

The Maternity Pen from the Cow's Perspective

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In semi-natural environments, dairy cows will distance themselves from the herd to find a sheltered place to calve. In barns, these cows are typically housed in group or individual pens with little opportunity to hide. We conducted two experiments to test if cows housed indoors prefer to hide during calving.

In our first experiment, cows were individually housed in 1 of 4 maternity pens 6.6 ± 3.0 d before calving. Each pen included an "open" sawdust pack (2.4x7.3m) and an "enclosed" pack (2.4x6m); the enclosed pack was surrounded by 2.4m high plywood walls on 3 sides, the fourth side had a 2.4m opening that allowed cows to freely enter or exit. We used video to assess the time and area where calving took place. The probability that cows would calve in each area, and during the 'day' (0800 to 2100h) or 'night' (2100 to 0800h), was assessed using a Chi-Square test. Cows were more likely to calve in the enclosed pack, but only when they calved during the day (enclosed: 62% [13/21], open: 23% [3/13]; $P=0.01$). There was no difference between cows that calved at night.

In our second experiment, we created 10 "covered" individual pens with plywood covering a majority of the pen except for a 1.5m window into a group pen. In 10 "uncovered" pens, we left all sides open to the group pen. Using video, we recorded calving location for cows housed in these pens (covered: $n=18$; uncovered: $n=16$). Cows either calved on the secluded "corner" half of the pen, or the "window" half looking into the group pen (sides were matched between the open and closed pens). Location preference was determined using a Fisher's Exact test. In the uncovered pens, cows showed no preference for side (corner: $n=8$, window: $n=8$), but in the covered pens, cows showed a clear preference for calving in the corner (corner: $n=15$, window: $n=3$; $P=0.04$).

Implications: Indoor-housed dairy cows prefer to hide to calve when given the choice, especially when calving during the day. Adding a plywood barrier around part of an individual pen provides a practical way to allow dairy cows some opportunity for seclusion during calving.