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Calf Note #74 – Colostrum & growth of calves

Introduction. Colostrum has been a favorite topic for “Calf Notes”. The importance of colostrum feeding and transfer of passive immunity cannot be overstated and many Calf Notes have shown the relationship between serum IgG concentration and morbidity and mortality. However, two studies reported at the 2001 Joint meetings (including the American Dairy Science Association, American Society of Animal Science, Poultry Science Association and American Meat Science Association) give clear evidence that colostrum feeding is important not only improving health and survival, but to improve the growth of calves as well.

This is an important concept. Several older studies have failed to report a significant effect of serum IgG content on growth. However, these could have been affected by a number of factors, including small numbers of animals, differences in management during the growing period and other factors.

The first study at the Joint meetings was from Georgia. Two hundred and forty-four beef calves (Angus, Polled Hereford and crossbred) were sampled at 1 day of age and then weaning weight was measured at 205 days. Calves were grouped into three groups – superior passive transfer at 1 day of age (>16 g of IgG/liter of serum), marginal to adequate (4 to 16 g/L), and inadequate (< 4 g/L). When measured at 205 days of age, calves in the superior category were 14 kg (31 lbs.) heavier than the calves in the marginal to adequate group and 29 kg (64 lbs.) heavier than the calves in the inadequate group. Interestingly, calves in the superior group were heavier than other calves during the growing period, indicating that these calves grew faster than other calves even at an early age.

In the second study reported at the Joint meetings in Indianapolis, Polish researchers studied 115 calves. Calves were weighed and blood was sampled to measure serum IgG concentration. There was a highly significant positive correlation between serum IgG concentration measured at 2 days of age and body weight measured at 200 days of age. This means that the higher the serum IgG concentration, the more the calves weighed at 200 days of age.

Colostrum feeding is important – calves should be fed an adequate amount of colostrum as soon as possible after birth. If you pay attention to calves in the first day, you’ll have happier, healthier and heavier calves. What a deal!

References:

Vann, R. C. and J. F. Baker. 2001. Calf serum IgG concentrations affect weaning performance. J. Dairy Sci. 84(Suppl. 1):223-224(Abstr.).

Jarmuz, W., I. Szelag and R. Skrzypek. 2001. Relationships between concentration of serum immunoglobulins and growth rate of dairy heifers. J. Dairy Sci. 84(Suppl. 1):432(Abstr.)

**Written by Dr. Jim Quigley (29 July, 2001).
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