

STUDY REGARDING THE INFLUENCE OF THI ON THE LAST PERIOD OF GESTATION ON CALVES BIRTH WEIGHT AND THEIR SUBSEQUENT DEVELOPMENT

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Abstract. *The aim of this study is to analyse the effects of thermal stress in the last part of cows' pregnancy on the calving weight of calves and on their post-partum weight growth. The data were structured by THI intervals and cow parity and values of the statistical estimators were calculated using the package SAVC and SPSS 16.00 for Windows. It was found that for different THI there are differences for calving bodyweight, from 46.45 to 42.52 kg in pluriparous case and from 45.13 to 40.89 kg for primiparous. For this trait there are significant differences between $THI > 65$ and $THI < 45$ respectively $55 \leq THI < 65$.*

Keywords: THI, dairy calves, birth weight, daily gain.

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1. Introduction

One of the biggest challenge at the moment facing agriculture and therefore the dairy farming sector is climate warming and finding optimal solutions to reduce heat stress. Instrumental observations reveal a pronounced global warming during the past 150 years [7]. In the specialised literature, there are a multitude of scientific studies about the effects of the combined action of temperature and humidity on the productive and reproductive performance of dairy cows.

During high temperature periods such as the summer period, dairy cows direct most of their energy to thermoregulate the body in conditions of feed intake decreases. Animals experience a state of stress determined by the action of environmental factors (temperature, humidity), which causes an increase in the level of cortisol in the blood, with direct effects on the immune system. A concise definition of thermal stress was formulated in 2009 by Dikmen and Hansen who says that it can be defined as "the sum of all environmental effects that affect an animal and induce an increase in its body temperature causing a physiological response " [3].

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