

THE TESTING OF TEXTILE FIBRES, YARNS AND FABRICS.

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SEA ISLAND COTTON is the best grade of cotton grown, being raised on the islands off the coast of South Carolina and Georgia, or directly on the coast, and has a staple of from $1\frac{3}{4}$ to $2\frac{1}{2}$ inches in length. Such of the cotton as is grown further inland has a staple of from $1\frac{1}{2}$ to 2 inches only. This cotton is used only in the manufacture of the finest of yarns and thread.

THE MAINLAND COTTON is the typical cotton of the world, and, as will be readily understood, varies with reference to fineness and length of staple according to the topographical condition of that part of the cotton belt where grown. Of this species of cotton, the Gulf or New Orleans, Bender's or Bottom Land varieties are the most important, varying as to length of staple of from 1 to $1\frac{3}{8}$ inches and running in special instances up to $1\frac{5}{8}$ inches in length. Mobile, Peelers and Allan Seed belong to the same variety and are next in importance, while Mississippi, Louisiana, Selma, Arkansas and Memphis cottons are slightly inferior. Texas cotton produces a fibre of from $\frac{7}{8}$ to 1 inch staple. Georgia, Bowed, Norfolk and Savannah cottons belong to the variety comprising what is known as Uplands cotton, having a length of staple from $\frac{3}{4}$ to 1 inch.

With reference to the EGYPTIAN COTTON, the variety known as brown Egyptian Cotton is the one extensively imported to this country. The color of this cotton itself varies from a dark cream to a brown tint, with a length of staple of from $1\frac{1}{8}$ to $1\frac{1}{2}$ inches, and is well suited for yarns for fabrics requiring a smooth finish and high lustre, *i. e.*, giving to fabrics produced from it a soft silk like finish.

Of the PERUVIAN COTTONS, the "Rough Peruvian" is the variety imported, on account of its strong, rough, wooly, crinky staple, about $1\frac{1}{4}$ to $1\frac{1}{2}$ inches long. This cotton is usually very clean and well handled, its chief use being for mixing with wool in the manufacture of merino yarns, for which reason, it is also called "vegetable wool" and when carded, its resemblance is so close and its characteristics so strikingly similar to wool that it would pass off as the latter. When woven

into goods, along with wool, the cotton fibres cannot be determined with any certainty, except by using chemical tests. When mixed with wool, it reduces the tendency of the goods, in which it is used, to shrink, makes them more durable, lessens their cost of production, besides giving them a superior lustre and finish; hence it is also frequently used in the manufacture of underwear and hosiery. For dyed goods it is equally suitable. Wild silks, when viewed under the microscope, may often present a flattened and twisted fibre, closely resembling cotton, hence the chance of a mistake, unless chemical tests are resorted to. Mercerised cotton closely resembles silk.

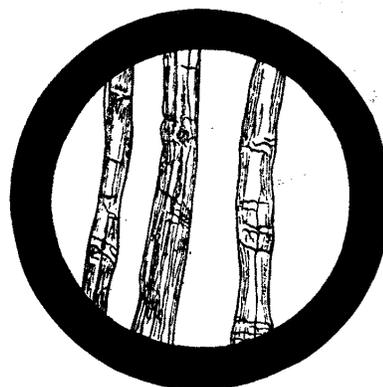


FIG. 6.

Flax, when viewed under the microscope, see Fig. 6, has the appearance of long grasses or reeds, with bamboo-like joints or nodes, arranged at regular intervals. The cell wall is regular in thickness and leaves a narrow internal channel, which, if visible, appears as a fine dark line. When bleached, the flax, *i. e.*, linen fibre, becomes snowy white and lustrous.

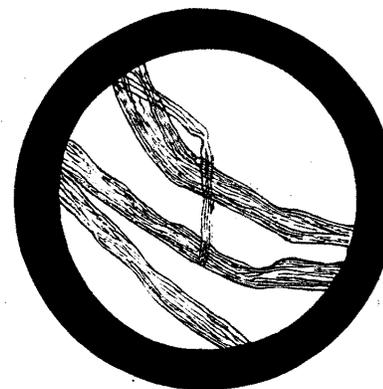


FIG. 7.

Jute, if viewed under the microscope, is shown to consist of stiff lustrous and cylindrical fibrils, the walls being irregular in thickness, with a comparatively large central opening. Fig. 7 shows specimens of jute fibres magnified.

Ramie closely resembles in its appearance, under the microscope, flax, in fact both being in many cases at a first glance, rather hard to distinguish, however, a more careful examination will show that the ramie fibre is generally coarser, the bamboo-like joints being larger and more marked, and of a rather different appearance to those of flax.

(To be continued.)