

Do Your Cows have a Comfortable Place to Rest?

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Providing a comfortable, soft surface cushion may be the most important factor affecting freestall usage and lying time. An ideal stall bed (1) conforms to the cow's shape, (2) provides cushion while the cow is getting up and lying down, (3) maintains effective traction to minimize slipping, and (4) remains dry to minimize bacterial growth and promote optimal udder health. Many different combinations of stall bases and bedding types can be effective; however, sand bedding generally best meets the cows' needs. Stall usage and lying time tends to be higher for sand bedded freestalls than for mattress freestalls. Keeping sand filled to the curb increases stall use. In one study, daily lying time was 1.15 hours longer when sand stalls were filled to the curb compared to stalls with sand levels 2.44" below the curb. Although mattresses, waterbeds, and mats may reduce the amount of bedding needed, bedding still must be used to minimize friction while the cow rises from the stall and to absorb moisture (Figure 1). In a British Columbia study, cows spent 1.5 hours more lying down in mattress freestalls bedded with 16.5 pounds of sawdust than those with no sawdust. Thus, lying time can be improved considerably by providing cows with more bedding (Figure 2).

When cows are not provided with a comfortable place to rest, they will not utilize or occupy freestalls well. Hock injuries are commonly observed in situations where cows are forced to lie on a hard surface or when insufficient bedding is provided (Figure 1). Of course, the worst scenario is when cows are lying on concrete without any bedding. Bedding helps to minimize friction between the hock and the stall surface. In deep-bedded stalls, cows may dig out the bedding and effectively reduce their resting area if bedding is not replaced. This situation may also increase the effective height of the brisket board and stall dividers. In turn, cows may have difficulty getting in and out of the stall. Moreover, the potential for abrasions between the now-protruding rear curb and the cow's hocks can lead to severe hock abrasions and ulcers. When mattress or mats are used, inadequate bedding may also lead to hock injuries and poor stall use. This problem is exacerbated when the mattress cushions have lost their flexibility and are utilized past their useful life.

The solution to this problem may often be as simple as using more bedding. This is particularly true for sand. Sand provides such a good resting material for cows that it will often mask other freestall design limitations. Hard or worn-out surfaces may need to be replaced with deep-bedded sand or new mattresses. When adding a mattress on top of concrete, caution must be used to be sure that the height for the cows stepping up into the stalls does not exceed 8 to 10." In a deep-bedded scenario without a mattress or mat, a minimum of 6" of bedding material is required. When mattresses or mats are used, at least 3" of bedding must be added to the top of the stall base. Freestalls should be groomed, removing manure and wet areas 2 to 3 times per day. Deep-bedded stalls should be leveled at least twice per week. Bedding should be added at least once per week and possibly once per day depending on the type of bedding used, environmental conditions, and observations of cow cleanliness. Bedding savers may be used to minimize bedding waste. These small changes to freestall surfaces can have a dramatic impact on cow comfort, lameness, production, and animal well-being.

Figure 1. Although mattresses provide cushion for cows, adding bedding on top of the stalls is still essential.



Figure 2. Deep bedding minimizes potential for hock injuries, improves stall usage, and increases lying times.



Figure 3. When cows do not have an adequate resting surface or when bedding levels are insufficient, the resulting friction that occurs as the hocks rub against rough surfaces may result in hock abrasions and injuries.

