

# 6. Type and Style

Bob Couchman

## Learning objectives

On completion of this topic you should have an understanding of:

- style and type when describing raw wool and their effect on processing and pricing

## Key terms and concepts

Type, Style, Topmaker, Comber Appraisal Measurement, AWEX-ID, objectively measured traits

## Introduction to the topic

The value of wool is determined by both the measured attributes such as diameter, staple length and strength, position of break, vegetable matter content (and type) and yield along with a range of unmeasured or appraised attributes such as **type** and **style** and greasy colour.

This topic provides a description of these two un-measured attributes, discusses some of the history associated with them, their use and background on research undertaken to objectively measure them.

## 6.1 Style

Prior to any wool sale auction representatives of exporting companies visit display areas prepared by wool brokers so that they can view the wool being offered for sale and armed with the measured attributes in previously prepared sales catalogues, they can view a grab sample and appraise it for the unmeasured attributes.

When potential buyers are valuing the grab samples on the show floor before sale they are appraising a number of characteristics that make up type and style which are listed below. These include the amount and colour of the dust, any staining of the wool the type and condition of the staple tip, whether it is weathered or not, how soft the wool is in the greasy state and the crimp or waves in the staple. They look at both the number of crimps and the amplitude of the waves and the staple length. All of these make up what is known as **style**.

1. Staple density
2. Tip dust penetration
3. Degree of staple weathering
4. Regularity and consistency of the appraisal sample
5. Crimp character, regularity and definition
6. Staple tip structure (if Weaners)
7. Fib content (if Pieces)
8. Visual appearance.

The Coefficient of Variation of Staple Length (CVL) which may be measured can also be used as an indicator, i.e. high CVL, lower style rating.

Traditionally the style for fleece wools is broken up into seven traditionally descriptive categories. Today, with the advent of AWEX ID, described later, the traditional descriptive names have been replaced with a numbering system. The seven categories and their translated AWEX ID descriptors are provided below in Table 6.1.

**Table 6.1 Style Descriptors and AWEX - ID Number. Source: AWEX, (1999).**

Traditional Descriptor	AWEX ID Number
Choice	MF1
Superior	MF2
Spinners	MF3
Best Topmakers (BTM)	MF4
Good Topmakers (GTM)	MF5
Average Topmakers (ATM)	MF6
Inferior	MF7

An AWEX/ID/AWC Type conversion is available in the Australian Wool Statistical Yearbook.

There is an additional AWEX classification, that of Australian Superfine (ASF). It is defined as Merino wool which has a visual count of 70's or finer. Where such wool is tested for fibre diameter the result must be <19.5um. Only wool meeting the Choice, Superior or Spinners descriptions can qualify for this category.

The first two, choice and spinners are usually reserved for the fine and superfine diameter groups.

Style also takes into consideration the following unmeasured characteristics for Crutchings and Lox:

- Bulk
- Regularity and consistency of the appraisal sample.

The objective allocation of a 'style number' is currently unpredictable, probably except in a very broad sense. While style is shown to only account for about 3-4% of the value of wool, it is one of the most contentious points in appraisal.

## 6.2 Type

Wool Type generally referred to as **type** refers to the breed of origin of the wool and a description of the category of that wool. There are three basic streams for type:

- Breed of origin
- The part or type of the fleece that the wool originates from and
- Gross faults.

Type and Style are also important as they are used as the main descriptors for AWEX ID, the descriptive code used to describe wool in the marketing of the Australian clip.

Currently bale descriptions are used to identify or describe wool in a particular farm lot. When a 'new' bale descriptor appears (and there are some 15,000 of them) the test house, AWTA Ltd. has a system that classifies that description.

Despite the Code of Practice for preparation of wool clips having only a limited number of types or descriptors, woolgrowers often use this as a means of 'advertising' the attributes of the lot. The AWTA Ltd database has approximately 15,000 bale descriptions each categorised for different AWTA Ltd testing and information services. The breed component is the first part of typing and this is split up into 12 categories:

1. Merino Fleece
2. Merino and Superfine Skirtings
3. Merino and Superfine Hogget and Weaners
4. Merino and Superfine Lox
5. Merino and Superfine Lambs
6. Merino and Superfine Crutchings
7. XB Fleece
8. XB Skirtings, Lox and Crutchings
9. XB Weaners, Hoggets and Lambs
10. Superfine Fleece
11. Unidentified
12. Bin Types.

Each of these attributes point the buyer to a particular end use for the wool. For example if a buyer is seeking to engineer a blend for ladies, next-to-skin pastel shade knitwear they will choose low diameter merino fleece wool. There are two reasons for this:

1. Low diameter is required for next to skin use because of comfort properties or lack of prickle,  
and
2. Fleece wool is required to ensure there is a low dark fibre count. High dark fibre counts result in unsightly fibres being observed in the pastel shades of the knitwear.

If however, the buyer is sourcing wool for dark fabric then pieces can be used; the dark dye hides any dark fibres present.

Downs and Carpet wool are additional types. Downs wool however still requires an objective definition as bale descriptions do not provide discrimination or declaration.

## Gross fault types

There are currently no definitive discriminators for type 9 which contains the following descriptions:

- Crutchings
- Cardings
- Dermatitis
- Stains
- Dags
- Flyblown
- Plucked
- Dead
- Other (Skin Pcs)
- Water stain
- Jowls
- Shanks
- Mud
- Brands
- Kemp
- Black and Grey
- Non-traditional breeds.

## History

*AWC Type:* Prior to the introduction of AWEX ID there were a number of similar systems in use. The most famous was AWC Type. The Australian Wool Corporation introduced this system as a shorthand to describe the style and type of wool and some of its measured attributes. There were something like 8,000 types in this shorthand and it was made up from a 'base type' which described the diameter, the style and three different length categories. Originally these were appraised lengths prior to measurement. To these 'base types' were added fault descriptors such

as appraised strength (supplanted by measured strength), VM levels and type, colour and odd faults such as stains, dermatitis etc. These 'add-ons' resulted in a relatively simple but very descriptive system of shorthand. These AWC types were used around the world and mills were able to make up their mill recipes using them and advise their agents and buyers in Australia of the wool types they wished to purchase.

Full details of the AWC Type list can be found in Appendix 7 of The Australian Wool Industry published by the then Australian Wool Corporation in 1992.

**AWEX ID:** Following the demise of the Reserve Price Scheme in 1992, The Australian Wool Exchange Ltd. (AWEX) took responsibility for the sale of wool by auction and sought to develop a simpler system known now as AWEX ID. AWEX ID is a system for the description of appraised or non-measured attributes of greasy wool; it is a descriptive system and should not be regarded as a shorthand typing system. Combining this with the measured attributes such as diameter, length and strength, VM etc. it is possible to provide a realistic description of wool. AWEX ID is commonly used in price reporting so it is an important tool for growers and trade participants.

**House Types:** There is a gradual change occurring towards the use of AWEX ID away from AWC type but the speed of change has been slow due in kind to a third in-house typing system used by mills and exporters. These are referred to as 'house types' and are based on the old AWC types but often modified to suit specific combing or exporter mill blends. Each 'house-type' is probably different between mills and exporters but there is an element of similarity as a consequence of their common derivation from AWC type. For many years, some industry personnel have used Yield as a proxy for style as it has a significant effect on the allocation of style.

**Table 6.2 Effect of wool statistical area (WSA) on yield. (New South Wales). Source: AWEX (1998/1999).**

WSA	Bales Offered	Avg yield		WSA	Bales Offered	Avg yield
NO1	8149	62.7		N23	149184	68.8
NO2	26070	71.1		N24	36849	67.8
NO3	64196	73.4		N2S	41562	62.1
NO4	11012	68.9		N26	38675	64.9
NOS	8094	69.0		N27	17477	66.7
NO6	18922	68.9		N2B	51822	66.1
NO7	13309	64.1		N29	44590	64.7
NOB	9429	64.8		N31	23166	64.0
NO9	36972	58.2		N32	357	66.4
N10	47939	56.7		N33	9828	64.3
N11	24470	56.2		N34	13577	60.0
N12	23598	60.1		N3S	21056	60.0
N13	36219	58.4		N36	12156	61.8
N14	32321	63.5		N37	17403	59.3
N1S	74752	63.8		N38	16969	63.1
N16	12351	67.1		N39	33906	30.5
N17	42244	68.3		N40	17517	60.4
N18	9693	69.7		N41	29	68.0
N19	78013	68.0		N43	382	70.4
N20	11349	69.1		N98	917	60.0
N21	3222	65.3		N99*	70232	61.4
N22	808	69.6	* N99 = unknown			

Recent research, interrogated the AWEX auction data set for 1998/99 to determine how indicative this was for style allocation. The yield of wool produced in any particular geographical region tends to differ from that of another area. Australia is divided into Wool Statistical Areas (WSA) and these are broadly grouped into Districts. The following tables representing NSW are provided as an example of the yield differences experienced in NSW and hence the effect on Style grade allocation (Table 6.2 and 6.3). The Wool Statistical Area is a code similar to a post code where every State is split up to represent similar growing areas. On the basis of that analysis 'business rules' were developed for yield boundaries for each style grade. Details of some of the findings of this investigation are provided below.

**Figure 6.1 NSW Wool Statistical Areas as referred to in Table 6.2. Source: AWEX, 1999.**



**Table 6.3 Wool Style by District (New South Wales avg. 1988/89 to 1991/92). Note: These figures are based on the average receivals for 4 selling seasons. Source: AWEX, (1999).**

District	Total Farm Bales (yr avg.)	Choice (%)	Superior (%)	Spinners (%)	BTM (%)	GTM (%)	AT M (%)	Inferior (%)
Western Division	67,600	0	0	0	18.9	72.3	8.3	0.5
North Central Plain	60,362	0	0	0.1	23.1	75.4	1.5	0
Central Plain	53,152	0	0	0	8.1	89.7	2.2	0
Central WSlopes	110,824	0	0	0	16.9	80.8	2.3	0
Riverina	65,244	0	0	0	38.8	56.5	4.6	0.1
South West Slopes	131,537	0	0	0	15.3	83.3	0.9	0
South. Tablelands	149,968	0	0	4.7	68.9	26.2	0.2	0
South Coast	1,341	0	0	0.8	63.7	35.5	0	0
Central Tablelands	85,962	0	0	1.7	59.4	38.9	0	0
Sydney	10,767	0	0	0	16.4	80.6	1.8	0.2
Hunter	12,042	0	0	0	49.7	50.3	0	0
NW Slopes	42,538	0	0	0.1	43.2	56.6	0.1	0
Northern Tablelands	68,328	0	0.2	10.5	69.1	19.0	1.2	0
North Coast	211	0	0	0	29.1	69.0	0.9	0
NSW	859,936	0	0	1.9	38.1	55.4	4.5	0.1

These WSA are grouped into districts as shown in Table 6.2 and differences in Style grades are apparent. Some of these differences are associated with yield.

**Figure 6.2 NSW Districts as referred to in Table 6.3. Source: AWEX, (1999).**



### 6.3 Merino fleece types: Factors affecting style

It is noticeable that for Merino fleece types there is little to distinguish between Choice, Superior or Spinners on the basis of yield. However, there appears to be a definitive relationship on the basis of VM with Choice and Superior classified as 'free' in a VM sense. Spinners on the other hand have FNF (free or nearly free). In addition there appears to be a relationship between Choice /Superior grades and WSA in so far as some areas do not produce significant quantities of Choice or Superior grades. In essence, Choice and Superior grades are restricted to wools <19.6µm.

#### Effects of crimp

There is currently no way of separating the two higher grades on the basis of yield or length. Crimp definition may however provide a method of separating these out. Work by CSIRO in the early 90's showed crimp frequency differences associated with Style grades. Laserscan and OFDA currently measure curvature and this may suffice as a subsidiary discriminator for crimp frequency. Traditionally, the Choice grade has been applied to highly crimped 'pretty' wools. The use of the curvature value from Laserscan or OFDA in the future measurements may provide a discriminator in this regard.

**Table 6.4 Effect of Crimp Frequency on Style. Source: Stevens and Crowe (1994).**

	Crimp Frequency (crimps/cm)		
	Mean	Minimum	Maximum
Spinners	6.0	4.8	6.9
Best Topmakers	5.6	3.7	7.1
Good Topmakers	4.6	3.7	6.9
Average Topmakers	4.2	3.4	6.5

#### Effect of VM

Spinners wool can be discriminated from BTM on the basis of yield and VM. Spinners grade has no C fault for VM.

#### Effect of state of origin on yields

It is interesting to note that the mean yield values for WA wools are approx 3% below other states in all grades. Geographic effects on Style are discussed in more detail in a later section.

## Colour

AWTA currently measures **clean** colour on approx. 30% of the Australian wool clip, predominately fleece wools. It is important to recognise that appraisers use greasy colour when determining style grade of greasy wool rather than estimated clean colour. Similarly research into measuring style objectively measured greasy colour. Work by CSIRO in the early 90's demonstrated a relationship between clean colour (Y-Z) and style grade. Where colour measurements exist these may assist in the differentiation of the common style grades from Spinners down. Details are presented in the Table 6.5 below:

**Table 6.5 Effect of Clean Colour on Style Grade. Source: Stevens and Crowe (1994).**

Style Grade	Colour (Y-Z)		
	Mean	Minimum	Maximum
Spinners	-0.4	-1.9	-1.0
Best Topmakers	1.5	-2.3	-5.0
Good Topmakers	3.3	0.4	6.7
Average Topmakers	4.6	-1.7	6.3

The work did not define Inferior Topmakers however it is suggested that in the unlikely event of such wools being tested then any Y-Z value >5.9 should be used to classify Inferior Topmakers grades.

## Merino weaners and lambs

The relationship of yield and style grade for Weaners and Lambs is the same as for Merino Fleece in the higher grades. The differences only really appears in the Average grade with Weaners and Lambs commencing at a lower level than the same grade for Fleece wool at 55.1 instead of 60.1.

## Merino pieces

The relationship with Merino Pieces to their fleece grade counterparts is reasonably stable with the commencing point for each grade being 10% lower than the fleece counterparts (Table 6.6).

## XBD fleece and pieces

Crossbred fleece and pieces grades are approx 2-3% higher than the merino counterpart grades.

## XBD weaners and lambs

Crossbred Weaner and Lamb grades are approx 5% higher than the merino counterpart grades.

## Effect of yield on STYLE grade

With these generalised relationships it is possible to indicate style grading depending on yield.

**Table 6.6 Yields of different style grades. Source: Stevens and Crowe (1994).**

	Merino Fleece	Merino Pieces	Merino Weaner/Lambs
Choice	Depends on WSA		
Superior	Depends on WSA		
Spinners	>75.1	>70	>75.1
Best	70.1 - 75	60.1 - 70	70.1 - 75
Good	65.1 - 70	55.1 - 60	65.1 - 70
Average	60.1 - 65	50.1 - 55	55.1 - 65
Inferior	<60	<50	<55

XBD Fleeces and were approximately 2.5% higher than the respective merino yields, and XBD Weaners and Lambs were approximately 5% higher.

Choice grades are limited to three states in Australia and to very specific areas as follows:

**Table 6.7 Distribution of Choice Style Wool in Australia State.**

**Source: Stevens and Crowe (1994).**

State	Wool Statistical Area	Tonnes
NSW	NO3	13
	N17	10
	N23	20
	N24	1
	N29	2
Tasmania	TO4	5
Victoria	VO2	2
	V18	1
	V21	2
	V22	2

## 6.4 Use of type and style

The way type and style is used within the industry varies depending on what sector is being studied.

### Classer

In essence the style of the wool has little bearing on how a classer splits up the wool in the clip. Type however is a different issue. It is important that the classer is aware of the different styles but more importantly determining and describing types correctly is critical. Failure to remove faults or poorly describe lots can affect the value of the wool and also how it is described in the catalogue.

### Broker

The style and type of wool is important to the broker to ensure that each lot is correctly allocated its place in a catalogue or sale roster. Similarly the broker's staff will use type and style classifications to assist them in valuing lots and advising clients of reserves that may be placed on sale lots.

### Exporter

Knowing the type and style of any wool lot is a major benefit to exporters in assisting them to put a monetary value on each lot and to set their bidding reserves for auctions. Many topmakers or combing mills will provide exporters with additional buying instructions as a supplement to their order specifications. These are normally in two forms (i) identification of the breed type or wool category such as 'lambs' or (ii) restrictions such as 'fleece wool only' or 'no cotts' etc. Failure of the exporter to comply will result in either:

- Rejection of the total mill consignment
- Rejection of a particular component lot or
- Settlement of a cash claim to compensate for inferior wool in the delivery.

### Processor (topmaker/comber)

Processors over many years have built on practical experience that indicates different processing attributes. Today, however, with the increased reliance on measurement much of the benefits from such knowledge are being eroded. The knowledge and use of type and style is particularly noticeable in the more traditional markets of Europe, in such places as France and Italy.



## 6.5 Importance of type and style

Research undertaken by CSIRO many years ago investigated the relative importance of various raw wool attributes on processing at both the top and yarn (spinning) stages of processing. These are presented below in Table 6.8. It is obvious from this table that style has very little effect on both combing and spinning.

**Table 6.8 Importance of Raw Wool Characteristics. Source: Plate (1978).**

Raw Wool Characteristics	Overall	Topmaker	Spinner
Mean Diameter	****	****	****
Yield	****	****	
Staple Strength	***	*** (a)	** (a)
Position of Break	***	*** (b)	** (b)
Staple Length	***	**	**
Clean Colour	***	**	(c)
VM Type	***		
VM Content	***		
Coloured Fibres	***		(c)
Staple Length Variability	**	*	* (d)
CVd	**	*	* (d)
Crimp/Resistance to Compression	**		
Cotts	**		
Staple Tip	*		
Style/Type... Handle	*		
Breed/Age/Fleece Portion	*		
<b>Notes:</b>	**** *** ** *	Major Impact Secondary Impact Minor Impact No Significant Impact	
	(a) (b) (c) (d)	Mean Fibre Strength Mean Fibre Length Effects on dyeing Minor effect on spinning	

## 6.6 Price effects

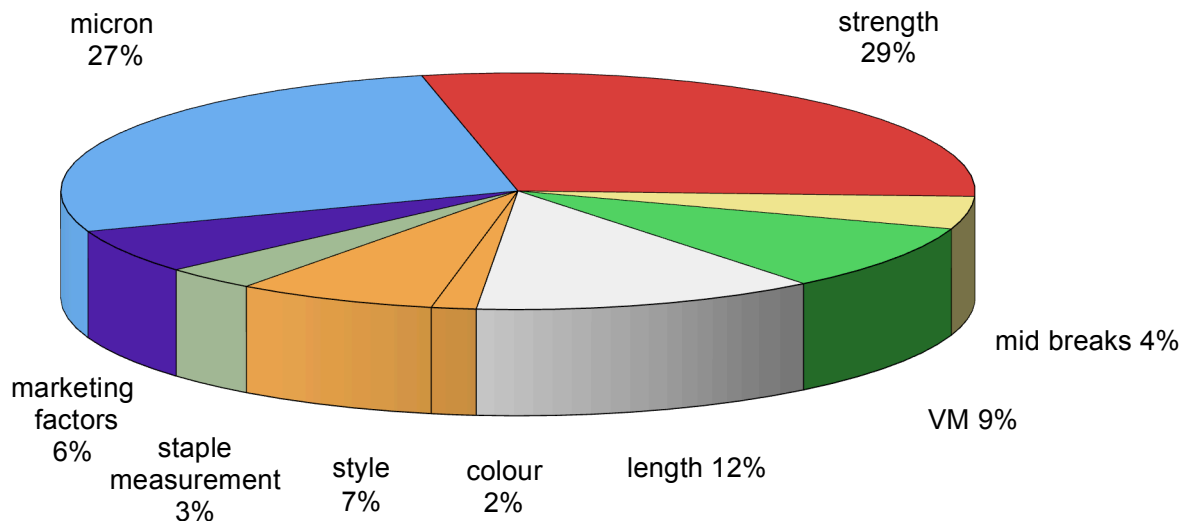
There has always been price discrimination on the basis of type and style.

Over a number of years The Woolmark Company and its predecessors have undertaken price analyses in an effort to better understand the market fluctuations, differences in prices for different wool types and attributes and the price driving attributes of wool. To do this they have developed sophisticated statistical techniques using modified multiple regression for merino fleece wools with prices obtained at auction. The technique separates the major financial value for measured and appraised attributes along with allowances for time periods (sale week) and area or origin.

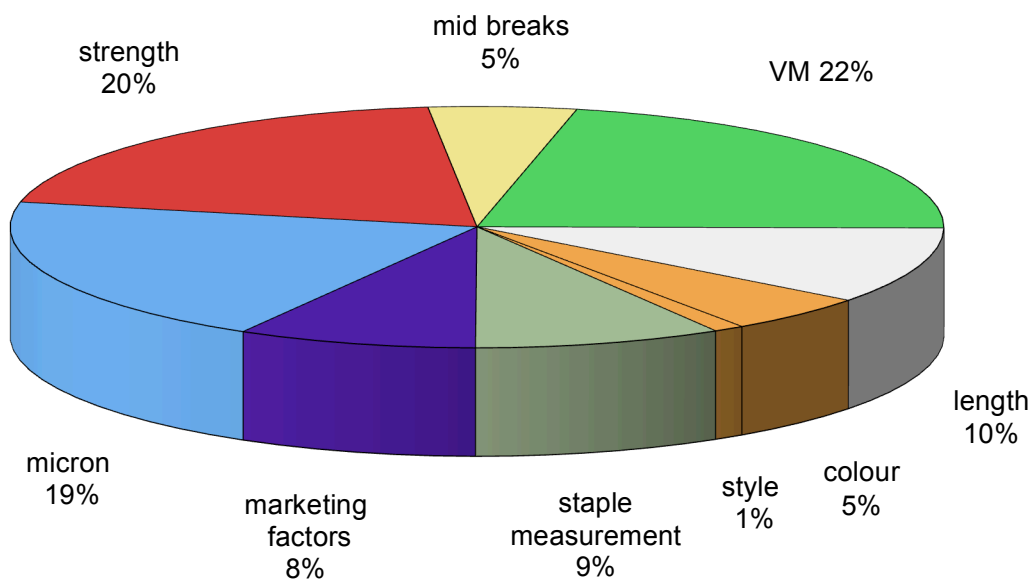
These details are provided through the web page [www.woolcheque.com.au](http://www.woolcheque.com.au). Woolcheque is a Woolmark product licensed to Australian Wool Innovation (AWI) for the free use of all wool producers. This is a pricing calculator that allows woolgrowers or other interested parties to obtain an estimate of what merino fleece wool of any specific description. Attached to the calculator are tables that indicate premiums and discounts for different levels of the major price determinants along with descriptions of their importance.

Whilst these variables do alter from time to time the values for style are only minor drivers for price. This is illustrated in the pie chart below, which shows style accounting for only 4% of price in the latest season analysed.

**Figure 6.3 Importance of wool attributes 3 seasons ending 2005/06 16.6 to 18.5 micron merino fleece wool. Source: The Woolmark Company (2005).**



**Figure 6.4 Importance of wool attributes 3 seasons ending 2005/06 20.6 to 22.5 micron merino fleece wool. Source: The Woolmark Company (2005).**



## 6.7 Geographic effects

Style manifests itself as a combination of a whole range of attributes that come about as a result of the interaction of the growing fleece and its environment. It is not unrealistic therefore to accept that styles of wool will have a geographic dependence. Indeed this does occur. For example if we look at the percentage break-up of style in different districts in NSW for the 1988-92 period this can be illustrated as below:

It is clear from this example the effect of geographic region. This break-up of districts and wool styles has been done right across Australia and is remarkably consistent over time.

**Table 6.9 The Effect of District of Origin on Distribution (%) of Wool Style. Source: Capronex, (2006).**

District	Bales	Choice	Superior	Spinners	BestTM	GoodTM	AvgTM	Inferior
N.Tablelands	68,328	0	0.2	10.5	69.1	19.0	1.2	0
S.Tablelands	149,968	0	0	4.7	68.9	26.2	0.2	0
Western	67,660	0	0	0	18.9	72.3	8.3	0.5

## 6.8 Research and development

Considerable research effort has been expended over the years to understand style and type. Much of this work undertaken in particular by CSIRO was presented to industry in the Woolspec '94 seminar in Sydney in 1994.

The subject was extensively covered in this seminar with particular reference to processing effects of the various component parts of style and in particular the development of an objective measurement system for measuring style and type.

Industrial trials of the CSIRO Style/Type instrument were undertaken with AWTA Ltd, but despite showing reasonable promise the between machine repeatability was not sufficiently robust to proceed with commercialisation of the technology.

One of the main reasons for seeking to develop such instrumentation was the low level of repeatability between appraisers despite reasonably good repeatability within appraisers. This is highlighted in Table 6.9 below:

**Table 6.10 Between and Within Appraiser Repeatability for Style. Note: BOLD denotes within appraiser repeatability. Source: Stevens and Crowe (1994).**

Appraiser	1	2	3	4	5
1	<b>0.88</b>	0.34	0.77	0.83	0.81
2		<b>0.84</b>	0.27	0.43	0.26
3			<b>0.70</b>	0.71	0.70
4				<b>0.90</b>	0.82
5					<b>0.87</b>

The processing research was quite complex and too extensive to report here but was summarised and in that seminar by Stevens and Crowe (1994) who are quoted and paraphrased as follows:

*This paper sets out evidence for the effects of specific style components. In topmaking; these component effects are more easily identified and quantified than overall style grade effects which are a result of interactions between several aspects of style. Each of these components were shown to affect the Hauteur (top length) and they are over and above those due to the major raw wool measurements of yield, mean fibre diameter, staple length, strength and position of break. In certain circumstances there can be either compounding or conflicting effects.*

As can be seen from these statements this is a complex subject and further reading is required for a deeper understanding of this work.

The Style/Type instrument was a multi faceted machine that measured 14 attributes of a sample of greasy wool staples presented to it for testing. All of these are the major components of style and it can be seen that style is not an easy attribute to define or describe accurately. The 14 attributes are provided below.

## **Style components measured by the CSIRO style/type instrument**

- Staple Length
- Staple Width
- Tip Length
- Tip Shape
- Greasy Wool Yellowness
- Greasy Wool Brightness
- Dust Starting Point
- Dust Penetration
- Dust Area
- Dust Colour
- Crimp Frequency
- Crimp Definition

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## **Readings**




The following readings are available on CD


1. Crowe, D.W. and Stevens, D, 1994, Style Appraisal, *Proceedings of Woolspec 94, Specification of Australian wool and its implications for marketing and processing*, CSIRO Division of Wool Technology and International Wool Secretariat, Sydney.
2. Ford K, and Jackson, N. 1994, Style and Environment, *Proceedings of Woolspec 94, Specification of Australian Wool and its Implications for Marketing and Processing*, CSIRO Division of Wool Technology and International Wool Secretariat, Sydney.
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## Activities

 Available on WebCT


## Multi-Choice Questions

 Submit answers via WebCT

## Useful Web Links

 Available on WebCT

## Assignment Questions

 Choose ONE question from ONE of the topics as your assignment. Short answer questions appear on WebCT. Submit your answer via WebCT

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## Summary



Summary Slides are available on CD

This topic covers the definition of Style and Type. It outlines the importance of these 2 non-measured attributes in the valuing and pricing of greasy wool and how they affect use within the pipeline.

A short history of the use of style and typing systems are provided.

An overview of the distribution of style components within the wool clip is provided along with an overview of research undertaken to objectively measure style and how style affects processing performance.

## References

- Anonymous, 1992, AWC Type list, Appendix 7, Australian Wool Corporation.
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- The Woolmark Company (2005), Figures prepared by K. Stott on behalf of the Australian Sheep Industry CRC.

## Glossary of terms

Brands	Registered brand on sheep for ownership purposes
Carding	After wool is scoured and dried it is fed into a carding machine containing rollers covered with closely set fine pins or points, which opens up the wool into an even layer, removing as much burr and seed as possible; and draws the fibres parallel to each other to form a single continuous strand of fibres called a 'sliver'
Crimp	The waviness of a fibre, expressed numerically as the number of crimps per unit of length; generally the higher the number per unit length the finer is the fibre diameter
Crutching	The act of shearing wool from the breech area and hind legs to prevent soiling of the wool by dung or urine
Dags	Coating of manure that may adhere to wool in the breech area of a sheep
Fribs	Second cuts, pencil locks, or small pieces of wool clinging to the fleece
Flyblown	A condition caused by blowfly maggots on a live sheep
Jowls	A pendulous cheek extending under the jaw
Kemp	A hard, brittle, opaque, coarse, short medullated fibre found on the fleece of some sheep. It is shed after growing for a limited time, and frequently lies loose on the fleece
Plucked	Wool removed from the carcasses of dead sheep as soon as the fibres become loose in the skin. A superior grade of 'dead' wool
Shanks	The covering of the lower part of a sheep's legs; comprises short inferior and kempy fibres
Spinner	Final drawing of a roving into yarn, inserting the required degree of twist, and winding it into a form of a cap, or upon a bobbin or spool
Stains	Urine-stained wool and small portions of yolk-stained wool from the crutch
Staple Length	The length of a staple from tip to base. For a sale lot, 55 or more staples must be measured to conform to the Australian Standard. The average staple length is then calculated and reported in millimeters (mm)