



# IWG BULLETIN

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## Measurement Matters

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The two most-heard comments in relation to wool testing are:

1. "The test I did on that sheep last week was so and so and now it's different".
2. "I sent half the sample to one lab the other half to another lab and got two different results."

Those comments are addressed with the following information:

**1. "The test I did on that sheep last week was so and so and now it's different"**

The components of fibre diameter variation can be discussed under 4 main headings.\*

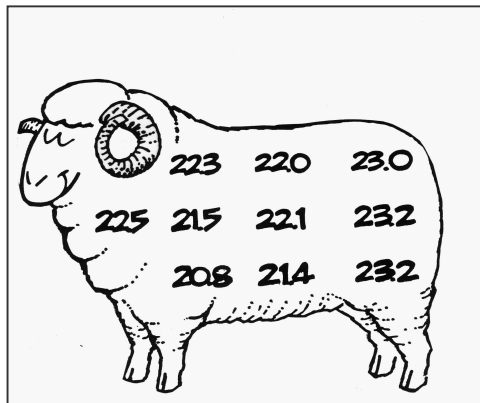
- Differences between animals.
- Differences between positions of the sheep.
- Along the fibre.
- Between fibres.

### 1.1 Differences between animals.

Depending on the breeding of the sheep [fine, medium or strong] the typical range of fibre diameters between single fleeces can be 5 to 8 microns and in some instances larger.

### 1.2 Differences between positions on the sheep.

Depending on the strain of animal variation of fibre diameter between sites can be in the range of 3 microns, as illustrated below.



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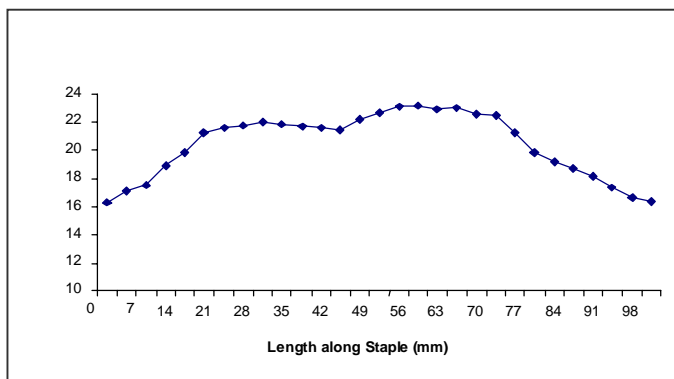
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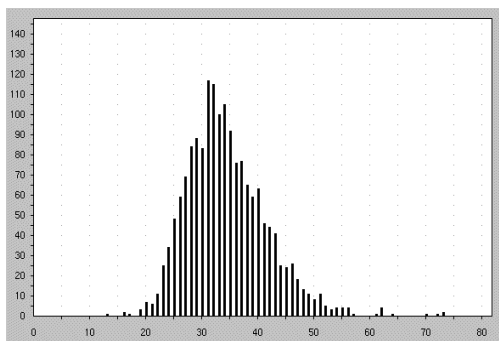
### 1.3 Along the fibre.



Depending on management and seasonal conditions, along staple fibre diameter variations of up to 10 microns have been observed. The typical range is 5 to 7 microns, as this along staple micron profile illustrates.

### 1.4 Between fibres.

Most fibre diameter variation occurs between fibres within a single staple. Ranges of 10 to 50 microns have been observed within a staple. This is illustrated by a histogram.



2. And so – to the other comment to which we refer – ***“I sent half the sample to one lab the other half to another lab and got two different results.”***

It can be seen from the information above just how easy it really is for two different wool testing laboratories to produce different results from a sample that is simply split in half. Differences between Laboratories must also be considered. These will include the instrument used to measure the wool sample and quality controls used within the laboratories.

It is important to remember that objective measurement produces data that will meaningfully reflect a fleece or a group of animals. These results are a useful aid for the selection and management of the flock.

*\*References. D.C Teasdale. The Wool Handbook.*