

# A NOTE ON THE PEROXIDE VALUE OF LANOLIN

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Received November 27, 1961

The peroxide value of lanolin is reduced to a low figure by heating at 100° for short periods. This effect is sufficient to explain the low peroxide value of wool wax extracted from wool scour liquors, and may be utilised to prepare low-peroxide lanolin for special purposes, such as the manufacture of penicillin ointment.

CLARK and Kitchen (1961) noted that wool wax on the fleece is highly autoxidised and has a high peroxide value, whereas the wax recovered by centrifuging wool scour liquors is invariably of low peroxide value. From peroxide values of waxes recovered from scour liquors after various treatments, they concluded that peroxides are reduced by chemical or biological reducing agents in the scour liquor, or both.

It is shown here that simple heating of wool wax causes reductions in peroxide value of similar magnitude to those measured by Clark and Kitchen.

## RESULTS AND DISCUSSION

Peroxide values, measured by the A.O.C.S. (1960) method, and expressed as ml. of 0.002N thiosulphate per g. of sample, are shown in Fig. 1 for several different samples of wool wax after heating for various times at 100°. Comparatively short heating times are sufficient to reduce the peroxide values below 10.

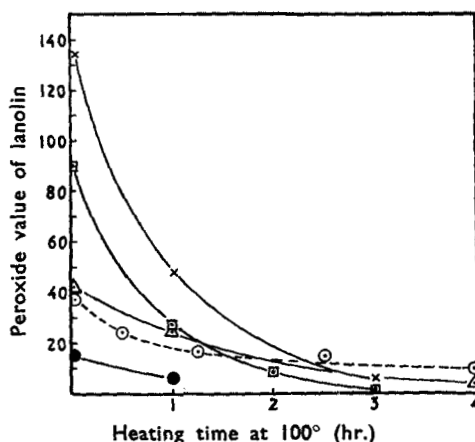


FIG. 1. The effect of heating on the peroxide value of lanolin.

○ Surface layer of unbleached lanolin. × Surface layer of wool wax obtained by acid cracking. △ Wool wax extracted from Merino fleece with solvent. □ Lanolin bleached with sodium chlorite. ● Data of Clark and Kitchen (1961).

## THE PEROXIDE VALUE OF LANOLIN

In the usual process for recovering wool wax, a scour liquor, originally at 50°, is heated almost to the boil, centrifuged and recycled to the scour bowl. Wool wax removed in the centrifuge is subjected to only one heating cycle, but we have found this wax to be a special fraction containing only unoxidised material so it would not be expected to have a high peroxide value. The remainder of the wax, including all the oxidised material, is not removable from the liquor by ordinary centrifuging, and passes the heating-centrifuging cycle many times before the liquor is discarded. A typical sample of liquor will therefore contain wool wax which has had an exposure of 1 hr. or more to temperatures of 90–100°. This heated wax is recoverable from the liquor by the ether extraction of Clark and Kitchen, and in accordance with the results given in Fig. 1 would be expected to have a low peroxide value.

On this basis the normal thermal treatment of scour liquors is sufficient to explain the low peroxide value of wool wax recovered from them. Reduction by chemical or biological agents, or both, in the liquor may take place, but its effect on peroxide value is probably small compared with the effect of heat.

If a lanolin of low peroxide value is required for a particular purpose, for example in the preparation of penicillin ointments (Diding and Sandell, 1949), it can be obtained from any otherwise suitable grade by a simple heating procedure.

### REFERENCES

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