



CRC

for

Premium

Quality

Wool

# Blending Fibres

Produced for the CRC for Premium Quality Wool undergraduate program by;  
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# Definition of a Blend

- **Intimate**
  - fibres fully mixed
  - homogeneous sample of fibres
- **Separate**
  - within yarns
    - folded (plied) yarns
    - contain intimate blends
  - within fabrics
    - warp and weft (ortho-mixtures)
    - unblended yarns
    - blended yarns

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# Why Blend Fibres?

- **New Products**
  - fibre blends
    - wool / nylon
    - wool / lycra
    - wool / cotton
    - wool / silk
    - wool / microfibre
  - yarn design
  - fabric design
- **Product Evenness**
  - dyeing (top)
  - composition
  - doubling & drafting
- **Product Cost**
  - FAQ
  - specified product
  - least cost
- **Processing performance**
  - weaving
  - dyeing
- **Product performance**
  - yarn
  - fabric

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# Where to Blend?

- Intimate
  - pre-scouring
  - carding
  - gilling
  - combing
  - finisher gilling
  - re-gilling / re-combing
    - top dyeing
    - synthetic staple tops
- Separate
  - doubling
  - weaving
  - knitting

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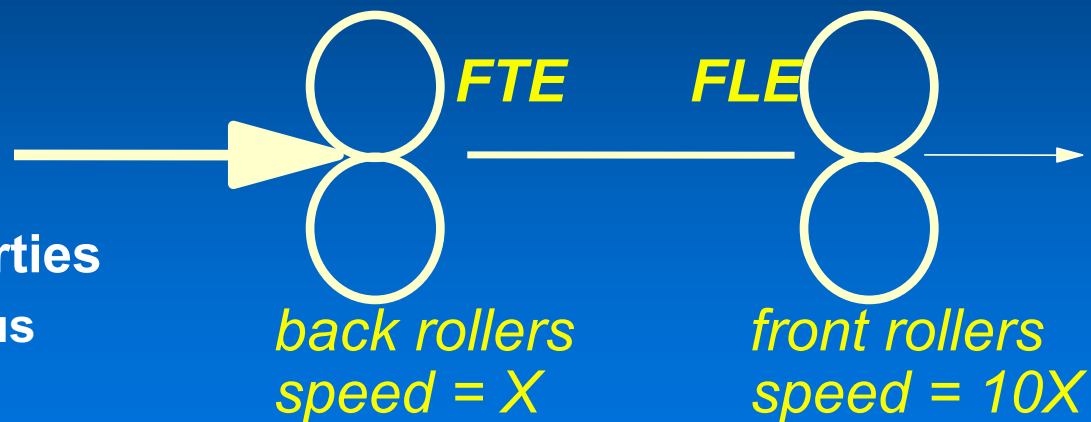
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# Blend Restrictions

- fibre properties
  - diameter?
  - length
  - physical properties
    - initial modulus



- effect of regain
  - static
  - lubricants

- dyeing
  - reaction to heat, chemicals
- finishing
  - reaction to heat, water

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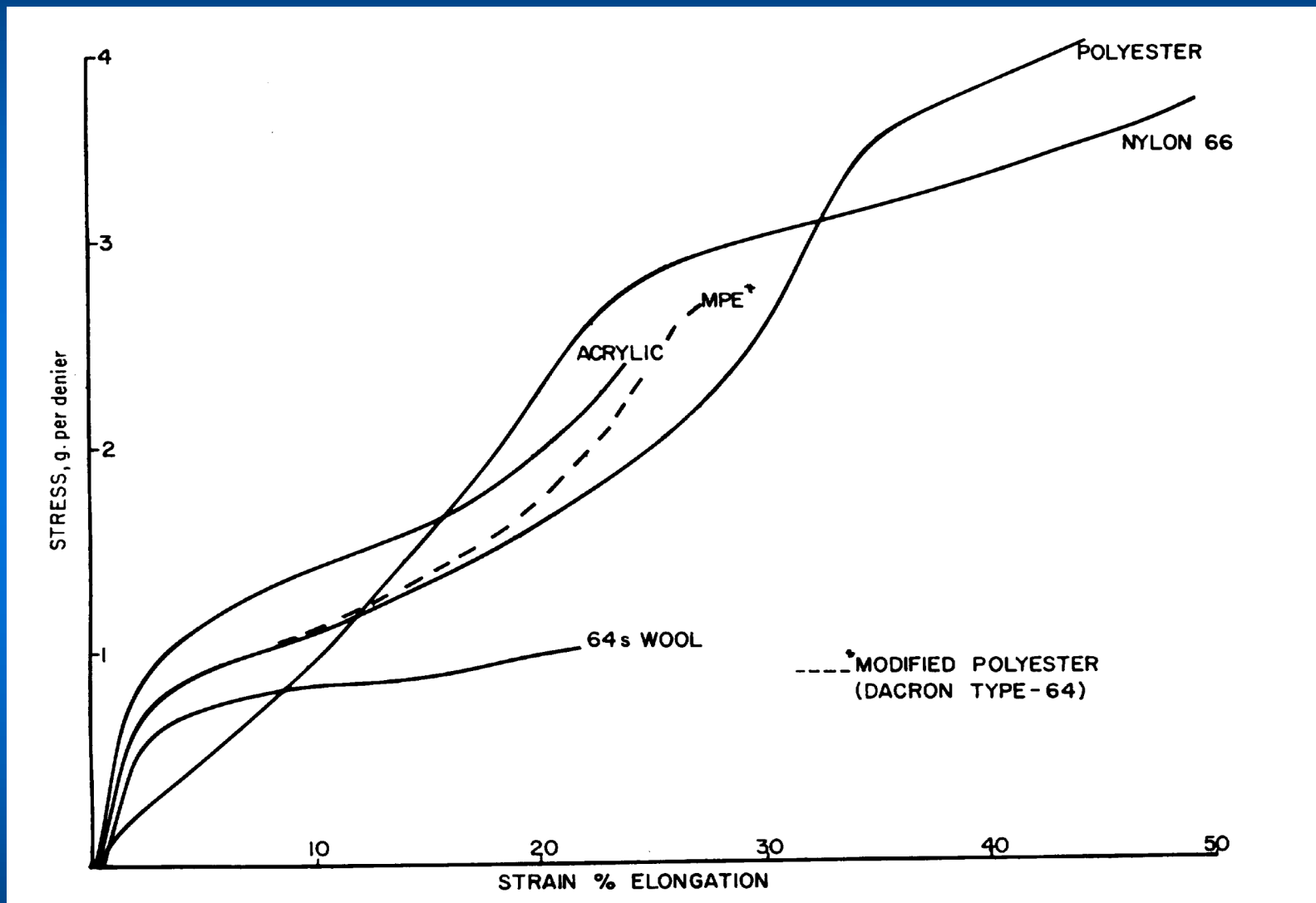
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# Initial Fibre Modulus

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Peter Auer  
Source: von Bergen (1963)





# Pre-Scour Blending

- **topmaker**
  - **spinner's specifications**
    - diameter
    - length
    - VM etc.
  - **Prediction formula**
    - raw material costs
    - variety of options, many bales
  - **Blending**
    - sorting (QC)
    - blending order
    - Accumulator

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# Top Blending

- re-gilling & re-combing
  - doubling & drafting
  - top dyeing
  - wool tops
  - tops of other fibres
- wool matched to others
  - cotton shorter
  - standard synthetic tops