Udder health is a key factor for profitability

Research speaks clearly

Our own experience together with general research on cows and udder health leads us to draw the following conclusions about what is the optimal environment for the cows and their udders.

BEDDING

To prevent bacterial

growth in bedding

materials they

should be distributed

two times per day,

according to tests

of bacterial culture

on straw, peat and

wood shavings. (Nilsson, 2009)

BACTERIA IN BEDDING The bedding DM, pH, barn temperature and relative humidity affect bacterial growth. If a large amount of bedding is stored in front of the cubicle a larger amount of bacteria will have grown until the bedding reaches the back of the cubicle. (Dalgaard, 2004)

CUBICLE SOFTNESS

A mattress needs to compress at least

30 mm to handle and spread the

weight of a cow.

(Dalgaard, 2004)

MASTITIS FROM BEDDING Environmental mastitis increases when the bacterial presence in the bedding material is high (Törner, SLU, 2013)

MASTITIS

Mastitis is the most loss making disease among Swedish dairy cows and constitutes culling cause in about 25% of the cows. During a year more than 60 percent of the cows suffer from mastitis in some form. Approximately two thirds of these infections are subclinical mastitis.Mastitis is complex with many factors involved. In most cases mastitis comes from a bacterial infection. (SVA, 2013) Automatic refill of bedding can be done at least three times per day.

HYGIENIC BEDDING

PREVENT MASTITIS

By making sure that a cow does not lay down in the milk and manure of another cow we avoid cross-contamination. The surface is scraped clean and has time to dry (bacteria die) before the surface has rotated and reaches the cow. The PVC top cover has no pores where bacteria can gather. COW COMFORT Moving Floor mattress is 50 mm. The

cubicle can be made larger than a conventional cubicle and yet kept dry and clean. DEC GROV (Contir

WFT

When the cows get to choose, they prefer dry lying area instead of wet and lying time increased from 8.8 h / day on wet cubicles to 13.8 hours / day in dry cubicles. (Fregonesi, et al, 2007)

LABOR COST PER COW AND YEAR FOR

One cleaning + bedding per day

MANUAL CLEANING

0,15 €/cow/day x 365 = 52 €

 $0.3 \in /cow/day \times 365 = 104 \in$

LABOR REDUCTION Self-cleaning cubicles

save working hours.

Moreover they do a work

that a human could never

keep up with.

including charges, estimated at 20 € per hour.

Two cleanings + bedding per day

Twelve cleanings + bedding per day $1,8 \in r/cow/day \times 365 = 624 \in C$

Calculated that manual cleaning of a cubicle takes approx. 0.22 minutes. To manually fill bedding takes 0.18 minutes. Labour cost,

DECREASED BACTERIAL GROWTH AND LESS CROSS-CONTAMINATION Continuous cleaning between each cow drastically reduces bacterial growth and reduces the infection pressure.

BACTERIAL GROWTH There is a significant growth of bacteria in manure. A lying area which is scraped off after 12 hours has 200 times more bacteria than a surface scraped off after 1 hour. Manure left on the lying area for 24 hours has such a high number of bacteria that it is difficult to count. It is therefore important from a hygiene point of view of removing the manure as soon as possible. (Moving Floor tests at SVA, 2013)

BACTERIA Bacterial growth occurs exponentially over time. New straw on top of the old deep straw bedding provides just a cleanly impression. A deep litter can contain 10 billion bacteria ***.

HOW MANY COWS SHARE CUBICLE? How many times a day should a cubicle get cleaned? Statistics from the Swedish University of Agriculture says that the cubicles are visited on an average 12 times per day by 8 different cows. The risk of disease transmission between animals is essential. (Pettersson, SLU, 2011)

Big difference between the systems

To provide optimum cow environment

Conventional cubicle



- Often visibly clean but actually unclean environment

- Risk of cross-contamination between cows

- Labor intensive system

- Limited space for the cow in order to keep cubicle "clean"

Moving Floor



+Clean and dry environment

- + Reduction of bacteria and improved udder health
- + Substantial labor savings

+ Increased space for the cow without compromising hygiene

AUREUS Staphylococcus aureus causes approx 25 to 40% of all mastitis and these are also the most loss making and difficult to treat. (Intervacc, 2012)

SPORES Simulations show that decreased barn hygiene, with dirter cows at milking, lead to a 3-5 fold higher spore content in tank milk compared with good barn hygiene.

(SVA, 2012)

Test: bacteria growth

Manure was put on a Moving Floor cubicle and two conventional cubicles. Moving Floor Cubicle was cleaned after one hour, one conventional cubicle was cleaned manually after 12 hours and the third and last cubicle was not cleaned at all. 24 hours after starting the test we measured the growth of bacteria on all surfaces. The result is seen below. The test shows the importance of manure being quickly scraped off, if not the bacteria will grow exponentially.

Moving Floor Cubicle, cleaned one time per hour times bacteria growth Conventional cubicle, cleaned twice per day

Did you know?

... that it's about what the eye cannot see

BACTERIA Bacteria consist of 90% water and can not reproduce in 30-40% humidity. At 30% humidity bacteria die. Bacteria often gather in the pores and porous materials. (Weintraub, KI , 2012)

Konventionellt liggbås som rengörs 1 gång per dygn

nes bacteria growth

to high bacteria content: be measured

Streptococcus