

How overstocking affects cow performance

As we are full bore into the summer heat and our minds should be on heat abatement and getting some fast moving air over the cows. Here are some other questions to ponder when evaluating increasing stocking density. I found a very concise list from Jim Salfer from the University of Minnesota. Here are the highlights.

Are transition cows NEVER overcrowded?

- A fresh cow pen allows cows to recover and not have to compete with the more aggressive cows for stalls or bunk space.
- Cows that had greater lying and ruminating activity during the week before calving had greater feed intake and milk yield during the first two weeks after calving.
- Providing 30-36 inches of bunk space and 80-100% freestall capacity for transition cows will help them get off to a good start.

Are cows allowed to achieve their desired time budget?

- Several research studies show that cows desire 12-14 hours of lying time and will give up eating time to achieve lying time.
- Cows ate faster to achieve longer lying times, which could affect components and increase the risk of acidosis.
- Rest and rumination are important for cow welfare. 90% of rumination should happen when cows are lying down.
- Rick Grant proposed that each additional one hour of resting time translates into two to three more pounds of milk per cow daily.

Time budget of high-producing cows

Activity	Time needed per day, hours per day
Lying/resting	12 to 14
Eating	3 to 5 (9-14 meals/day)
Social interactions	2 to 3
Ruminating	7 to 10
Drinking	1/2
Milking (outside pen)	2.5 to 3.5

Are all stalls comfortable?

- To achieve the desired lying time, all cows need access to high-quality beds. Cows require well-designed stalls with a soft lying surface.
- The percent of hock lesions, swollen legs, injuries, and the number of broken freestalls can help determine if your beds are adequate.

Are all stalls high quality and desirable to use?

- Westside stalls in North-South directional barns often don't get used on summer afternoons.
- If stalls are too small, a cow lying in a stall may occupy part of a neighboring stall with its legs, head or back, which would prevent another cow from lying down in the vacant stall.

Are first lactation cows separated from older cows?

- Heifers are smaller than mature lactating cows and everything about the milking experience is new. This makes it difficult for them to compete for bunk and bed space and with mature cows.
- Research showed a 10 to 15% improvement in milk yield and a nearly 20% increase in resting activity when first-calf heifers were grouped separately from older cows.

Is adequate high-quality bunk space available?

- Lactating cows should have access to 24 inches of bunk space. This is seldom achieved with overstocking.
- Less bunk space can be partially compensated for with excellent feed management.
- Three-row pens have less bunk space per stall than two-row pens.
- Some barns have areas of the barn with man passes, crossovers and other areas where bunk space is unusable.

Is feed management excellent?

This can partially compensate for less bunk space. Here are some musts with overstocking at the feed bunk.

- Feed must be delivered to each pen within the same fifteen-minute window each day, especially if feeding for low refusals.
- Feed must be kept pushed up and be available for twenty-four hours.
- Rations must be consistently mixed and not easily sorted. Cows may eat faster with fewer but larger meals if they are overcrowded. This increases the risk of sub-clinical acidosis that can have a detrimental effect on components.
- Feed should also be uniformly delivered along the entire length of the bunk and feed must be available along the entire bunk for the entire day. No part of the bunk should ever be out of feed.

Is hoof care excellent?

An excellent hoof health program is even more important if your barn is overstocked.

Is heat abatement excellent?

- Increased animal density means increased heat production.
- Heat abatement in the holding area and throughout the freestall barn will increase cow comfort.
- It will also help keep cows from bunching in the barn.

Is time away from the pen and in headlocks kept at three hours or less per day?

- With more cows in the pen, access to the bunk and beds for as many hours as possible is important so that cows can meet their time budget needs.
- Submissive cows will suffer if time away from the pen is too long.

To paint every barn with the same brush is not practical because how much overcrowding is optimal depends on facility design and management. However, the more the above criteria are met, the more likely overstocking will not affect productivity and animal welfare.