

Circular Letters.

During the year the hundredth issue of the usual monthly circular letter was sent out. These letters deal with the results of investigations carried out, research work overseas, and other matters of current interest in connection with leather and allied trades.

PELT RESEARCH.

As our knowledge of hides and skins is increasing, the more evident it becomes that for a tanner to make the skins into the most suitable types of leather the more must he know about his raw material. This is well illustrated by a result described in a previous annual report. Pinhole pelts were considered as being of low-grade quality, and as such were used for the manufacture of cheaper kinds of leather. Actually if made into the type of leather for which they are most suitable they are a high-grade pelt.

There are generally accepted ideas regarding the effect of feeding, breed, climatic conditions, or season in which the animal is killed on the various qualities of hides and skins, but little connected research on these problems has been carried out. Much remains to be done along these lines before the tanner can with a fair degree of certainty make his raw material into the type of leather for which it is most suitable. This probably applies more to sheep-skins than to hides.

Seasonal Variation in Lamb-skins.

During the season 1935-36 about six dozen pelts were collected at monthly intervals. When complete a cask of skins was sent to England for a report on the quality aspect of the leather made from them. A microscopical examination of the untreated skins disclosed marked variations in the structure of the skin, especially in regard to the sudoriferous glands.

In the foetal lamb the sudoriferous glands are only very slightly developed. After birth there is still little necessity for them to function, since the weather is generally cool. As the lamb and its wool grow and the weather becomes warmer the sudoriferous glands begin to carry out their function of keeping the body cool when necessary. During the summer the glands have to produce a large amount of perspiration, and so they form a very prominent portion of the skin structure. When the colder weather of winter arrives the necessity for perspiration decreases and the glands decrease in size.

During the process of manufacture of leather these glands are destroyed. Consequently, when they occupy a large portion of the skin, it would be expected that the resulting leather would be of a spongy type. Where the glands are more or less in a quiescent stage, it would be expected that the leather would be tighter in texture.

Late-season pelts are generally thinner than those produced earlier in the season. As such they have been regarded as of inferior quality, and have commanded a lower price. From the microscopical examination of the monthly samples of skin it would seem that late season's pelts should be more suitable for certain types of leather than those produced earlier in the season.

The report from London on the trial cask of skins mentioned above has confirmed the above conclusion. For one type of leather late season's pelts obtained in May were worth 3s. per dozen less than the others. For another type of leather May pelts were valued at 1s. 10d. per dozen more than the others. Should this result be confirmed in a more extended trial being carried out this season, then the late season's pelts should command a higher relative price than previously, provided that they are made into the most suitable type of leather.

In carrying out this season's collection of monthly samples of skins in two freezing-works, pieces have again been examined microscopically. The colder summer has had the expected effect on the development of the sudoriferous glands—viz., there being less necessity for them to function, the glands are generally not so highly developed. Should the report on the finished leather confirm the conclusions made from this condition, then not only is seasonal variation in the quality of lamb-skin important, but the climatic conditions under which the animal has lived prior to slaughter also are very important.

Breed Trial.

In conjunction with Lincoln College, a shipment of skins which have been taken from lambs of definite known crosses has been sent to England. This has been arranged to determine how far breed affects the quality of the skin from the leather point of view. The microscopical examination of the skins has shown two distinct types, which should be reflected in the quality of leather produced.

Effect of Shearing.

In past years efforts have been made to determine what effect shearing has on the structure of the skin. As a rule, sheep are not slaughtered until a period of four to six weeks has elapsed after shearing. During this time the wool has grown somewhat, and in normal seasons the weather has become much warmer. It would be expected that if the effects of shearing were of a temporary nature, then under the conditions described above very little difference would be noticed. Such was found to be the case.

The comparatively cold climatic conditions after shearing in 1936, however, enabled a distinct difference to be noticed. Shearing was found to reduce considerably the size of the sudoriferous glands, and in this way would affect the quality of the leather produced. Since shearing has a similar temporary effect on the animal as a change from summer to winter, the observed effect is in agreement with the previous results on the effect of seasonal variations.