

It is a well-known fact that wool when growing is preserved by nature with an oily substance called "yolk," containing a large quantity of potash, and usually termed grease. The proportion of grease in unwashed wool varies from 60 to 70 per cent., which has to be removed before the wool fibers are ready for manufacture. In enabling the manufacturer, where scouring is attempted, to get the best possible results, I propose, says the Bradford correspondent of the *Indian Textile Journal*, to give the best method known in wool scouring so far as cleaning agents are concerned, so that the delicate fibers of the wool shall not be injured, and its natural brightness be left unimpaired.

The experience of woollen and worsted manufacturers whose products are standard in the trade, point to the fact that the best agent for scouring is a good potash soap, which, while leaving the actual weight of the real wool undiminished, gives a soft, silky handle obtained by no other treatment, and which is so much appreciated by wool buyers.

If soda soap is used in scouring, the wool, besides turning yellow, will become harsh and brittle, while, on the other hand, potash (which is natural to the wool) made with tallow into a neutral soap in the manner described further on, will be found to be the best in every way.

The materials and proportions for three tons of the best potash soap are as follows:

	£.	s.	d.
Half ton caustic potash at £25 per ton.....	12	10	0
Half ton soft water.....	0	0	0
Two tons tallow at £20 per ton (English price) .	40	0	0
Total cost	52	10	0

Costing £17 10s. per ton, or 178d. per pound.

To make the finest potash soap for wool scouring, washing woollen flannel goods, etc., take 20 pounds of caustic potash, and put the contents into an iron or earthenware vessel with an equal quantity (20 pounds) of water, as the potash dissolves, the mixture (or lye as it is called) will become heated, but it must not be used until it has become only warm, or about 90 degrees F. In a sufficiently large iron pan, melt 80 pounds of tallow free from salt until the whole is liquid: the heat of this, though warmer than the lye, must only be about 120 degrees F. Now pour the potash lye in a gentle stream into the melted tallow (not the tallow into the lye), stirring it with a wooden stirrer all the time, and continue to stir until the whole appears to be perfectly smooth and combined, which will be in a few minutes. This mixing may either be done in the melting pan after withdrawing the fire, or in a wooden barrel, as may be convenient. Now pour the mixture into any suitable square box, lining it with damp calico to prevent it sticking to the sides, wrap the box up with flannel, sheepskins or something of a warm nature to retain the heat, and put it in a warm place for a week (during this time a chemical reaction takes place, re-

sulting in its slowly changing into 120 pounds of the best hard potash soap), after this it may be cut into bars, and though ready for use it has the merit of improving the longer it is kept.

A method of wool washing which is coming into use in Germany is that by means of water glass (silicate of soda), which is rapidly taking the place of the old method. The greasy wool is placed in a large receptacle containing water rendered slightly alkaline. This fluid is either a mixture of soft water and urine or a solution of white curd soap in soft water of a diluted solution of soda ash. The scoured wool is withdrawn and put into a receptacle with clear water, in which it is rinsed until the wash water escapes clear. After the wool has been washed it must be whizzed and dried in a place shaded from the sunlight, which has a tendency to turn the material sometimes yellow. In the water-glass process care must be taken not to have the temperature either of the water or of the water-glass higher than that of the soap and soda bath. When washing in the "Leviathan," add water-glass only, but no soda or soap to the first bath in which the wool is steeped. Into the second bath put one-half soda and one-half water-glass. It is advisable to previously squeeze out the liquor before the wool is treated cold in the washing machine, because by keeping this wash liquid warm it can be used twice as long as soda or soap liquor. Wool washed with water-glass always appears whiter and more open than with the ordinary process. It is also softer to the feel when it is squeezed out well before being washed cold.

The following method is also very popular in German mills: The wool is steeped in a receptacle provided with two compartments. When one portion of the wool has been steeped sufficiently (often three hours), it is placed in the washing machine and passed through two compartments filled with water of a successively higher temperature until the wool reaches another receptacle filled with cold water, in which it is rinsed. When rinsed clean, the wool is caught up by an apparatus raising it from the water, and it is passed between two rollers which squeeze out the water. It is then often taken and whizzed in a hydro-extractor and finally dried in a strongly-heated and well-ventilated room or chamber.

—The number of sheep in the Province of Ontario sold or slaughtered according to the report of the Department of Agriculture was in 1897, 732,872, and in 1896, 766,896, the wool clip in 1897 was 5,139,984 pounds as compared with 5,581,387 pounds in 1896. In Manitoba the number of sheep, from the assessment roll, was 38,680 in 1897 and 33,812 in 1896. The number of sheep in the United States is not at present increasing. In 1893 there were in the United States 47,273,553 sheep, valued at \$125,909,264, in 1895 there were 42,294,060 sheep valued at \$66,625,767, and in 1898 there were estimated to be 37,056,960 sheep valued at \$92,721,133.