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A NOTE CONCERNING THE EFFECTS OF EWE NUTRITION AND COLOSTRUM DEPRIVATION ON YOUNG LAMBS

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ABSTRACT

Twin Scottish Halfbred × Suffolk lambs born to well-nourished ewes suffered no ill effects, in terms of growth rate or serum immunoglobulin levels, when deprived of colostrum for periods of up to 9 h after birth provided they received adequate colostrum after the deprivation period was completed.

Poor ewe nutrition during the last 8 weeks of pregnancy, when combined with 9-h periods of colostrum deprivation, adversely affected serum immunoglobulin levels and appeared to increase mortality.

WORK with calves has shown that the early intake of colostrum is essential if circulating antibody levels are to be adequate (Logan, 1974). Ducker and Fraser (1976), using the zinc sulphate turbidity technique, indicated that this was not the case in lambs, where colostrum deprivation for up to 18 h after birth did not adversely affect antibody levels or growth rate provided that colostrum intake was adequate once feeding commenced.

The present experiments were undertaken to confirm these conclusions and to examine the effect of two levels of ewe nutrition in late pregnancy. In March 1976, 64 Scottish Halfbred ewes in late pregnancy were given a diet of good quality hay (10·0 MJ metabolizable energy (ME)/kg) *ad libitum* and an increasing level of concentrates (20 kg/ewe in the last 8 weeks of pregnancy). They were lambed indoors and 31 pairs of twins were divided at random into three groups: a control group which was allowed access to colostrum immediately after birth; a group which was not allowed to suckle until 5 h after birth; and a group which was not allowed to suckle until 9 h after birth. After cessation of deprivation, care was taken to ensure that every lamb obtained adequate colostrum. The effects were monitored by measuring lamb weight changes and serum immunoglobulin levels using the single radial immunodiffusion technique of Fahey and McKelvey (1965). Lamb deaths were recorded up to 3 weeks after birth. The results obtained are summarized in Table 1.

The deprivation treatments affected lamb weights during the 48 h following birth, but not thereafter, and lamb mortality did not increase with increasing