

LEATHER AND SHOE RESEARCH

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LEATHER RESEARCH ASSOCIATION

Quality of Sole Leather.—The results obtained in the field trials during the year indicate that the wear life of a sole bears a definite relation to the amount of hide substance per unit area—*i.e.*, per square centimetre. The conditions of wear vary so considerably that it is to be expected that exceptions will occur. Many of these apparent exceptions, however, may be capable of explanation, provided a full history of their wear is available.

Comparisons in actual wear between different types of leather have been based on the relative loss of hide substance worn from soles. Judged on this basis, there was, on the average, surprisingly little difference between the contrasted soles worn as a pair, no matter what the tannage or the stage of processing at which the leather was taken. Should this conclusion be confirmed by a larger-scale trial, then the length of life of a sole will bear a direct relation to the amount of hide fibres in the sole to be worn away. An implication of this conclusion is that normal processes in tanneries do not affect appreciably the wear life of a piece of sole leather. They can affect the quality of a sole—*i.e.*, the number of days' wear per unit thickness. This conclusion only affects wear value and does not in any way imply that the other qualities, as selling features, are not affected by the different tanning processes.

The results of another field trial have shown that, judged on the basis of loss of hide substance, vegetable-tanned sole leather which has been impregnated with wax will give about 20 per cent. longer wear than ordinary vegetable-tanned sole leather. An investigation into the practical difficulties is being carried out.

Finishing of Upper Leather.—During the year some of the fundamental properties of some of the water pigment finishes being used have been examined and results of practical value have been obtained with regard to fastness to wet and dry rubbing.

Curing of Calf-skins.—In recent years trouble has been experienced with the curing and storage of calf-skins. By suitably altering the processing of the skins during tanning, the effect of the trouble is removed. The evidence available is very conflicting, sometimes indicating bacterial action and sometimes chemical action due to impurities in the salt. Stored skins after being treated with brine containing sodium pentachlorophenate were in most cases appreciably better than those stored the previous year without this bactericide, and the suggestion was made that the amount of sodium pentachlorophenate be increased and that, in addition, sodium fluoride be also added.

General Work.—The close contact between the laboratory and the tanneries has been maintained during the year by the usual periodical visits and by analysing and testing liquors and leathers during the processes of production.

SHOE RESEARCH ASSOCIATION

Fitting of Shoes.—The Shoe Research Association has co-operated with the Standards Institute and others in designing a suitable measuring instrument for a survey of children's feet, and has examined some of the results of the preliminary survey.

The results of this examination indicate that valuable information will be obtained from the complete survey which can be applied advantageously in the construction of lasts.

Leather for Insoles.—An investigation has been commenced on the types of leather most suitable for insoles from this aspect—that is, the type of leather which will most readily respond to the impression of the foot. So far the results indicate that the most suitable type of leather from this aspect has also the very desirable features of porosity to perspiration, which ensures comfort of the foot in another important direction.