

and reducing the effective ventilation by 50%! With the increased width, the extra cows inside the building, and the reduced ventilation, summer heat can increase on the "lee" side of the building by 8 to 15 degrees.

A six row free stall barn has a life expectancy of 20 to 25 years. With the rolling herd average ever increasing, the combination of reduced manger space, increased summer temperatures and reduced ventilation per cow, make the six row barn a poor choice for optimal dairy herd performance.

The fourth tough decision in a new dairy facility is whether to place the free stalls "nose to nose" or "tail to tail".

This choice is probably the toughest simply because it has the least effect on profitability and performance. When choosing between orienting the stalls, either nose to nose or tail to tail, the choice is one mostly made on how important it is to be able to have cows locked away from using the stalls. If forcing the animals away from using the stalls is an important management goal, then choosing tail to tail is the right choice.

Another advantage of tail to tail is the alley between the stalls is both farther away from the outside wall and 100% of the cows have to use that alley, making it less likely to freeze quickly.

Tail to tail free stalls make orienting the barn east to west the best way. If the tail to tail barn is north to south, then the outside stalls are subject to too much sun in the early morning and late afternoon. The extra

sunshine will discourage stall usage in warmer weather. Tail to tail also has the advantage in that a few extra stalls will fit in the same size building versus a nose to nose arrangement.

Some of the advantages of nose to nose includes, only 50% of the cows of a group have to walk to the back row, the building can be oriented north and south or east to west, and cows can share lunge space. Most builders find that nose to nose is cheaper to build than tail to tail. Also, sunshine or rain that is blown into the building goes harmlessly on the cow alley, instead of into a stall. The fresh air entering the open sidewalls will evaporate the water in the alley quickly, providing cooling and drying.

Nose to nose may have a disadvantage with cow behavior in that some cows will not use a stall across from a dominant cow. Also, if the stalls are shorter than 7.5 feet, the shared lunge space will increase and stall usage may decline in the summer because of sharing airspace, but if the total length is 15 feet or greater, this is not seen as a problem.

All in all, the orientation of the stalls is the least performance issue of these four tough decisions. As I see these problems, mattresses versus sand is a comfort issue. A four row barn versus a six row barn is a performance issue. Insulation versus no insulation is a ventilation issue, and head to head versus tail to tail is a management issue.

Abstract

Virulence and genotype of a bovine herpesvirus 1 isolate from semen of a subclinically infected bull

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A bovine herpesvirus 1 (BHV-1) isolate from the semen of a subclinically infected bull was administered to cattle by various routes to assess its virulence. Cattle that were artificially inseminated or inoculated intrapreputially did not develop clinical signs, but did transmit the virus to contact cattle. However, the isolate

induced severe signs of rhinotracheitis and vulvovaginitis in cattle that were inoculated by the intravaginal, intranasal or intravenous routes, but did not infect the fetus. The isolate was therefore not of low virulence. Analysis with DNA restriction enzymes could not assign the isolate to either the BHV-1.1 or BHV-1.2 genotype.