

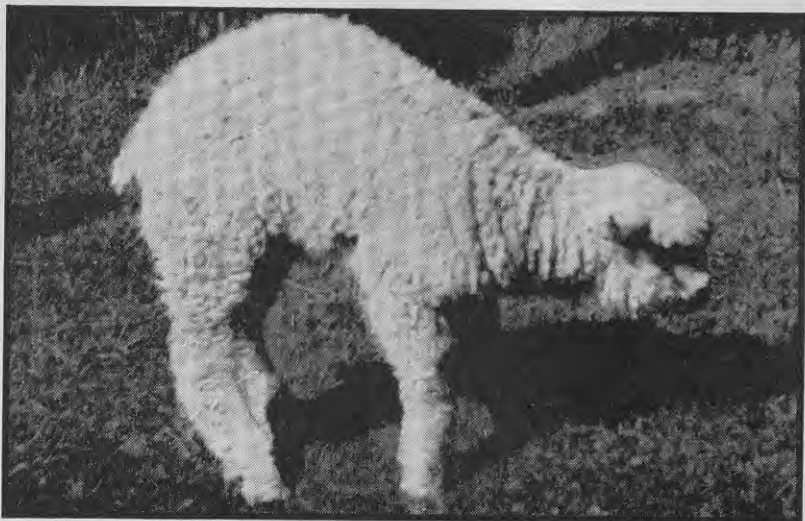
White Muscle Disease of Lambs and Hoggets

WHITE muscle disease is a condition which affects lambs (stiff lamb disease), hoggets, and calves, and which is characterised by a stiff gait and occasionally sudden death in animals in which the heart muscle is affected. Though there is no record of the disease in calves in New Zealand, this is the only country in which it has been recorded in hoggets; no cases have yet been reported in the North Island. In this article D. C. Dodd, Veterinary Research Officer, Department of Agriculture Animal Research Station, Wallaceville, describes the symptoms and causes of the disease and treatment and prevention methods.

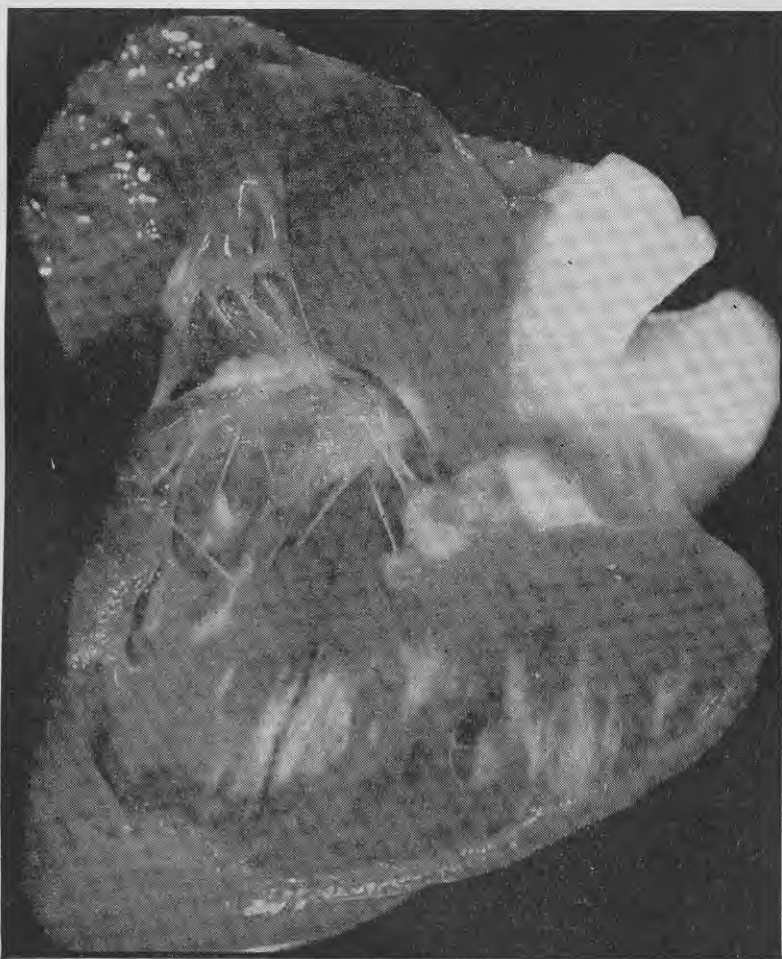
WHITE muscle disease has been recorded in the South Island since 1950, but it came into prominence because of its wide distribution and increased incidence during the latter part of 1953.

Conditions of Occurrence

In both lambs and hoggets increased muscular activity is usually necessary



Typical posture of a lamb with stiff lamb disease.



Heart of a lamb, showing the white patches where the muscle fibres have degenerated.

before the clinical signs of the disease are evident, but it is by no means always essential. Muscular activity is thus only a precipitating factor which causes muscles already damaged to show outward signs of the changes which have taken place in them. This increased muscular activity occurs in hoggets when they are driven to pasture after wintering on turnips and in lambs when they are driven or rounded up for marking; thus most cases occur in lambs at 3 weeks of age. The disease has occurred in lambs in the Nelson and Canterbury districts and in hoggets in South Canterbury, Otago, and Southland. The incidence in any one flock can be up to 10 per cent. or higher on occasions.

There seems little doubt that the cause of white muscle disease is a deficiency of vitamin E (a-tocopherol), either absolute or induced by one or more anti-vitamin E factors. Experimental work will have to be done to prove that this is true in New Zealand, but both the clinical and post-mortem findings are identical with those found in England and the United States and in artificially induced vitamin E deficiency in lambs.

Clinical Signs

Clinical signs of the disease are as follows:—

In lambs the age incidence is from the first week to at least 12 weeks after birth, with the majority of cases occurring at about 3 weeks. Obviously affected lambs have a stiff, stilted gait and arched back and tend to walk on the front of the hooves (see illustration on this page). They are disinclined to move about and spend much time lying down. All degrees of severity occur, so that in mild cases the lamb differs only slightly from normal, whereas severely affected lambs are unable to rise and if not attended to, invariably die from either starvation or pneumonia. Sudden deaths may occur in apparently normal lambs,