CRC for Premium Quality Wool

Components of Variation of Fibre Diameter

Produced for the CRC for Premium Quality Wool undergraduate program by;
Michael Bow, retired, CSIRO Division of Wool Technology and,
David Petrie, The University of New South Wales,

Sources of Variation

- Coarsest : Finest = 4 : 1
- Genetics and Environment
  - BETWEEN fibres within a single staple
  - ALONG fibres
  - BETWEEN staples
  - BETWEEN positions on a single sheep
  - BETWEEN sheep
- Changes
  - Average (mean)
  - Variability (SD, CV)

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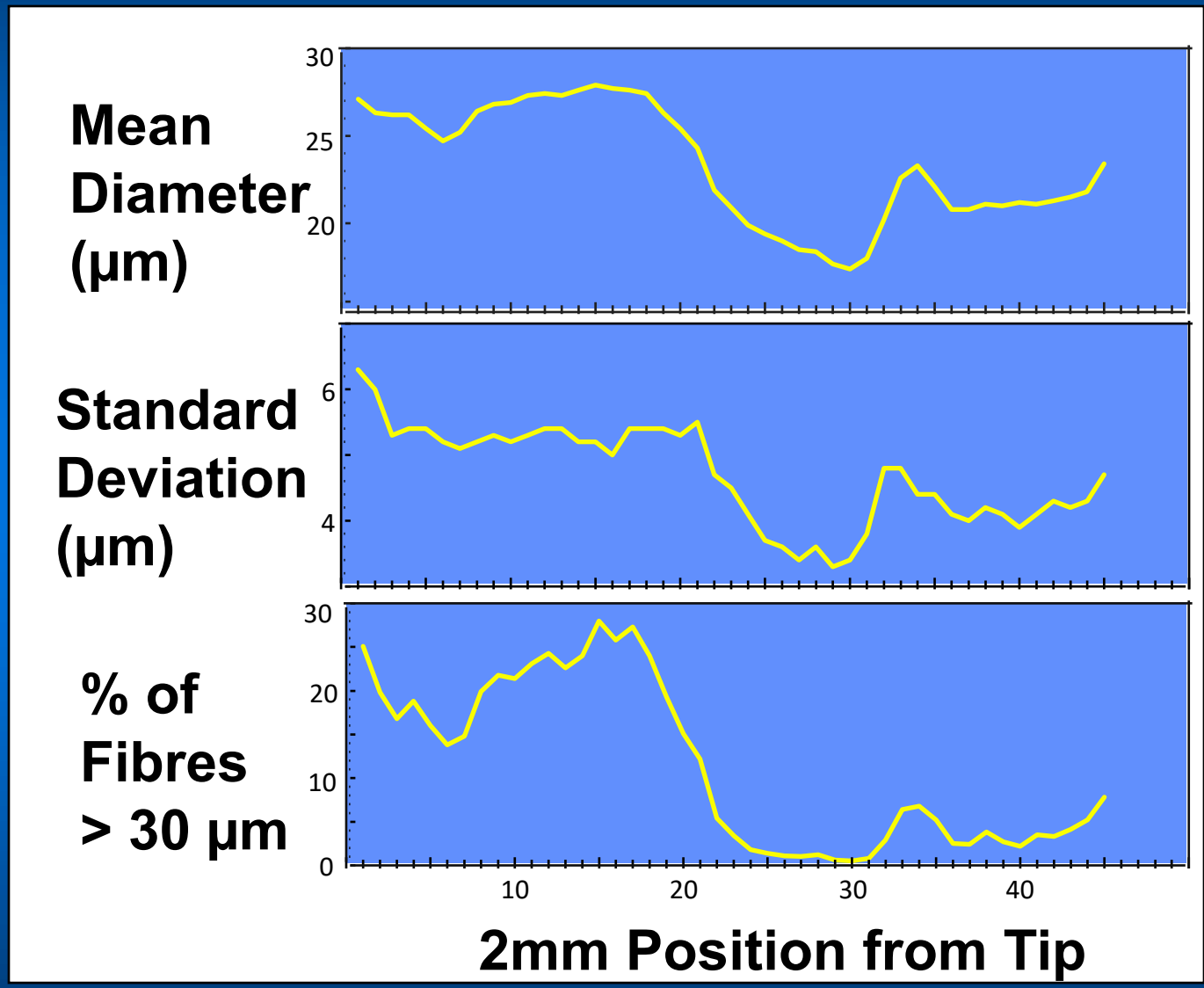
Along Fibre - Staple Profile



M. Bow & D. Petrie
Source: Bow, M.R. & Hansford, K.A. 1994

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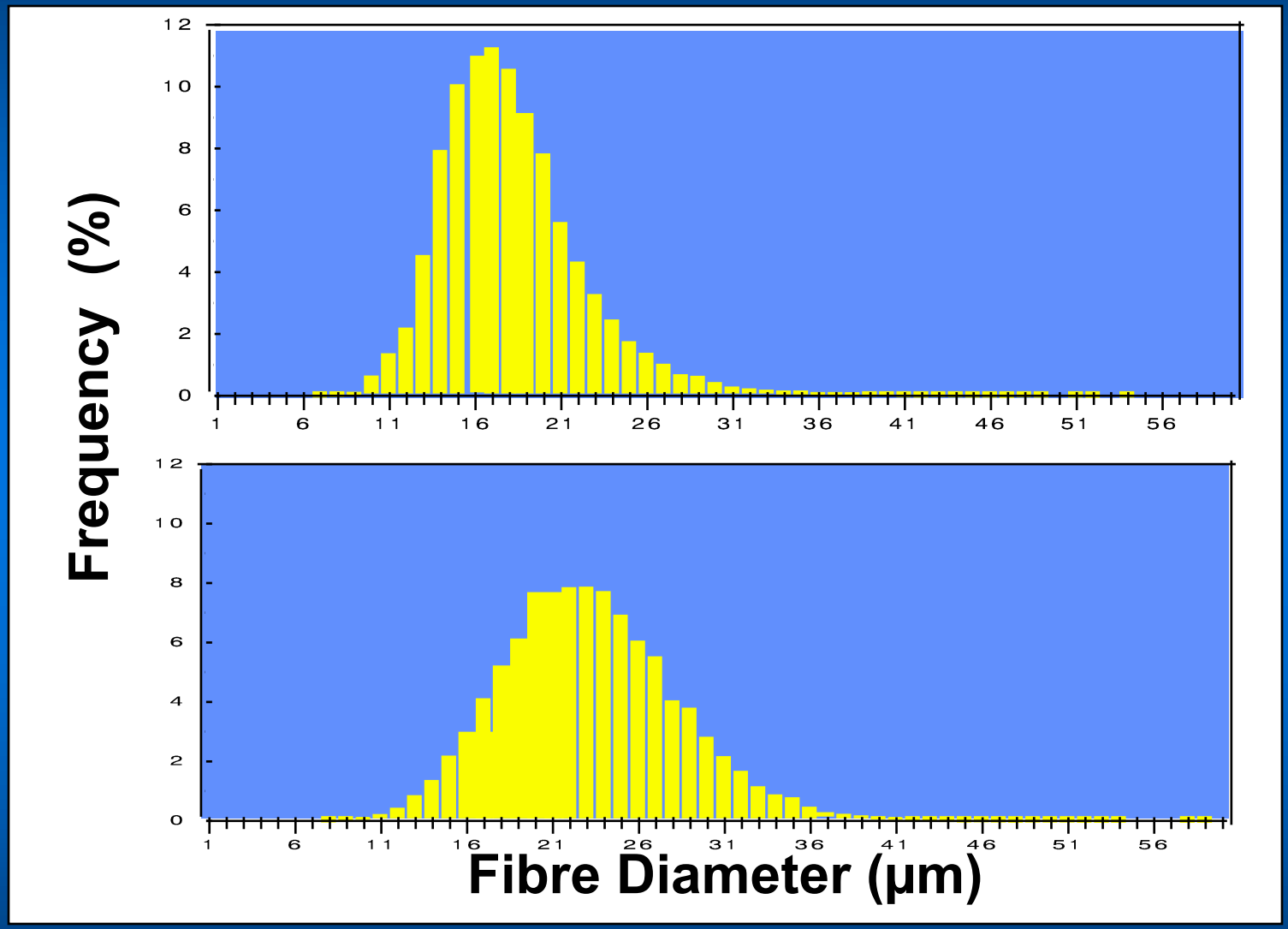
Between Staples



M. Bow & D. Petrie
Source: Bow, M.R. & Hansford, K.A. 1994

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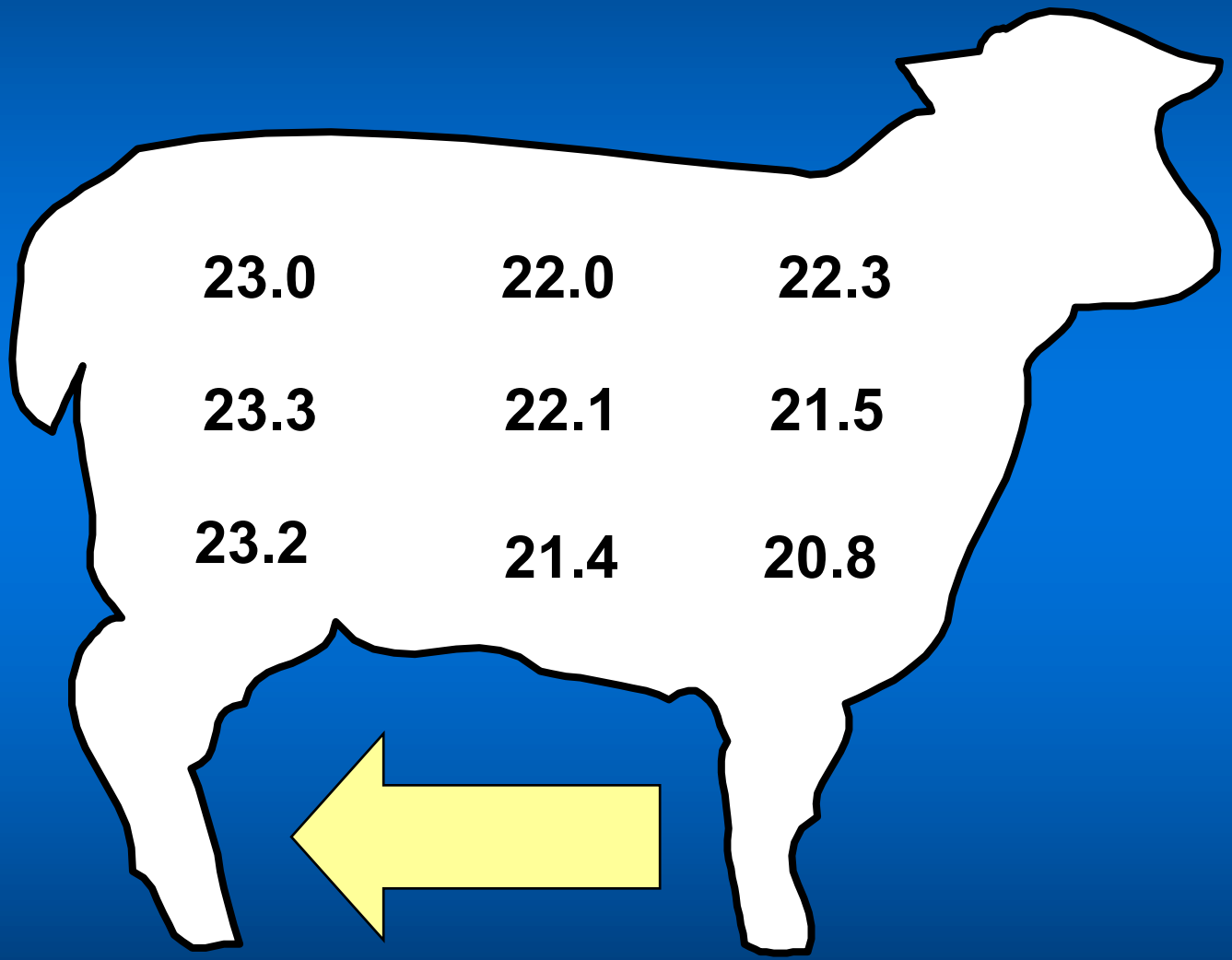
Diameter Variation over Sheep



M. Bow & D. Petrie
Source: Young and Chapman, 1958

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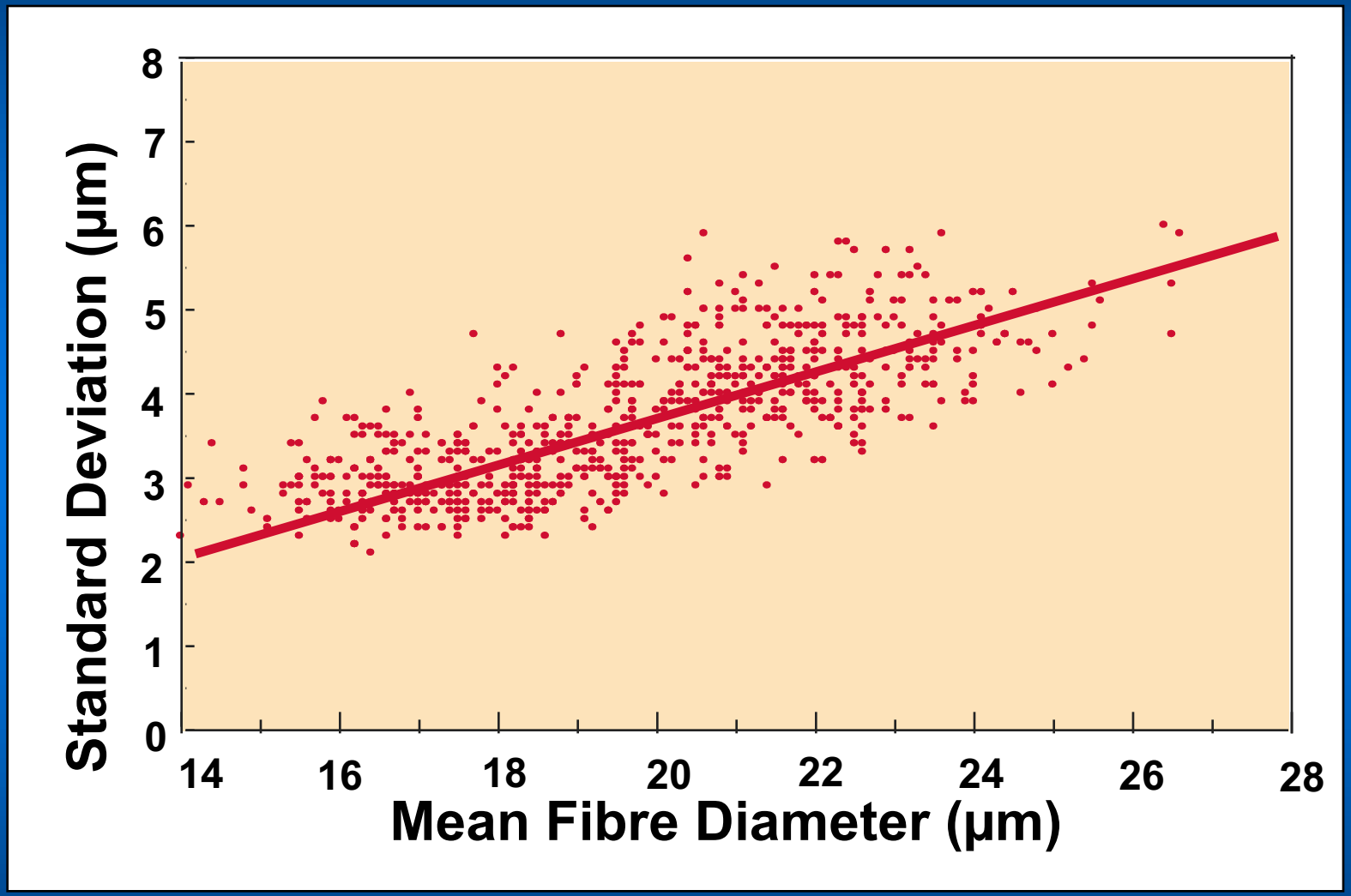
Individual Merinos



M. Bow & D. Petrie
Source: Bow, M.R. & Hansford, K.A. 1994

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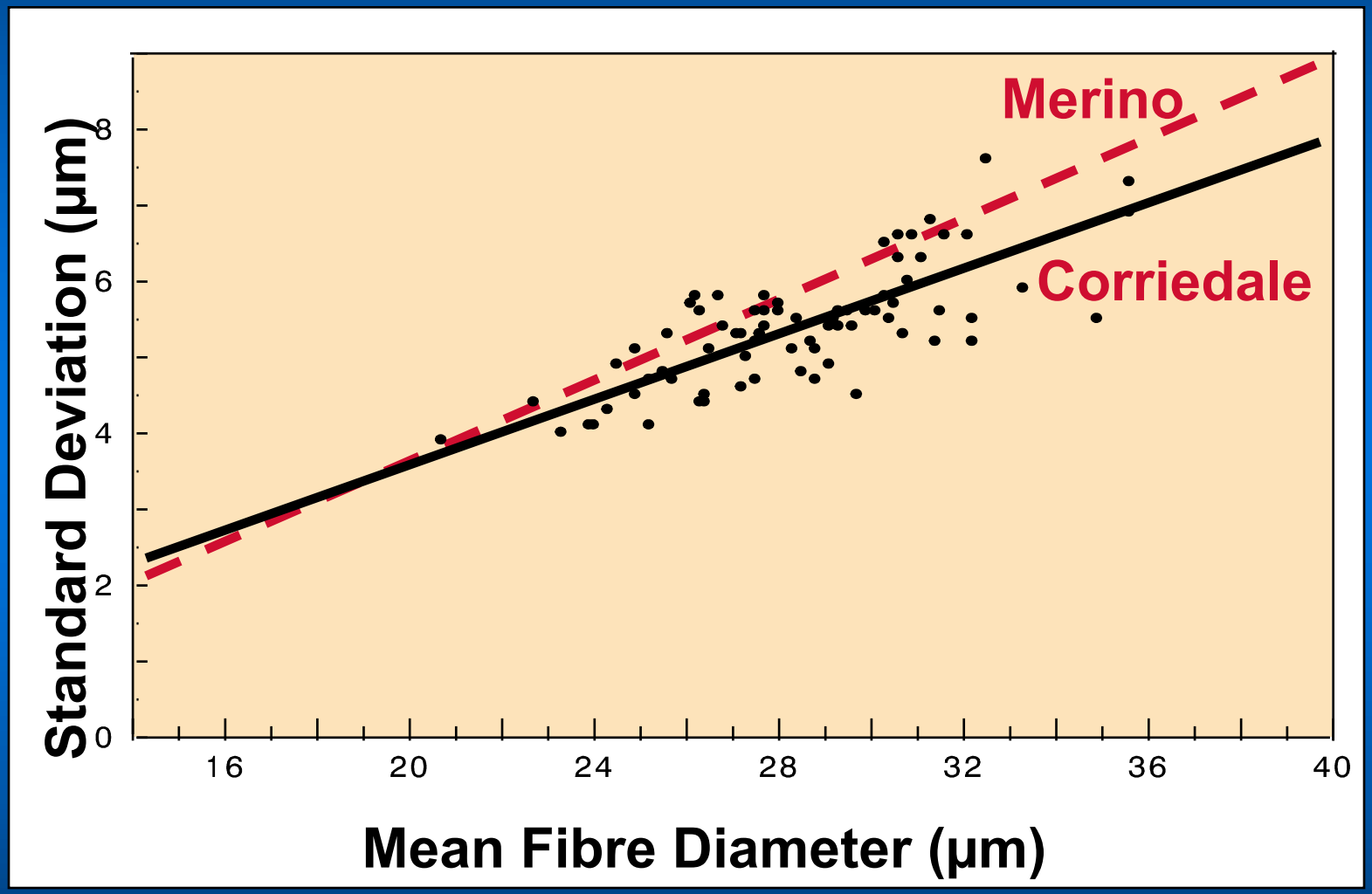
Individual Corriedales



M. Bow & D. Petrie
Source: Bow, M.R. & Hansford, K.A. 1994

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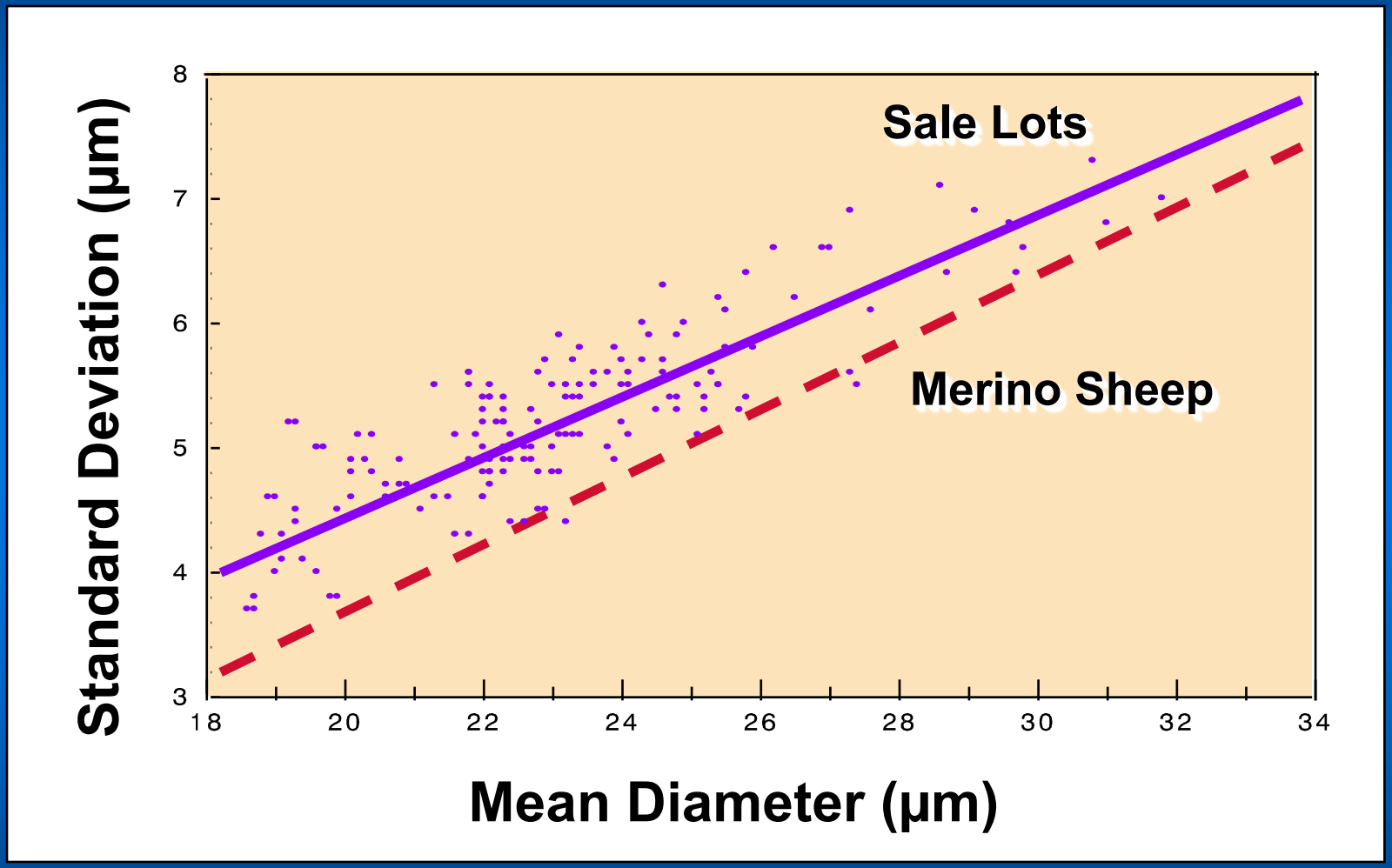
Sale Lots



M. Bow & D. Petrie
Source: Bow, M.R. & Hansford, K.A. 1994

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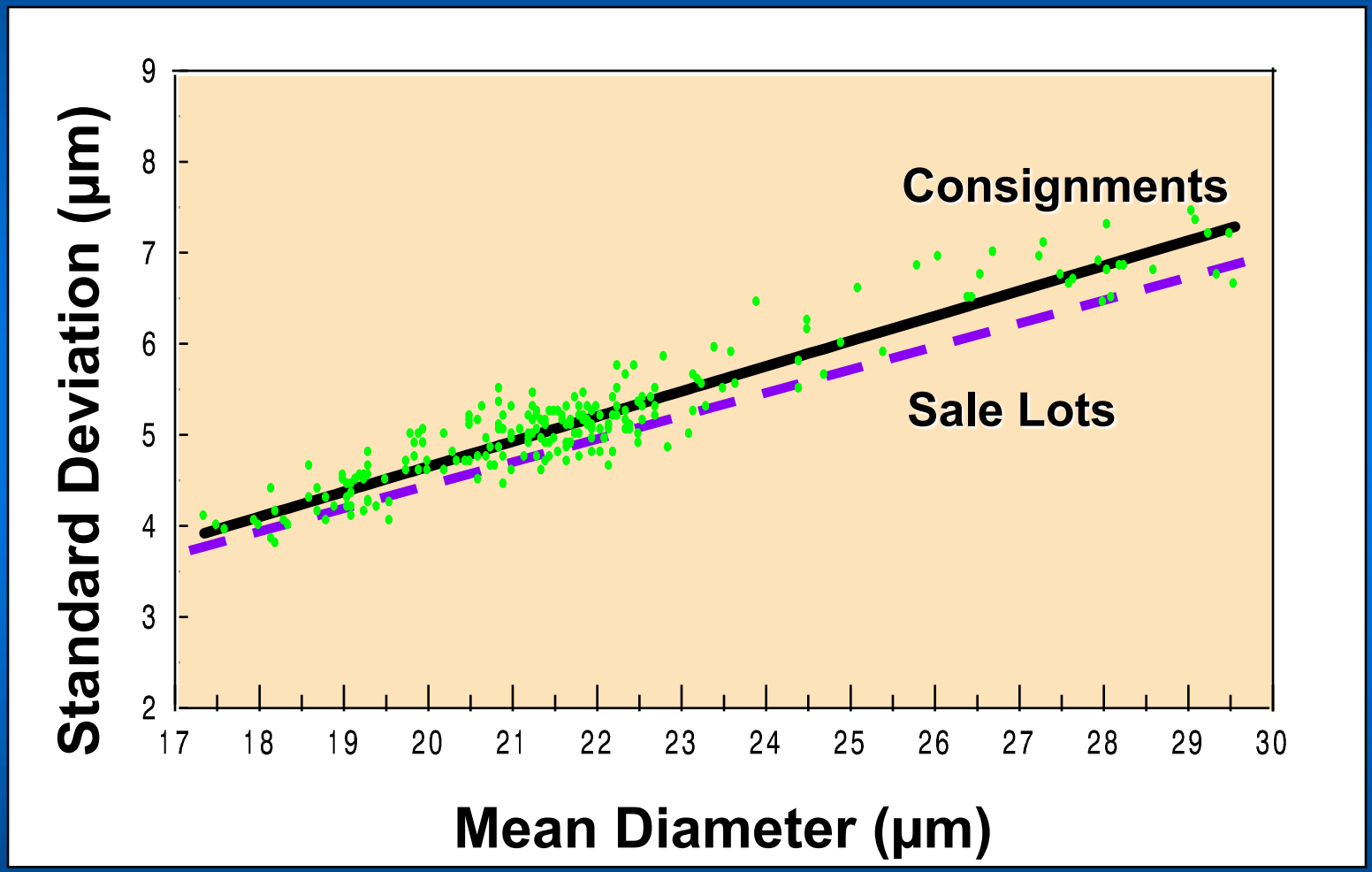
Consignments



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Source: Bow, M.R. & Hansford, K.A. 1994

Summary

Source of variation	Variance (μm^2)	
	Sound	*Tender*
Between fibres within a staple	16 (64%)	16 (43%)
Along fibres within a staple	4 (16%)	16 (43%)
Between staples within a fleece	1	1
Between fleeces within a classed line	3.5	3.5
Between classed lines within a mob	0.5	0.5
Total Variance	25	37

M. Bow & D. Petrie
Source: Whiteley, K. W. 1972

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