

Public Abstract

First Name:Luciana

Middle Name:Barchesi

Last Name:Pompeu

Adviser's First Name:James

Adviser's Last Name:Williams

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:SS 2010

Department:Animal Sciences

Degree:MS

Title:Alleviation of Heat Stress with Tasco in Dairy Cows

Heat stress causes major losses for the livestock industry in the US, especially for the dairy industry. Some means to alleviate the negative impact of heat stress in dairy cows are available, including diet supplementation with additives. However, despite decades of study in the area, no product has been shown definitive results. Tasco, a seaweed, has been shown to have some benefits for cattle during heat stress periods, by lowering body temperature.

A study was conducted to evaluate the impact of Tasco on heat stress in dairy cows, during 63 days in summer 2008. The effects of Tasco supplementation was evaluated based on feed intake, milk production, respiration rate, core body and skin temperatures. Holstein cows were housed in free-stall barn.

The inclusion of Tasco lowered feed intake and skin temperature for some days during the study, with no effect on milk production. Supplementation with Tasco also resulted in less of an increase in core and skin temperatures, as ambient temperature increased during the day. Regardless of Tasco treatments, cows that were more sensitive to heat stress were identified within the group, and compared to the least sensitive cows. Animals differed in their response to heat stress, either by utilizing different mechanisms to cope or by not responding to it.

From the results, one may infer that the inclusion of Tasco in dairy rations may reduce heat strain of cows, maintaining lower core body and skin temperatures; however, this reduction was not substantial. If the most sensitive cows could be identified, actions could be taken in order to alleviate the negative impact of heat stress in the whole herd.