

Colostrum Management Drives Production Profits

The Study: 1000 calves were evaluated for passive transfer immunoglobulins (IgG) at 1 to 2 days of age. Immunoglobulins are measured by the scientific community in milligrams of antibodies per deciliter of blood (mg/dL).

Passive transfer success is a sign of immunity status. This in turn reflects the ability of a calf to fight off disease. Calves were followed through to first calving and 180 days into their first lactation.

The Results:

- Age at first calving (AFC): Average AFC was 26.5 months. Most calving took place between 24.5 and 28.5 months. There was NO effect of calf IgG levels on AFC.

- Milk Production:

The higher a calf's IgG level, the more milk she produced her first lactation. Each 100mg/dL increase in calf IgG predicted 8.5 litres more milk. For example, a heifer with an IgG level of 1800mg/dL compared to one with an IgG level of 800 produced in the first 180 days 85 (8.5 x 10) litres more milk.

- Herd Survival: Heifers with calf IgG levels below 1200mg/dL had 52% higher combined death losses and were 52% more likely to be culled.
- £££ Comparison: The benefit of having heifers starting life with a high IgG (more than 1200mg/dL) compared with a low IgG (less than 1,200 mg/dL) is:

Net difference for this dairy, total = £23,873

Net difference for this dairy, per heifer = £53.77

Reference: S.K. DeNise, J.D. Robison, G.H. Stott and D.V. Armstrong, " Effects of Passive Immunity on Subsequent Production in Dairy Heifers." 1989 Journal of Dairy Science 72:552-554

Calculations: Net difference for this dairy, total = difference in death loss (£14,000) plus difference in milk productions between groups (£23,873). Net difference for this dairy, per heifer = net difference for this dairy, total divided by number of heifers post-culling with complete records (444). Death and culling losses were computed at 14 greater losses for the low group compared to the high group valued at a net loss of £1,000 (herd value of £1,590 less salvage value of £590) or £14,000 total. Milk production was computed for each group above 1200 mg/dL using average total protein levels and actual post culling heifer numbers. Higher IgG levels resulted in about 65,500 extra litres of milk. Valued at 26.16p/l this equals £9,873.

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