Prevalence of Digital Dermatitis in Dairy Cattle in Eastern Wisconsin Dairy Herds

OBJECTIVES:
- Determine the prevalence of various stages (M0, M2 or M4) of Digital Dermatitis (DD) in selected groups of cows on eastern Wisconsin dairy operations.
- Determine hoof health management practices utilized to manage DD on eastern Wisconsin dairy operations.

HIGHLIGHT OF RESULTS:
- 45 eastern Wisconsin dairy operations.
- 11,817 cows identified, scored, and recorded for stage and chronicity of digital dermatitis (DD).
- Prevalence of DD within the group of 11,817 cows scored and recorded indicated the following:
  - M0 (no lesion) 81.1 percent
  - M2 (acute, active lesion) 1.8 percent
  - M4 (chronic, non-active lesion) 17.1 percent
- Prevalence of DD based on operation type is shown in the table below:

<table>
<thead>
<tr>
<th>Operation Type</th>
<th>M0 (%)</th>
<th>M2 (%)</th>
<th>M4 (%)</th>
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</thead>
<tbody>
<tr>
<td>Small (tie-stall)</td>
<td>76.1</td>
<td>5.8</td>
<td>17.4</td>
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<tr>
<td>Medium (less than 700 cows, freestall)</td>
<td>72.0</td>
<td>3.2</td>
<td>24.6</td>
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<tr>
<td>Large (700 cows and more, freestall)</td>
<td>82.9</td>
<td>1.1</td>
<td>16.0</td>
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</table>
- 17.8 percent of herds had a low (≤5 percent) prevalence of DD.
- Prevalence of DD between tie-stall and freestall operations was similar.
- Concentration of footbath solution, trimming frequency, and type of treatment had a significant ($P>0.1$) impact on the types and prevalence of DD lesions.
RECOMMENDATIONS FOR MANAGING DIGITAL DERMATITIS

- The UW School of Veterinary Medicine’s Dairyland Initiative Footbath Blueprint
  https://thedairylandinitiative.vetmed.wisc.edu/ recommends footbaths dimensions to be:
  - 10 to 12 feet long
  - 24 inches wide
  - 10-inch step-in or depth height

- Footbaths should be changed after 150 to 300 cows have passed through the footbath.

- Footbath solution should be maintained at 3.5 to 5.5 pH. Maintaining pH at normal skin pH level will help maintain healthy skin condition and improve treatment results.

- The recommended concentration for a copper sulfate (CuSO₄) footbath is two to five percent.

- Maintenance footbaths should be offered a minimum of three times per week. In the event of an outbreak, frequency should increase to four to five times per week.

- It is recommended to clean and apply two grams oxytetracycline powder to the affected area when treating an active digital dermatitis (DD) lesion. *(Please note: the use of oxytetracycline powder for treatment of DD is considered extra-labeled prescription drug-use and must be used in this manner through a valid veterinary-client-patient-relationship (VCPR)). *

- The purpose of a foot wrap is to ensure the treated lesion is dry and has contact with the antibiotics powder for a minimum of 30 minutes. Wraps should be removed within 24 hours, if they have not fallen off, to risk of injury and to perpetuate the foot disease.

*Recommendations based from 2017 UW-Extension Hoof Health Training conducted by Dr. Dörte Döpfer, DVM, MSc, PhD, UW-School of Veterinary Medicine

For UW-Extension factsheets focusing on hoof health, please visit:
http://fyi.uwex.edu/dairy/ for the Walking Strong Factsheet series on Dairy Hoof Health