

Different Fibre of Livestock

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- **Wool** : Medulla may be present or **absent**, cortex extends up to the centre and appears as a **translucent** structure when medulla is absent, and the **cuticle is very irregular** in outline.
- **Mohair**: is long straight, uneven translucent, fleece from Angora goat. Kid mohair reported to fetch more price.

- **Hair** : It has well pronounced **medulla**, with **less of cortex** and have perfectly smooth surface without any serrations.

The medulla may have **pigments** appears as a dark cellular structure with varying degree of colour depending upon the nature of pigmentation.

WOOL



- **Cotton** : These are vegetable fibres, which appear under microscope as a irregularly twisted fibres. Medulla is absent. Cuticle is smooth. They usually appear in-group or in bundles.
- **Silk** : These fibres appear as smooth, structure less translucent filaments with occasional constriction and swelling. Every fibre is a double fibre. Cortex and cuticle are not well defined.

ANIMAL FIBRE

SI. NO	FIBRES	SPECIES
1	Wool	Sheep, rabbit
2	Pashmina, cashmere down	Goat
3	Mohair	Angora goat
4	Fur (pelt)	Karakul, Persian lamb

WOOL TERMS

- **Fleece**: fibre coat that covers a sheep.
- **Greasy wool**: Shorn wool with grease and was etc. before removal of impurities.
- **Clean wool** : Woo free from all impurities expressed as percentage of total weight

Components of wool fibre

- **Cuticle/ Epidermis:** 10%

Rectangular and 20 x 30 x 0.5 um in size

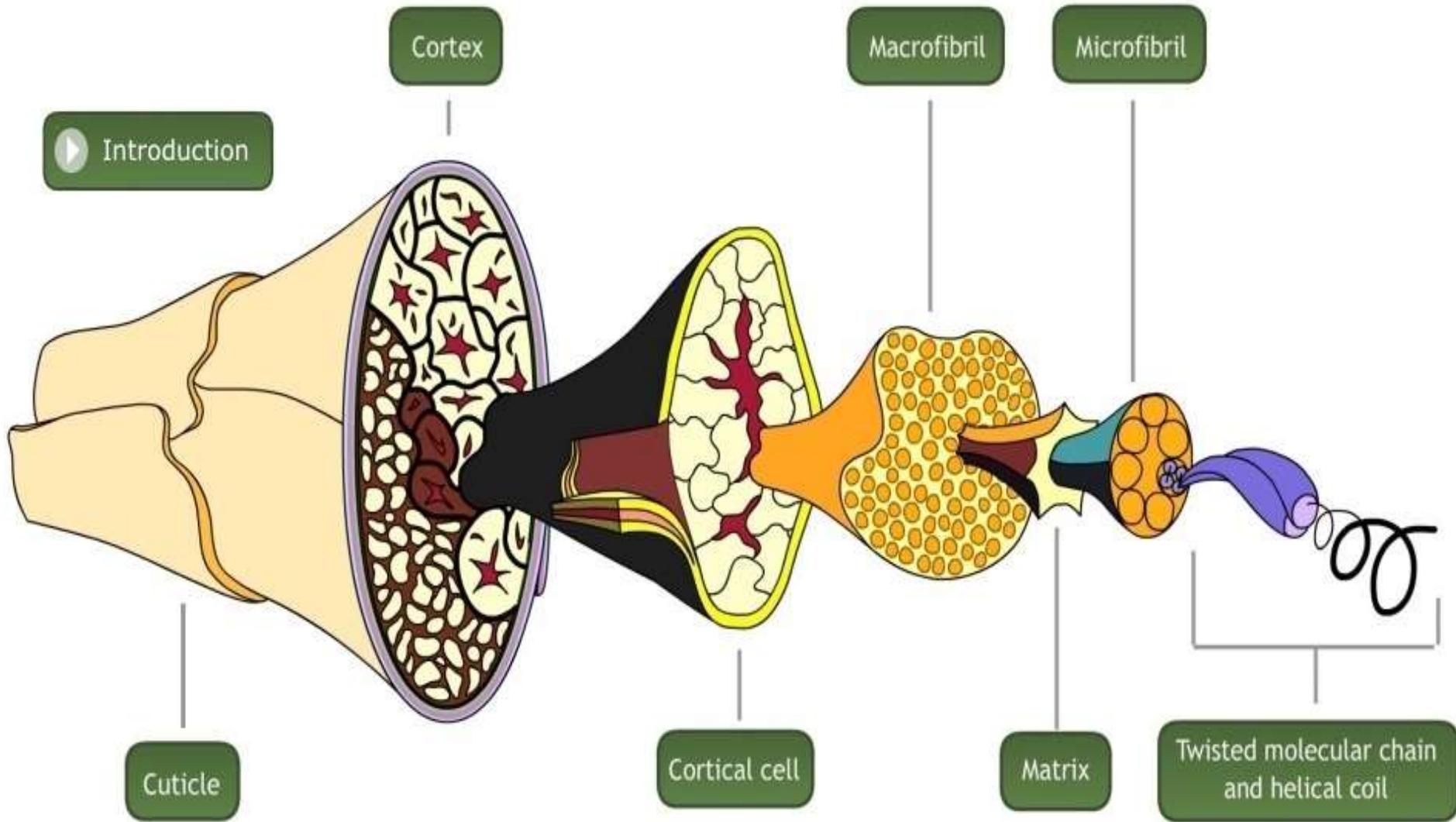
- **Cortex:** 90%, Ortho/Para-cortical cell

crimp of the wool fibre.

Ortho-cortical cells 50% of the cross-section.

methylene blue ortho-cortex absorbs more dye than para-cortex.

WOOL FIBRE STRUCTURE AND PROPERTIES



- Medulla: **Absent**

Coarse wool fibers has diameter greater than 35

micro

- **Kemp** : A coarser and brittle wool fibre, which is discontinuously growing fibre.

The tips are tapering, **chalky white** in appearance and fully medullated.

- **Suint** : A **fraction of impurities** of wool closely associated with yolk.

It is different from wool grease in that it is soluble in water.

WOOL TERMS

- **Shrinkage in wool** : it is the weight loss in raw wool when it is scoured. It is expressed in % of the original weight.

- **Crimp** : Natural waviness of a fibre.

Finer the wool more is the crimp.

Very fine wool has **22-30 crimp/inch** as per US grade.

- **Heterotype** : This is a fibre showing the characters of both fibre wool and also the hair.

That is in a single fibre a portion may be medullated and coarse where as the remaining portion may have no medulla and of fine quality.

- **Scouring** : Washing treatment of wool with detergent (Sodium carbonate) for removal of impurities from raw wool to obtain clean wool yield and is thus an indication of quality of wool.

Wool and Hair

S.No	Parameters	Wool	Hair
1	Fibre softness	More	Less
2	Thickness/Diameter	Fine	More
3	Growth	Continuous, if not sheared	Reaches a maximum and than "shed"
4	Elasticity	More	Less
5	Medulla	Almost absent	Present and pronounced
6	Cuticle	Irregular	Regular smooth
7	Heat retaining property	Retains more warmth	Relatively less
8	Moisture	Retains more (12 to 17%)	Retains less (07 to 12%)
9	Dyeing property	Permanent	Temporary
10	Lustre	More	Less
11	Inflammability	Slower and gives pungent smell	Faster and gives less pungent odour
12	Side edge	Profowljct outside like scales on fish, or Leg of	Smooth with no edges

Thank you