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## The Cultivation and Preparation of Flax.

(Continued from page 167.)

*Conversion of the Straw into prepared fibre.*—The first operation is that of separating the seeds from the stems, a process termed "rippling," which is effected by drawing the seeds of the sheaves through a stout ripple, or rib, firmly fixed on the centre of a bench or table, which allows of two persons to work at the same time. This is best performed when the flax is fresh from the field, but when the straw is dry and rigid by keeping, the seed-bolls are best separated by a "beater," which prevents the fibre from being broken and injured, and is used with care.

Various processes have been adopted for reeling the straw to prepared fibre, but they may be classed under two heads; the *mechanical*, in which the operations are conducted in a *dry* state, and the *chemical*, in which moisture and heat are more or less necessary. In the *mechanical* process the object is obtained by the different parts of the plant being mechanically separated from each other without any changes being effected; in the *chemical* process the plant itself is disintegrated, either by the action of fermentation, which destroys, or by the use of some solvent, which merely abstracts the cementing matter by which the several parts of the straw are held together. The dry or *mechanical* method can only be applied with advantage in case of inferior straw, and for coarse flax not requiring to be bleached, as canvas,

rick covers, rope-yarns, &c. The *chemical* or wet process "is effected in three different ways, in each a different principle is involved. The *first* is that where the separation is effected by simple fermentation, known as "steeping;" the *second*, where it is due to the abstraction of the nitrogenized extractive compound by the agency of chemical solvents; the *third*, where simply water, either heated or in the shape of steam, is made use of for the same purpose.' In the first, which is the oldest and still the most prevalent system, a destructive fermentation is carried on, either slowly or rapidly, according to the temperature of the water in which it is steeped, at the expense of the extractive matter of the plant, and offensive and noxious gases are generated; in the second, this matter is removed by the aid of chemical ingredients, which are costly, and never altogether efficient in their action; while, by the third, the separation may be effected without any chemical changes taking place in the composition of the plant, and all its several parts be left in an available condition.

The following description of the modes of preparing flax for manufacturing purposes as practised in the British Islands is taken from a Report of Mr. A. Kirkwood, who was deputed by the Canadian Government in 1854 to visit Europe with a view of ascertaining the most approved methods of growing and preparing this invaluable plant. Some subsequent improvements in matters of detail have been made,