

Evaluation of topical applications used in parlor on digital dermatitis lesions

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Digital dermatitis (DD) is a painful, infectious foot lesion that economically impacts the welfare and production of dairy cattle. Treating DD lesions is an important aspect of DD control; however, treatment is commonly infrequent and there is little evidence to the effectiveness of commercially available non-antibiotic topical applications. There is a need to determine if these topical products are effective at promoting the transition of painful (M2) lesions to non-active stages to decrease problems associated with DD. The objective of the study was to compare the proportion of transitioned M2 lesions between cows treated with HoofSol™, HealMax™, tetracycline and saline (negative control) using a weekly application protocol in the parlor.

Ten farms were visited weekly for 8 weeks and DD lesions were identified, assessed and applications were administered. Parlor inspections occurred during milking and an observer scored the hind feet for DD lesions (using the M0 - M4.1 system) with a mirror and headlamp. The first parlor inspection identified cows with lesions (M1-M4.1) and randomly assigned these cows to one of 4 treatment groups: HoofSol™, HealMax™, negative control (saline + coloring), positive control (tetracycline spray) which were applied to the lesion. During subsequent parlor inspections, hind feet were scored and cows with DD lesions received the topical product previously assigned. Product was applied (5 mL) to the area of the lesion in the parlor using a spray bottle. Transitioned lesions were defined as M2 lesions that transition to a non-active stage (M0, M3, M4).

M2 lesions were identified in 165/1521 (11%) of hind feet in the first week and followed for 8 weeks. Within the first week (one treatment) 58% of M2 lesions transitioned in the tetracycline group, 57% in the HoofSol™ group, 26% in the HealMax™ group and 13% in the saline group. With 65 - 91% of M2 lesions transitioning by week 8.

These results highlight the self-healing of M2 stages, but also the effect that weekly topical applications have on transitioning M2 stages. HoofSol™ and tetracycline resulted in an increased number of transitioned M2 lesions after one application, followed by HealMax™ and the negative control. Routine topical application in the parlor can transition M2 lesions and likely reduce the negative consequences associated with this lesion stage.