

Evaluating Calf Health in Group Housing

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Introduction

Group housing is a newer approach to managing dairy calves. The system allows for more animals to be cared for on a 24 hour cycle where feed is automatically prepared and distributed. The concerns often mentioned from this management system are the potential effects on health when calves are ill and have continuous contact with other calves (Svensson et al, 2006). The level of morbidity in animals is considered a measure of welfare (Fraser and Weary, 2004). Automatic feeders are a tool that can help identify sick calves (Borderas et al, 2009). As with any livestock animal, group housing does not remove the need for a good manager to overlook the calves, especially when their immune systems are immature leaving them susceptible to disease.

Materials and Methods

Animals, Housing and Feeding

One hundred and twenty three calves sourced from local dairy farms were housed in a coverall building located in Woodstock, Ontario. All calves were female Holsteins between the ages of 2 and 10 days.

Calves housed individually (57) were kept in a pen 2.2m²(24ft²). Calves had two pails in front of their stall, one for milk replacer or water and one for grain. All pails were cleaned and sanitized once daily. Calves in group pens, approximately 12 per group (2.1m²/22.5ft²/calf), were fed with an automatic feeding machine – 2 groups per feeder. Calves had access to grain via an automatic grain feeder and all calves had free access to water.

All calves on trial were fed 6L/day of Grober Excel (Crude Protein 26%; Crude Fat 18%) milk replacer. The milk replacer was mixed as per the manufacturer's directions and fed 3x/day in the first week and 2x/day thereafter to individual calves. Milk was offered at the full level for 6 weeks, the following 2 weeks calves were weaned by offering one full milk meal per day. Group fed calves were permitted to drink a minimum of 1.5L and a maximum of 2.0L at each visit to the feeder. From 8-10 weeks calves were fed grain and hay only. All calves were introduced to a pelleted grain starter immediately upon entry and dry, grass hay was offered starting at 4 weeks.

Data collection

All health events were recorded on an individual animal health record and computed for cost associated with treatment.

Results

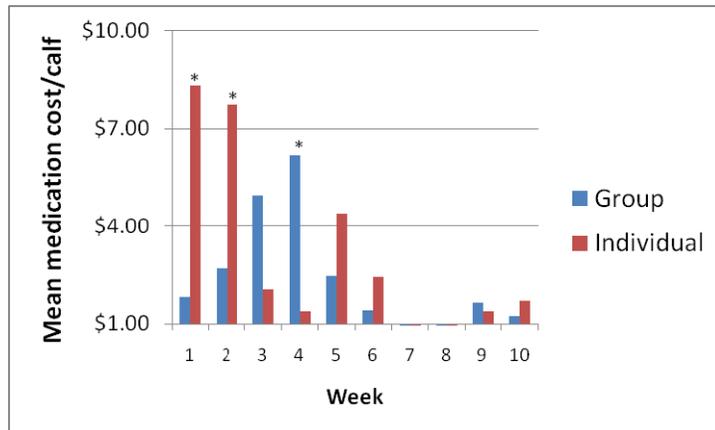


Figure 1 Average cost of medication/calf/week in both types of housing. *All costs include medication, inputs such as syringe and labour.* (Bars with * are significantly different at $p < 0.01$.)

Conclusions

Early onset of disease in the form of scours was more prevalent in individual stalls. Some of the increased cost may be attributed to placing very small calves (30kg or less) in individual pens. The cost associated with disease at a younger age is more expensive as therapies included antibiotic treatment along with electrolyte administration. Group calves did get sick but later on (generally pneumonia in this case), costs were lower and recovery was shorter possibly due to being older.

References

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- Svensson, C., J. Hultgren, and P.A. Oltenacu. 2006. Morbidity in Swedish dairy calves from 3-7 months of age, and risk factors for diarrhea and respiratory disease. *Prev. Vet. Med.* 74:162-179.