

Comparison of factors affecting cows that are housed in loose housing and compost bedding barns on production parameters in the Western Negev.

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Abstract:

One of the most important considerations in building a shed is the cost of manure disposal. One of the solutions is to give up the traditional feeding strip and make it part of the cow's resting area by removing the concrete and filling it with some type of substrate. As a result, there is an increase in the lying area for the cow on the one hand and on the other hand, there is no feedlot that usually contains wet manure that is difficult to remove. Unlike the situation in the north and center of the country where the cost of removing the manure is very expensive and is a great nuisance to the dairy, the Negev region is characterized by the fact that the cost of handling manure is lower and therefore it is not a significant nuisance.

In a previous study (Lebon and Malka, 2016), differences between the two types of sheds were examined, but cooling of cows above the feeding line in the traditional shed was not used. This cooling can give a certain advantage and maintain normothermia for a longer time than the cooling at the cooling yard alone. The goals of the current study are to make a comparison between cow housing in a traditional shed (with the feeding strip) and that housed in a spatial shed (without the feeding strip) when the traditional shed group will receive additional cooling in the feeding strip, the rest of the cooling times will be the same. The aim of this study is to compare between housing cows in a traditional shed and a spatial shed and the effect of the type of shed on professional and economic parameters in the dairy farm.

This study will help the dairy farmer to make a more correct decision (based on professional data) regarding the type of shed that is desired and suitable for him and will also answer the question of whether the addition of cooling in the feeding strip is beneficial to the performance and welfare of the cows. The experiment was carried out in BASHAN farm,

which have a milk quota of proximally 10 million liter per year, and two types of sheds. Cows in first lactation were divided into two sheds according to stage of lactation, days since calving, amount of milk and considering genetic data.

After calving, cows were directed to the treatment or control sheds considering the mentioned parameters. The trial period was during the summer of 2020 in the months of June-November. Once a month, a vaginal temperature measurement was performed for a representative group of cows in each shed, milk data was examined both at the daily level and at the monthly milk recording level, water and electricity consumption and handling of manure in the overall shed because of cooling were recorded and calculated according to the farm's work routine.

The average daily milk was same throughout the first months of the experiment. The month of September was characterized by extreme and unusual heat loads in their duration and the result was a significant and prolonged decrease in milk production in both groups, but the traditional shed group showed a faster "recovery" with a faster increase in milk production in the following months. The milk recordings revealed an higher somatic cell count in the traditional shed compared to the spatial one. Additional cooling in the paddock entails additional costs for the cowshed because of additional use of water, electricity (ventilation) and handling of manure from the paddocks, costs that should justify themselves in improving the cows' performance.