

Flax, (*Linum*), a genus of annual plants comprising the greater part of the natural order *Linaceae*; a native of Egypt, of some parts of Asia, and of the S. of Europe, not truly indigenous in Am., although now naturalized, and often occurring in corn-fields, which is the case also in many parts of the world. The most common variety of the F. plant has a very slender erect stem, 2 or 3 ft. h., branching only near the top, so as to form a loose corymb of flowers. The leaves are small, distant, and lanceolate; the flowers of a beautiful blue, rarely white, rather broader than a dime; the petals slightly notched along the margin; the sepals ovate, three nerved, ciliated, destitute of glands; the capsules scarcely longer than the calyx, not bursting open elastically, but firmly retaining their seeds, which are dark brown, glossy, oval-oblong, flattened, with acute edges, pointed at one end, and about a line in length. This plant is valuable both for the fibers of its inner bark and its seeds. The fibers of the inner bark, when separated both from the bark and from the inner woody portion of the stem, are F. or lint, the well-known material of which linen thread and cloth are made, and used equally for the finest and for the coarsest fabrics, for the most delicate cambric or exquisite lace, and for the strongest sail-cloth. The seeds yield by expression the *drying* fixed oil called linseed oil, so much used for mixing paints; making varnishes, etc.; while the remaining mass is the linseed-cake, or oil-cake, greatly esteemed for feeding cattle, and when ground to a fine powder becomes the linseed meal so useful for poultices. In 1810, when the pop. of the country was little more than 7,000,000, there were produced in the U. S. over 21,000,000 yds. of flaxen cloth made in families. At the present time, when the pop. of the country is considerably over 60,000,000, the total annual production of F. and linen fabrics is probably not over 5,000,000 yds. and not a yard of fine linen is made in this country. F. has been cultivated from time immemorial as a winter crop in India, but only for its seed, and not at all for its fiber. This remarkable circumstance is supposed by Dr. Royle to be owing to the existence of the cotton plant in that country, the fiber of which more readily offers itself to view on the bursting of the pod. But Dr. Royle also states his opinion that the climate of the greater part of India is unsuitable for the production of the fiber of F.; and the variety cultivated in India is only about 1 ft. or 18 in. in h., much branched, and yielding a very worthless fiber, while it is loaded with capsules, and the seeds yield a larger portion of oil than those of F. grown in Europe. It is sometimes sown as an edging around fields.

Flax, New Zealand, the *Phormium tenax*, a large per-



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ennial, liliaceous plant, native of New Zealand, grown for its fiber, which is used as a substitute for hemp. The fiber is obtained from the leaves, which are 2 to 6 ft. l. and 1 to 3 in. broad.

Flax-dress'ing. When the seeds are beginning to change from a green to a pale brown is the best time for pulling flax. Where the crop grows of different lengths, these lengths should be pulled and kept separately. The process first gone through after pulling is *rippling*. The next process is to obtain the flaxen fiber, or lint, free from the woody core. The flax is next to be freed completely of its woody particles. This is effected by *scutching*. Machine-scutching is much more certain and expeditious than hand-scutching, and is, in consequence, fast superseding it. After passing through the breaking-machine the flax is subjected to the action of a series of knives attached to the arms of a vertical wheel; these knives strike the flax in the direction of its length. The process is gone through three times before the flax is ready for the market. Although machine-scutching is expeditious, it is not capable of that pliant adaptation to the varying nature of the flax to be operated upon which is obtained in hand-scutching. The effect of machine-scutching is to produce fineness by reducing and impairing, rather than sustaining, the character of the fiber—viz., the length and fineness of its "staple" or fiber. To remedy these defects scutching by means of revolving brushes has been introduced. This divides the fiber without tearing it.