

CALVING EASE

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Lying Behavior in Calves

True or False: Calves lie down a lot.

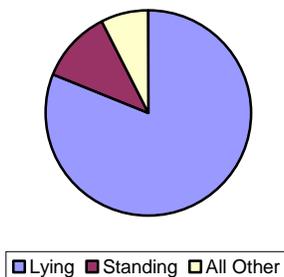
Well, anyone that has experience with calves has to answer this question as true. But, what are the actual numbers? Fifty percent of the time? Ninety percent of the time lying down?

The best estimates that I can find are from two research projects where calf behavior was measured. (Panivivat & others, 2004, and Chua & others, 2002). The former study observed calves one day each week and the latter research only observed behavior on weeks 2 and 6.

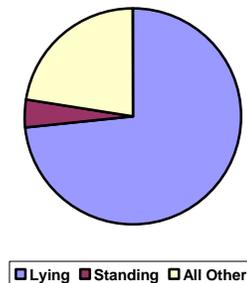
Calf Behavior

The dominant behavior for calves six weeks or less in age is lying down. Chua and others reported about 71 percent of the time was spent lying down. Panivivat and others observed that the percent of time lying was related to age (See figures below). Lying means the body is in contact with the bedding. Standing means the calf only standing, not engaged in any activity. All other means eating, self-grooming, licking side of pen, eating bedding, or moving or jumping around in the pen.

Calf Behavior, Week 1



Calf Behavior, Week 6



Note how lying down dropped from 81 percent of the time at week one to 73 percent by week six. Still, even at six weeks calves were lying down nearly $\frac{3}{4}$ of the time.

Implications for Transporting Calves

If calves are in a truck or trailer for any significant length of time our data suggest that they are going to lie down. Given this, have we made sufficient provision for bedding in the vehicle? We want the calves to remain dry. Therefore we need enough absorbent bedding to soak up urine and loose feces.

In many parts of the country and for the majority of the year, one job of bedding is to insulate the calf from the cold vehicle decking. Remember the calf is probably going to be lying down for most of the trip. Adding just enough sawdust, shavings, shredded paper or straw to cover the decking will do little to prevent body heat loss. One easy way to know when extra bedding needs to be added is to check what you are wearing. If you need a sweatshirt, insulated shirt or vest to keep warm then enough bedding should be added to insulate the calves from cold decking.

Implications for Calf Pens/Hutches

Try this test. First thing in the morning sit for five minutes on a concrete step that is in the shade. The test is best done while not wearing insulated coveralls or similar clothing. Get your butt right down on that cold concrete. See how long it takes to get really cold.

Now, remember newborn calves will be spending upwards of 19 hours a day lying down. Is there enough clean and dry bedding to provide an insulative barrier? Why emphasize clean and dry? The rate of heat loss goes up dramatically depending on the moisture level in the bedding. The rate of heat transfer may be from three to ten times that of dry bedding.

If you are where the calves are housed test the bedding this way. Get into a pen/hutch. Kneel where you can see the calf has been lying down. Stay there for at least a full minute. If your knees get warmer, you are okay. If your knees get colder, imagine the heat loss from the calf's body down into the concrete/cold ground.

Calf Care Tips

The calving barn supervisor at Bos Dairy in Indiana offers this suggestion. Don't guess if the colostrum is correct feeding temperature. Just push a rapid-read dial thermometer through the vent hole in a nursing nipple. Set the bottle into warm water. It's easy to see when the colostrum is up to calf-body temperature. To make things even easier, use a tag pen to make a mark on the dial showing the correct feeding temperature.

References: R. Panivivat, E.B. Kegley, J.A. Pennington, D.W. Kellogg and S.L. Krumpelman "Growth performance and health of dairy calves bedded with different types of materials." *Journal of Dairy Science* 87:37326-3745. (2004) B. Chua, E. Coenen, J. van Delen and D.M. Weary "Effects of pair versus individual housing on the behavior and performance of dairy calves." *Journal of Dairy Science* 85:360-364.(2002)

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