

## POSTER PRESENTATIONS

### USING COPPER SULPHATE, PERACETIC ACID OR A COMBINATION OF BOTH IN FOOT BATH FOR THE CONTROL OF DIGITAL DERMATITIS AND HEEL HORN EROSION IN DAIRY COWS

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#### ABSTRACT

Footbath for dairy cows should be a complement but not a substitute to optimal hygienic precautions in the management system. The aim was to test the effectiveness of different methods and different disinfectants in a dairy herd with serious infectious claw diseases.

A foot-bath with two longitudinal Hoofmat™ equipped compartments was used in two experiments. Firstly, 7% copper sulphate solution (left) and 15 litres of water (right) was used twice daily for 112 cows after milking. Secondly a combination of both copper sulphate and peracetic acid in water solution (DeLaval) was similarly tested on 240 cows. In a third experiment 101 cows walked twice daily through a passage where foam containing peracetic acid and hydrogen peroxide (Kovex®, Ecolab) was spread, while 66 cows were used as untreated controls. All infectious related claw lesions were recorded at the beginning and at the end of the study, or when cows were leaving or entering the milking herd during the up to four months observation-period. The analysis was performed at the foot level, adjusting for cow-level clustering.

Almost all cows were affected by heel-horn erosion, digital dermatitis were seen in every fifth cow and interdigital hyperplasia in every tenth cow at the start of the study. Foot bath with pure copper sulphate had a positive effect on all studied traits, decreasing the odds of having heel-horn erosion and either heel-horn erosion or digital dermatitis at the end of the study period by 4 times, and decreasing the odds of having digital dermatitis by 10 times, increasing the odds of improvement of heel-horn erosion and either heel-horn erosion or digital dermatitis by approx. 2.5 times, and the odds of no deterioration of the same type of lesions by between 6 and 7 times. Using the combination of Copper sulphate and peracetic acid gave a reduction of heel horn erosion to half but had no effect on digital dermatitis. The study provides no evidence of an effect of a foam bath containing peracetic acid and hydrogen peroxide during 56–113 days of exposure on heel-horn erosion, digital dermatitis or interdigital hyperplasia. It is likely that the effect of copper sulphate is dose dependant. However, copper sulphate is though disputable as being a heavy metal with environmental accumulation and the disposal should be restricted to copper deficient soils. It is urgent to find alternative and effective disinfectants to antibiotics and otherwise undesirable products.