

STUDIES OF TYPES OF LITTER USED IN LATVIAN DAIRY FARMS

Maris Mangalis, Juris Priekulis
Latvia University of Life Sciences and Technologies



2022

Aim of the research

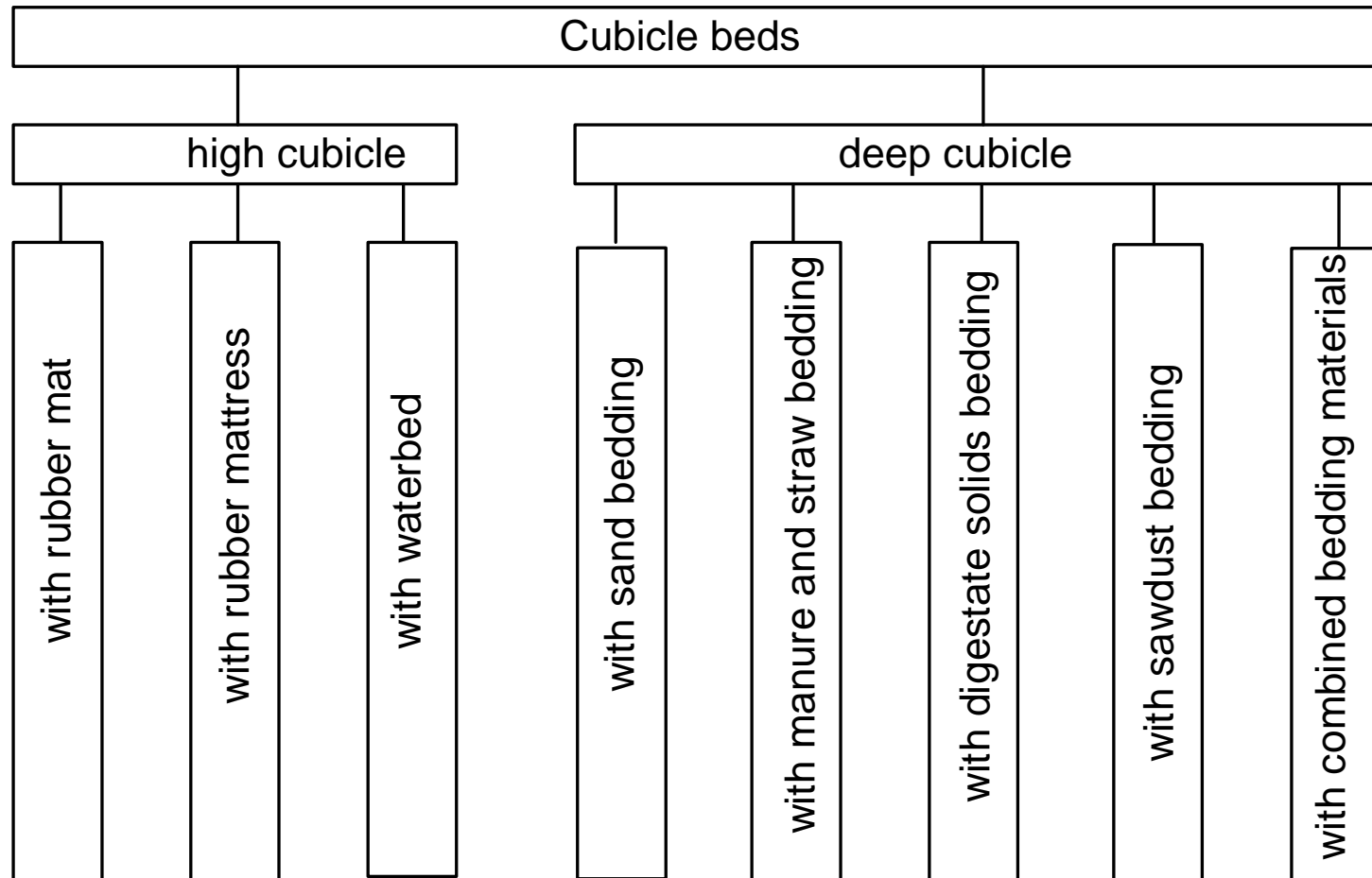
The aim of this study is to assess the prevalence of free stall keeping of cows in Latvia, as well as to obtain information about the cow bedding solutions used in practice and to find out their possible impact on the amount of milk and the number of somatic cells in milk.



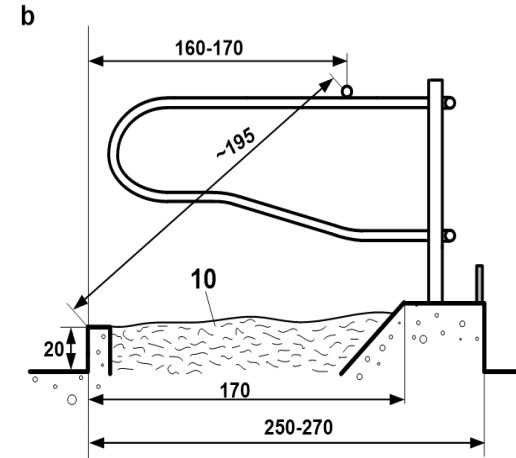
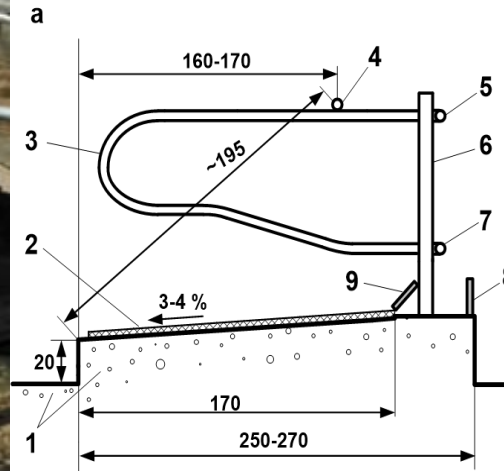
Methods of the research

- In order to find out the most common types of cow cubicles in Latvia, data were collected from individual farms, where the largest herds of dairy cows are kept and also the highest average milk yields were obtained. Both the milk yield and the somatic cell count (SCC) detected in the milk were refined according to data collected by the Agricultural Data Center (LDC)
- The study was conducted by interviewing farm managers. Seventy-five farms were included in the study. During the survey, the type of cubicle, the bedding material used, and the frequency of spreading and consumption were clarified.

Types of cow cubicle litters material used in Latvian Dairy Farms



Welfare and health - the most comfortable cubicle possible

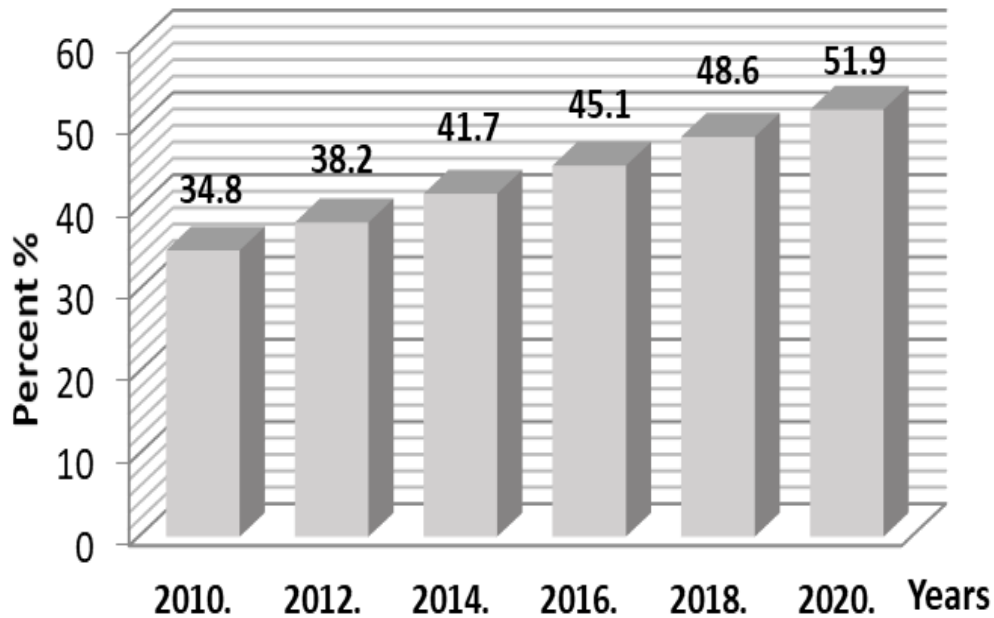


High cubicle

Deep cubicle

Studies have shown that cows tend to sleep 12-14 hours a day, getting up every 1.5 - 2 hours.

Use of cubicles in Latvia from 2010 to 2020, % of the total number of dairy cows



Box-type cubicles with sand bedding



Sand is a sterile material that fits well on the cow's body.

Box-type cubicles with straw litter



High cubicle with rubber mats



According to the research data, 44% of Dairy herds in Latvia use high cubicle beds



High cubicle with waterbeds



Average milk yields of cows and number of somatic cells in milk, depending on the type of used cubicles and bedding material

Cubicle type	High cubicles	Deep cubicles	
Type of bedding materials	rubber mats or mattresses	sand	straw and manure
Average milk yield, kg /year	11348 ±277	13350 ± 498	11323 ± 460
Average level of SCC (1,000 cells/mL)	176 ± 15	111 ± 48	159 ± 28

Conclusions

1. The number of keeping cows using cubicle beds is increasing every year, and currently, more than half of the total number of dairy cows in Latvia is kept in this way.
2. In Latvia, both high and deep cubicle beds are used. The high cubicle beds part of the bed is concreted and covered with a rubber mat, mattress or so-called “water bed”, while deep cubicles have a recess in the bed filled with sand or compacted straw, the interlayers of which are bound with fresh manure or filled with digestate. , or for different bedding in several layers.
3. It was found that the highest milk yields and the best milk quality (based on SCC) were obtained by using deep cubicles in which the cows' beds were filled with sand. If high cubicles or deep cubicles with other bedding materials are used, the milk yields of cows are about 15% lower, but the level of SCC increases by 40-50%.

Thank you for attention!