

We market our products in Europe, the USA and many other countries around the world. Here we gain experience and gather knowledge from scientific studies, which we share with you in each issue of our "KRAIBURG Practical Experience." We want it to be a source of helpful tips for you. Send us your suggestions - we count on them to help us give you a better product!

Thank you very much from your KRAIBURG research & development

## LYING BEHAVIOUR: COMPARING SAND AND RUBBER COVER

### Research on dairy cow lying behaviour on sand and rubber covers

A cow lying down is more productive, because blood circulation in the udder increases by approximately 25 %. Furthermore, rumination is more intensive during lying and the claws are relieved of their burden. Eelkema et al. (2004) could substantiate that improved lying comfort pays off through a higher milk yield of about 400 kg per cow and year.

#### Objective of the study:

Due to rising costs for bedding materials, the amount of bedding is often reduced in praxis. The objective of this study was to find out how animal-friendly a deep-litter cubicle system with sand and varied bedding quantities is compared to an elevated cubicle with a rubber cover.

#### Procedure:

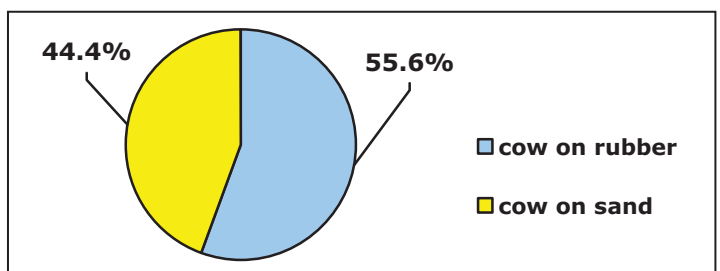
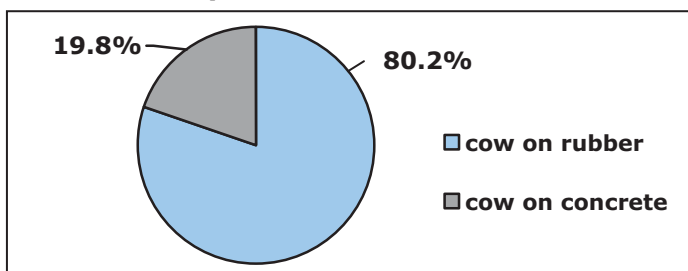
The lying behaviour of 18 cows was monitored by video. The cows were kept in an uninsulated stable. In one experimental phase the cows had only access to one lying surface (concrete, sand or rubber). In a further experimental phase the cows could choose between two surfaces. The amount of straw needed to keep the cubicle surfaces lightly covered was measured. The total lying time, the average duration of a lying time and the number of lying events were evaluated.

#### Results:

Behaviour	Rubber	Concrete	Sand
Total lying time per day [min/day]	768	727	707
Average duration of one lying period [min]	71	76	71
Number of lying events per day	11.1	9.9	10.6

More than one hour longer lying time on rubber mats than on sand!

#### Preference experiments



#### Bedding requirements

Management	Rubber	Concrete	Sand
Amount of bedding [g/day]	464±10	468±10	638±13

Highest bedding requirements on sand!

#### Conclusions:

The **over one hour longer lying time on rubber mats** was significantly **higher than on sand or on concrete**. Especially with cold temperatures (in the experiment -20°C to +8°C) littering with straw improves the cow acceptance of the lying areas. In the cubicles filled with sand the highest amount of straw litter was needed, because the litter intermixed with the sand.

**Animal behaviour indicates that rubber mats provide the best lying comfort, despite reduced amounts of litter.**

Source: Norring et al., 2010: Preference of dairy cows for three stall surface materials with small amounts of bedding. Journal of Dairy Science Vol. 93 No. 1