

# Do Your Cows have Enough Room to Rest in Your Freestalls?

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Milk production and animal well-being are maximized and animal stress is minimized when cows are comfortable. A properly managed and designed freestall barn can provide cow comfort. On the other hand, mismanaged or poorly designed freestalls can contribute to mastitis, lameness, hock abrasions, and injuries. The purpose of a freestall is to provide a cow with a comfortable, clean, dry resting area. A good freestall allows the cow to enter and exit the stall with a natural reclining, resting, and rising motion without striking the stall structure. These freestalls present minimal opportunity for injury, pain or frustration. As cow size has increased so has the amount of resting space required within a freestall. In evaluating or building freestalls, the goal should be to provide the largest cows in the herd with maximum resting space. Following are three potential problems that may limit resting space in freestalls.

## 1. Narrow Stalls

When cows invade the space of other cows in adjacent stalls or prevent the use of the adjacent stall because they are taking up part of the stall, stalls are likely too narrow. Stalls that are too narrow are often characterized by excessive body contact with the stall divider while lying down and rising from the stall (Figure 1). Cows may also not use stalls well and they may lie diagonally. The stall divider helps position the cow in the stall and encourages cows to lie parallel to each other and to the length of the stall. British Columbia researchers found that cows in 52 inch wide freestalls spent 42 more minutes per day lying down than cows in 44 inch wide freestalls. In this same study, cows spent more time perching in the narrowest freestalls. The wider stalls tended to be dirtier than the narrower stalls. Increase the width of the stalls to accommodate your largest cows. Unfortunately, depending on how the stall dividers are attached to support posts, this modification may entail considerable effort and structural modifications to achieve. Additionally, this may reduce the total number of stalls in a barn.

**Figure 1.** When stalls are too narrow, cows may lie diagonally or come into direct contact with the stall dividers or structures while resting.



**Take home message: free stalls should be from 44 to 52 inches wide.**

## 2. Short Stalls

The most obvious sign of short stalls is when the cow's rear end hangs over the edge of the curb (Figure 2). This situation may also cause poor stall usage. Short stalls may also be characterized by diagonal standing, lying, and rising and may contribute to perching. Each freestall should provide enough space for the cow to rest with additional space allotted for lunging and bobbing while the cow is getting up. For large frame cows, this equates to a total length of 8 to 9 feet with at least 7 to 8 feet of actual resting space. Stalls may be too short because the actual length of the stall is inadequate or because the neck rail/brisket locator combination has limited the space for the cows to rest. If the stall length problem is related to inadequate forward lunge space, the solutions listed above will apply here also. Stalls facing an outside wall should typically be 10 feet long. Moving the brisket board and/or neck rail forward may increase the amount of resting space available to cows. Producers may consider adding additional concrete to the rear of the stall to increase the length of the stall. One precaution for this strategy is to be sure not to create cow traffic problems through narrow alleys. Alleys should be 8 to 10 feet wide.

**Take Home Message: Freestalls should be long enough to provide 7 to 8 feet of actual resting space.**

**Figure 2.** When cows do not have enough space to lie down, they may be found lying diagonally in stalls or “half-in, half-out” with the front part of their body on the stall surface and rear part of the body in the freestall alley.



## 3. Brisket Locator/Board Position and Size

When the brisket board is placed too close to the curb, diagonal resting may occur. If cows do not have enough space to lie down because the brisket board is too far back, hock injuries may be observed. Moreover, this situation can lead to perching just as an improperly placed neck rail does. If the brisket locator is placed too far forward, cows may become trapped while rising from the stall. Additionally, excessive manure and soil may be deposited in the rear of the stall. If the brisket board extends more than 6" above the stall surface, it may actually block forward lunging as the cow rises from the stall and prevent them from extending their front legs forward during the rising motion. Abrasions on the inside of the cows' front legs may be observed if the brisket board is too high or has rough edges. The brisket locator keeps the cow from moving forward while resting and helps position the cow in the stall and preserve forward lunge space. It also provides a bracing point for cows as they

get up. When positioned properly, the brisket locator provides all cows with ample space to lie down comfortably within the stall. The brisket board is positioned directly underneath the neck rail or slightly further toward the rear of the stall. In mattress or mat freestalls, the brisket locator should be 68 to 72" from the rear edge of the mattress or mat. In deep-bedded freestalls, the brisket locator should be 68 to 72" from the cow side of the rear curb. The best brisket locator is one that provides the cow with an opportunity to extend her front leg over the locator while resting (Figure 3). If the existing brisket locator impedes forward lunge-space or does not provide a smooth surface for the cow to extend her leg over, the existing brisket locator may need to be removed and replaced with a smooth brisket locator no more than 4 to 6" above the stall surface. Flexible plastic barriers with rounded edges (i.e. PVC pipes) generally perform best. It may be possible to shorten the existing wood brisket board to the desired height, but care must be taken to avoid rough edges. The brisket locator should be attached to the stall surface and not to the stall divider.

***Take Home Message: The brisket board should be located 68" to 72" from the cow side of the rear curb in deep-bedded stalls or the rear edge of the mattress or mat.***

**Figure 3.** Cows often extend their front leg over the brisket locator while resting. To allow for this behavior, a brisket locator with rounded edges is preferred over sharp or straight edges.

