

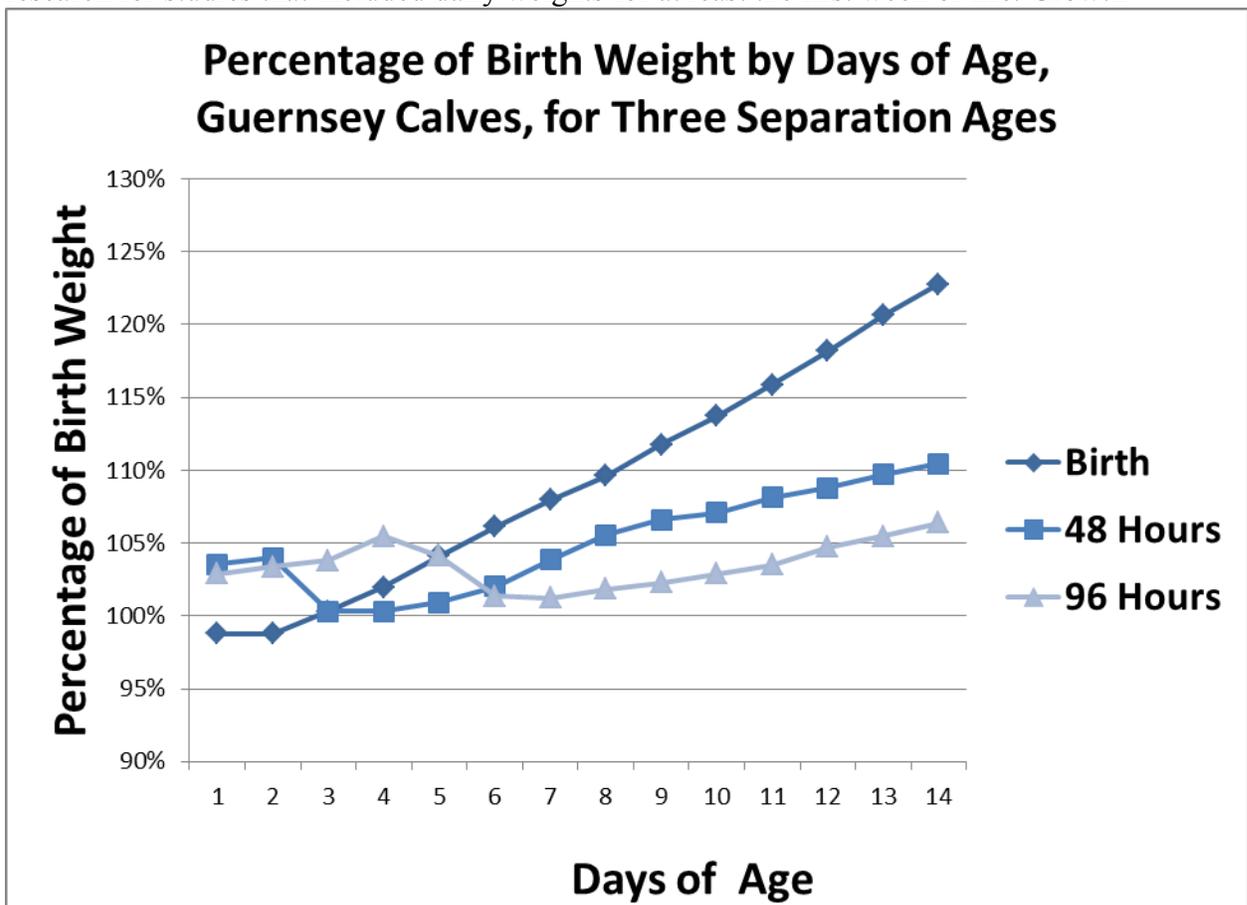
CALVING EASE

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Gain Weight the First Week of Life?

Recently I was told that everyone knows that calves lose weight the first week of life. As I thought about this observation I was not so sure it was correct. I dug around in calf research for studies that included daily weights for at least the first week of life. Growth



data from one of them is shown in this graph. The daily weights were collected in 1937 from 53 Guernsey calves. They were sorted into three treatment groups as they were born:

- Removed from dams at birth to individual pens (Group Name = Birth)
- Remain with dam for 48 hours, removed to individual pens (Group Name = 48)

- Remain with dam for 96 hours, removed to individual pens (Group Name = 96)

All the calves were weighed daily. Calves that remained with the dam were allowed to nurse as much milk as they desired. In the individual pens all calves were fed twice daily all the fresh Guernsey whole milk they would drink up to 10 percent of their body weight.

First, look at the line (▲) for calves left with the dam for 96 hours (4 days). Notice how the line is uniformly up as long as the calf was with the dam. Given an opportunity to have many small meals and to eat to appetite these calves gained weight slowly in the days immediately after birth. In this study the same trend of shorter duration was present among calves removed from their dams at 48 hours. Why gain weight? Milk! Other studies have shown the amount of milk drunk by day 4 was in the range of 18 to 23 percent of birth weight (Wise and La Master, 1968, Jasper and Weary, 2002). Similar weight-gain findings for 1 week-old calves show growth rates during week 1 ranging from 0.4 to 0.7 pounds/day (Quigley, 1994; Leadley, 1998). Conclusion? **It is normal for calves to gain weight during their first week of life.** Remember, this conclusion probably is more likely to be true on your dairy when calves have received plenty of good quality colostrum/colostrum replacer early in life that has a low bacteria count and live in a clean environment.

Second, look at the line (◆) for calves that were separated from their dams at birth. Uniformly up from day 2. **The calves that did not nurse from the dam adapted very well to being placed in a new environment and to manual feeding.** Their average growth rate on day 7 was 0.8 pounds per day.

In contrast, both of the other groups had weight losses when their environment and feeding method changed (from dam to individual pens and manual feeding twice daily). Note that in order to get calves to nurse more readily from a bottle the barn crew did withhold one feeding when the calves were moved at 48 or 96 hours. The researchers reported that in both cases up to three days went by before the 48 and 96 hour calves came up to drinking the full 10 percent of body weight per day. The calves left with the dam for 4 days had the most difficult adjustment.

These data have me wondering about handling newborns with group housing. Some farms hold calves in individual pens for three days or longer limit-feeding them twice daily. Then they change both environment and feeding method. If we had daily weights would we see the same drop in intakes and growth as in this study? Or, would the calves be better off going directly into the group environment with whatever feeding method they are going to live with for the next two months? Unresolved question; we need comparison data.

References: Jasper, J. and D. M. Weary "Effects of ad libitum milk intake on dairy calves." *Journal of Dairy Science*, 85: 3054-3058 (2002). Leadley, S. M. "Weaning stress in healthy calves." *Calving Ease*, April 1998. Quigley, J.D.III, et al. "Response to peripheral blood mononuclear cells to mitogenic stimulation in young calves." *Journal of Dairy Science* 77:259-263 (1994). C. L. Cole, "Changes in weight of new born dairy calves as related to the method of feeding/" *Journal of Dairy Science* 20:113-116 (1937). Wise, G. E. and J. P. LaMaster, "Responses of calves to open-pail and nipple-pail systems of milk feeding." *Journal of Dairy Science*, 51:452-456 (1968).

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