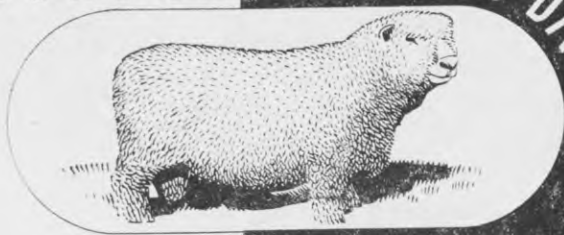


# ANY FUTURE ON A SHEEP'S BACK?



## ARTIFICIAL FIBRES WILL BE BIGGER FACTOR AFTER WAR

By W. R. LANG, in *Salt*, Australian Army Education Journal

SAY YOU are a shopkeeper, selling a number of lines, one of which makes up over half your total sales. If your customers begin to tell you that somebody else is selling a substitute at half the price, you begin to ask questions about your own product and about the substitute. This is the Australian woolgrowers' worry to-day. Australian wool formed about one-half of all Australian exports. Australians have been hearing rumours about synthetic fibres. They have been forced to use them because of war conditions in the wool textile trade. Now they are beginning to ask questions about wool and these synthetic fibres.

Until sixty years ago the whole textile field belonged to the "natural fibres"—wool, silk, cotton, flax, hemp, and so on. In 1884 Chardonnet, a Frenchman, produced the first artificial fibres from nitrocellulose. This was the first of the rayons (or cellulosic artificial fibres), now common in stockings.

Cellulose is a very cheap raw material, forming part of the walls of vegetable cells, in trees, cotton, bamboo, hemp, straw, &c. In bulk production cheapest sources of the rayons are wood pulp and cotton linters (very short cotton fibres). To produce them the wood pulp or cotton linters are transformed into chemical solutions of cellulose, which are pressed

out through tiny holes into spinning baths, or warm air, forming threads of rayon. Rayons have been called "artificial silk" and "wood wool." But their basis is cellulose, whereas silk and wool are "protein." Gradually scientists found that cellulose had very definite limitations, and attempts were made to coat the fibre surface with protein material, to get better effects. This in turn led to the use of cheap sources of protein material for a new group of artificial fibres—the protein artificial fibres.

Protein is the solid constituent of animal tissues, plant cells, and other products of animal and plant. Like cellulose, it occurs in many cheap forms. Among these are fish-oil, soya beans, castor-oil, corn-meal, milk casein. "Milk wool" was made by the Italians from milk casein; its best-known form is called "Lanital." These protein fibres were evolved only in the 1930's.

The manufacturers of these new fibres argued this way: we haven't got the pastures and the sheep, or the silk-worms and the mulberries, or the cotton plantations, but we can turn some of our other resources into fibres, and so get around the difficulties of geography and economic boundaries and, at the same time, make some of our own cheap or useless materials pay handsome dividends.