3 H.—5.

price for coarse cloth, canvas, &c.; therefore it would not pay to send dry straw to Europe, as freight would have to be paid upon such a large amount of useless matter, even if there were no other reasons against it. (See answer No. 3.)

## 3. Best Mode of Packing and Pressing the Dry Straw.

It would not be practicable to send flax-straw a long distance; for it is very bulky for its weight, and it would be injured if it were pressed in packing, and would ferment and rot if pressed and enclosed in the hold of a ship for a number of weeks.

## 4. Price likely to be obtained for Fibre imported into Europe.

The price of fibre depends entirely upon its quality. The range of prices in the north of France is now about £40 to £160 per ton, the finest qualities making more. Some low Russian varieties can be bought as low as £30 per ton.

## 5. Machinery best adapted for Scutching the Flax, and for the Preparation of the Dried Straw.

Very little machinery is used in this part of France. The usual scutching-machine is very simple, consisting only of a number of arms like those of a windmill, mounted in a shaft. An elastic circular disc-scutch, with moveable rest, is recommended; and, as a straw-breaker, a machine of six sets of double rollers, fluted, each set finer in the pitch than the preceding, the last set smooth calendering rollers. This machine, invented by Messrs. Ireland and Honplines, and made by Messrs. S. Walker and Co., of Lille, is rather expensive.

The cultivation of flax is carried on to a considerable extent in this department, where it is the custom for the peasant, or cultivator, to sell the crop as it stands, and before it is ripe, to a flaxworker, who undertakes the pulling, steeping, and after-treatment, and who runs the risk of the crop ultimately yielding well or ill in quantity or quality. In the year 1874, 9,661 hectares were sown (the hectare equals 2.47 acres), and in 1877, 9,648 hectares. These figures show that the cultivation of flax has neither increased nor diminished the last few years in this district, although it is decreasing in France in consequence of the great expenses for labour, &c., &c.; for the cultivation and working of flax requires a large amount of labour, and somewhat skilled, or, at least, trained and practised labour, whether in preparing the land, weeding, pulling and handling the straw, or steeping and scutching it. The French workpeople, dealing with a very valuable article, use great care and skill, and bring out their produce in good style. Undoubtedly there would be a great future in store for those colonies where climate and soil are suitable for the growth of flax of good quality; but skilled labour would be required to properly prepare the fibre for the European markets. In the north of France the usual rotation for crops in soil of good quality is—First year, wheat; second, rye and turnips; third, oats; fourth, flax; fifth, clover; sixth, coloza; seventh, potatoes. On good stiff soils—First year, potatoes; second, wheat; third, flax; fourth, clover; fifth, rye; sixth, oats; seventh, buckwheat. On poorish sandy soils—First year, flax; second, rye; third, clover; fourth, buckwheat; fifth, carrots; sixth, potatoes; seventh, barley. On a rich loam, from ten to eleven years' rotation—First year, beet; second, oats; third, clover; fourth, wheat; fifth, flax; sixth, wheat; seventh, beans; eighth, wheat; ninth, potatoes; tenth, wheat; eleventh, oats.

Some of the finest flax is worked (scutched) near Lille (Department of the Nord); not always grown there, but brought from some little distance to be steeped in the River Lys, which is exceptionally favourable for the purpose, and where an entire population has for generations subsisted on

this industry.

There are three old processes for steeping, retting, or washing of flax. First, in a running stream; this mode produces the best of all flax. Second, in stagnant water; this produces a strong, good flax. Third, dew-retted. The practice of dew-retting, or steeping by exposure in the field without any water, is practised in some districts of France, and it is a method which might be preferred in a country where the offensive processes of water-steeping would not be tolerated, or where there is a scarcity of water. This system gives a large yield of fibre from the straw; but flax prepared in this way does not command a high price, being generally coarse, and having also some chemical disadvantages. The average value of river-retted flax is now from £70 to £140; highest selections, £240 per ton. Fibre retted in stagnant water is worth from £55 to £80 per ton; though in some cases higher prices are paid. Dew-retted fibre, from £48 to £65 per ton. Low qualities of Russian flax are sold much cheaper. The value of the coarse tow, or codilla, produced by the operation of scutching is from £12 to £30; in some qualities £30 to £36 per ton.

The following table shows the quantity of flax imported through the port of Dunkirk during the past four years:—

Year.						Kilos.
1875	•••		 	 •••		30,230,842
1876		•••	 	 		10,830,210
1877			 	 		28,266,012
1878			 	 	•••	22,937,194

Of the 22,937,194 kilos. (1,015 kilos. equal one ton) imported in 1878, about 90 per cent. came from Russia. The reason of the small importation in 1876 may be briefly stated as the consequence of the crop of 1875 being bad both in quantity and quality, and manufacturers bought as little as possible of it. The reduced importation during the past year was owing to the depressed state of trade, the flax manufacture suffering in common with almost all other industries; but, though trade was bad in the north of France, yet it did not suffer to anything like the same extent as in England. Flax is at present below its normal value, for there has during the past year been a drop of from 10 to 25 per cent. in prices.

Armentieres is the chief centre of the linen manufacture, in this department from 8,000 to 10,000 power-looms being at work, each hundred looms employing 110 workers, independently of a great number of hand-looms in the rural districts. In Lille there are about 2,000 power-looms, and over a