been possible to demonstrate what is the particular factor or factors involved in the production of these fibres, but it is evident that in some cases at least it may be a combination of several circumstances. The question arises immediately whether or not it will be wise to eliminate completely this type of fibre from the fleeces of our crossbred sheep, especially those which have to live under the severe conditions that exist on some of the less-developed country. Under these circumstances the wool is subjected to rather rough usage by coming into contact with logs, scrub, and second growth, while at the same time the nutritional conditions are frequently not up to the standard required for the production of good wool. The greater proportion of the rams used in New Zealand are bred on the better class of country, but, in the case of flock rams in particular, many of them are used on the poorer country. While the breeder of such rams may have good country and no such difficulties to contend with, he must remember when considering wool-improvement where his flock rams have to be used. It would be a decidedly false step if the improvement of the wools on the stud sheep might lead to unsatisfactory wool on the greater number of flock sheep.

It is not meant by this that no endeavour should be made to improve so valuable a product as wool, but a note of caution is struck that the seemingly obvious step of eliminating completely these undesirable fibres might not be the wisest in the end. Attempts at wool-improvement in England and Scotland have demonstrated clearly that it is not always wise to try and bring about the improvement that appears on the surface to be most desirable. However, medullated fibre certainly should be reduced to that minimum which is compatible with a useful and payable fleece. It has to be remembered that the return for wool is a composite of its quantity and quality, and thus any improvement in quality must not be carried out at the expense of quantity, otherwise the returns will not justify the change.

Factors of Breed.

Some manufacturers have blamed the Romney breed for the production of most of the undesirable wool grown in New Zealand, but, while this breed must take a portion of the blame, it is obviously unfair, as will be seen later, to charge any one circumstance with all the responsibility. The primitive breeds which were the ancestors of our present domesticated sheep had two coats of wool—a hairy outer coat for protective purposes and a fine undercoat for the retention of heat. The popular theory is that man's selection, aided by environmental changes, has resulted in the outer coat being suppressed and the under coat greatly developed. Whether the hairy fibres found in New Zealand wools have any connection with this primitive outer coat is not known, but it is maintained by some that, in the case of our long-woolled breeds, the suppression of the hairy outer coat has not been so complete as in the case of some of the shorter and finer woolled breeds such as the Merino. The genetical factors concerned with the production of hairy fibres in the fleece are possibly recessive in character, and therefore will be brought out more prominently when back-crossing is reverted to in breeding practices.