

three out of 17 remained alive, and their average weight was then only 106lb. Of the treated ewes, those receiving 1 mg. of cobalt twice weekly did much the best, while the monthly drenched groups were arranged in order of the size of dose. One ewe in the group receiving 10 mgs. of cobalt per month died of "bush sickness." The only other death was a ewe in the group drenched twice weekly which died at lambing. The average weights at the start and the end of the experiment are shown in the following table. The rather wide divergence in initial weights is due to the fact that the groups were picked on the basis of lamb weights.

Treatment.	Ave. weights	
	26/10/39	13/2/41
Untreated controls	147	106
1 mgm. cobalt twice weekly	115	167
10 mgms. cobalt once monthly	129	127
50 mgms. cobalt once monthly	149	148
140 mgms. cobalt once monthly	128	143

Graph 3 shows the growth of the 1939 and the 1940 lambs from the above ewes. In addition, data for lambs from a paddock topdressed with cobaltised superphosphate have been graphed for both years, and for 1940 a group

of lambs receiving cobalt lick has also been included.

In 1939 all of the controls died from "bush sickness" during January, February, or March. No deaths from "bush sickness" occurred in any of the treated groups, but the lambs in the groups drenched once a month did not do nearly so well as those drenched twice weekly or those grazing on pasture topdressed with cobaltised superphosphate. The average liveweight on October 24, 1940, of the lambs drenched twice weekly, those grazing on pasture topdressed with cobaltised superphosphate, and those receiving 140 mgms. of cobalt once a month were 136lb., 129lb., and 91lb. respectively.

In 1940, similar results were obtained. When the experiment terminated on February 13, 1941, the average weights were as follows:—Drenched twice weekly, 88lb.; grazing cobalt-topdressed paddock, 93lb.; cobalt lick, 69lb.; 140 mgms. of cobalt once monthly, 67lb. The low average weight of the lambs on cobalt lick was due to the fact that several of these lambs were obviously not taking the lick. The heaviest lamb in this group was 92lb., but there were three lambs under 50lb., the lightest being only 31lb.

Summary

(1) Drenching at monthly intervals with very large doses of cobalt will keep ewes and lambs alive on "bush sick" country and will even cure "bush sickness."

(2) Lambs treated in this way do not grow nearly as rapidly as those drenched once or twice weekly or those grazing on pasture topdressed with cobaltised superphosphate.

(3) Monthly drenching with very large doses of cobalt gave results similar to those obtained from giving free access to cobalt lick. It was, however, more expensive, as the drenched lambs received about fifty times as much cobalt as the lambs on lick.

(4) In view of the above results, monthly drenching should not be practised where topdressing is possible or where sheep will take licks.

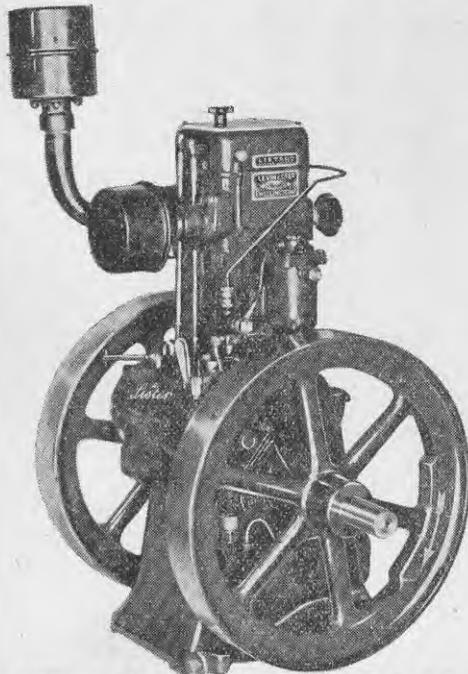
(5) If, for special reasons, it is necessary to resort to monthly drenching, the drench should be made by dissolving 1lb. of cobalt sulphate in one gallon of water. The monthly dose for both ewes and lambs is half a fluid ounce. It is absolutely necessary to drench the ewes as well as the lambs.

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