

Evaluation of a *Serpens* Species Bacterin for Therapy of Bovine Digital Dermatitis

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Introduction

Digital dermatitis (DD) is a major cause of lameness in many dairy herds. Recurrence rates are high, signaling the need to explore alternative methods of treatment and prevention. The purpose of this study was to evaluate the therapeutic use of a *Serpens* species bacterin in a dairy herd known to have a significant prevalence of lameness due to digital dermatitis.

Materials and Methods

Seventy-seven mature lactating Holsteins were enrolled in this study. Group 1 (n=38) received injections of a *Serpens* species bacterin, while group 2 (n=39) received only adjuvant, at weeks 0, 4, and 8 of the study. Venous blood samples were obtained at weeks 0 and 12 to evaluate anti-*Serpens* species antibody titers. Locomotion scoring and DD lesion measurement were performed at weeks 0, 12, and 18.

Results

The percentage of cows affected by DD, the average width of DD lesions, the prevalence of clinical lameness, and the average locomotion scores did not differ significantly between weeks 0 and 18 for either group. The prevalence of clinical lameness and the average locomotion scores did, however, increase significantly from week 0 to 12 for both groups. *Serpens*-associated antibody titers increased significantly from week 0 to 12 for group 1 only.

Significance

The results of this study indicate a lack of a significant therapeutic effect of the *Serpens* species bacterin on DD in the mature lactating cows of this dairy herd, although inoculation with the bacterin did result in a measurable immune response.