## Y- Z values

- 2 (very white)  + 12 (very yellow)

- Australian Merino fleece wool

+ 1  + 4

## Y values

~ 50 (dull)  70 (bright)

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# Colour in Greasy Wool: Causes

- **Breeding**
- **Environment & Climate**
  - Topography, Light, Moisture, Humidity
- **Canary Yellow**
  - high alkaline suint, moisture, warmth
- **Bacterial Stain**
- **Effect of fibre diameter (micron)**

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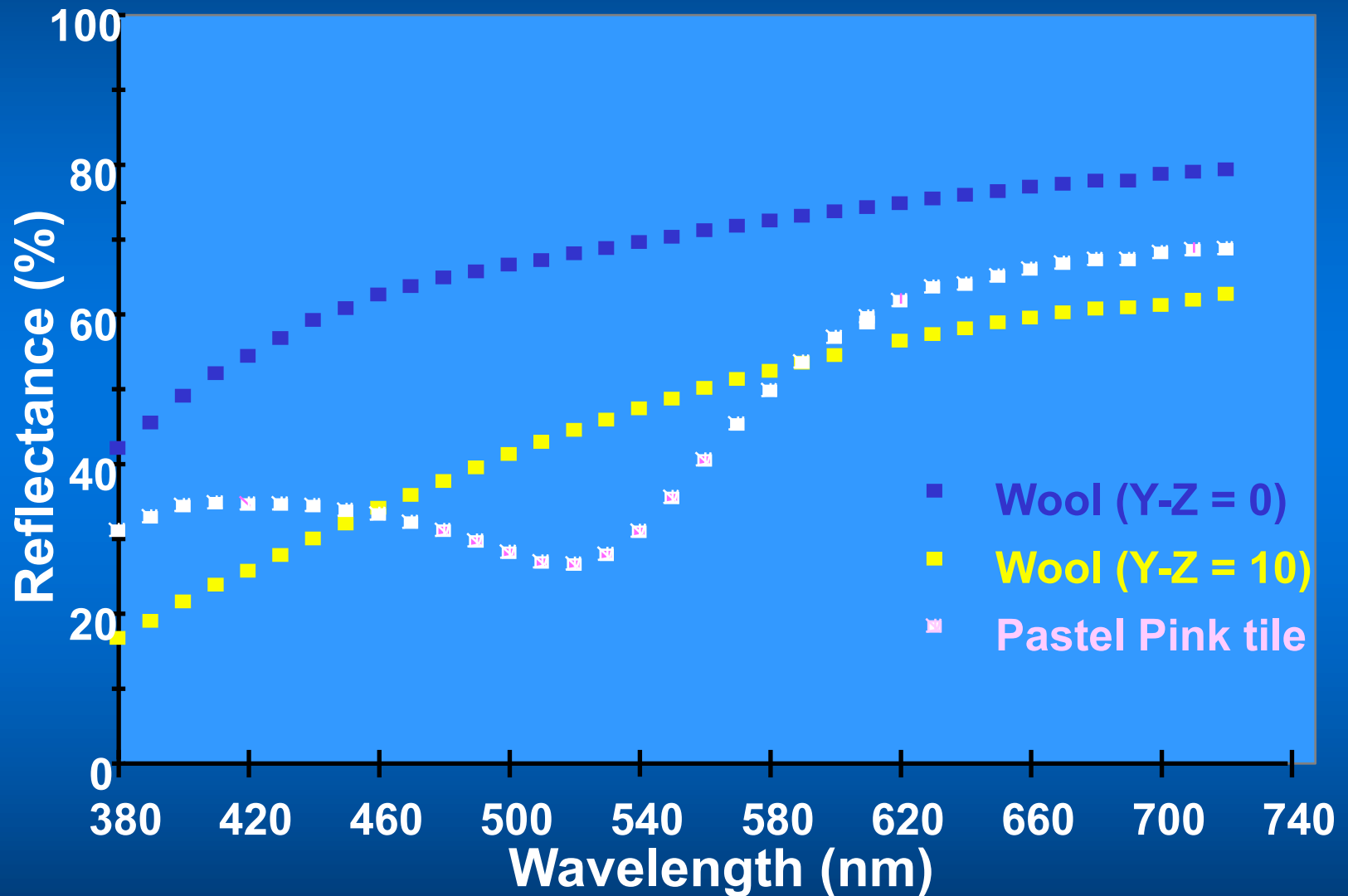
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# Effect of Yellowness on Dyeability



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# Why measure?

- assists in processing operation
  - colour consistency, batch to batch
  - accurately select wool
  - develop new markets for 'super-white' wools
- processor requirement for test certificate for colour

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# Average Yellowness Measurement (‘97/98)

State	Adoption Rate (%)	Average Y-Z
QLD.	41.2	2.2
N.S.W.	4.8	1.4
VIC.	33.7	1.2
TAS.	32.9	0.8
S.A.	23.5	1.0
W.A.	10.9	1.1
<b>AUST.</b>	<b>19.7</b>	<b>1.3</b>

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