Dairy hygiene starts with clean cows

Many dairy producers rely on footbath programs to help prevent and control chronic infectious claw lesions in their herds. Maximizing the effectiveness of a footbath program hinges on three key factors: 1) hygiene 2) proper footbath design (size, length and depth) and 3) effective footbath management (chemical concentration, cow passes per change and frequency of use).

Footbath regimes are an integral component of infectious foot disease control in confinement dairy systems. The footbath is a simple mechanism for treating large numbers of cattle quickly and efficiently.

**Hygiene Scoring**

Use hygiene scoring to help determine ideal footbath frequency.

<table>
<thead>
<tr>
<th>SCORE 1</th>
<th>SCORE 2</th>
<th>SCORE 3</th>
<th>SCORE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAN</td>
<td>Slightly Dirty</td>
<td>Moderately Dirty</td>
<td>Very Dirty</td>
</tr>
</tbody>
</table>

Proportion of cows with hygiene score 3 and 4  | Suggested footbath frequency (minimum) |
| < 25%  | As required  |
| 25 - 50% | 2 days per week  |
| 51 - 75% | 5 days per week  |
| > 75%  | 7 days per week  |

**Calculating Appropriate Footbath Volume (4” solution depth)**

<table>
<thead>
<tr>
<th>Footbath Length (feet)</th>
<th>Footbath Width (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2”</td>
</tr>
<tr>
<td>8</td>
<td>2”</td>
</tr>
<tr>
<td>10</td>
<td>3.5”</td>
</tr>
<tr>
<td>12</td>
<td>3.5”</td>
</tr>
</tbody>
</table>

- Footbath must be at least 10 feet in length to ensure rear feet receive at least two immersions in solution.

**Calculating Appropriate Quantity of Footbath Chemical/Product to Use**

<table>
<thead>
<tr>
<th>Footbath Volume (gallons)</th>
<th>Gallons (or lb) Per Footbath*</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>1 gal (8.3 lb)</td>
</tr>
<tr>
<td>75</td>
<td>1.5 gal (12.5 lb)</td>
</tr>
<tr>
<td>100</td>
<td>2 gal (16.7 lb)</td>
</tr>
<tr>
<td></td>
<td>2.5 gal (20.9 lb)</td>
</tr>
</tbody>
</table>

**Common Footbath Calculations**

1. Determine capacity of a footbath. Multiply: length (ft) X width (ft) X depth (ft) X 7.46 = number of gallons
2. Convert gallons to pounds. Multiply: number of gallons X 8.33 = pounds of water
3. Determine pounds of dry product needed to achieve the desired solution. Multiply: pounds of water X percent solution desired = pounds of dry product to add

Disclaimer: The guidelines for use set forth herein are assumed to be accurate based on common knowledge. However, the accuracy and applicability of guidelines for administration are not guaranteed. Zinpro Corporation disclaims any liability, loss or damage caused by usage or non-usage of any guidelines set forth herein resulting from improper mixing, handling or the labeling accompanying the product, including serious injury and death.

For more information contact your footbath supplier.

**About First Step**

The First Step Dairy Lameness and Assessment Program provides the industry’s most comprehensive assessment of lameness risk factors on a dairy. It was created by Zinpro Corporation and Dr. Nigel Cook, professor in the food animal production medicine section of the University of Wisconsin-Madison School of Veterinary Medicine.
A footbath system is a simple way to quickly and effectively treat large numbers of cattle, no matter the type of operation. But a footbath system that isn’t properly built and managed can actually do more damage than good.

To increase effectiveness of the footbath and minimize injuries to the animals, it’s important to follow proper construction guidelines and – once built – to install a system of management practices.

**Design and Location**

**Assess your footbath**

The First Step® Footbath Calculator, when used in conjunction with hygiene scoring, helps develop a footbath program for your operation. Make adjustments based on First Step recommendations to create a footbath program that works to optimize your herd performance.

**Management**

**Change Frequency**

A common industry standard is to change footbath solution after every 100-300 cows. However, frequency will vary depending upon cow cleanliness, type of disinfectant or chemical concentration used and weather conditions.

Manure deactivates chemicals used in footbaths. A poorly managed footbath can become a vector for infectious diseases of the foot.

For more information contact your footbath supplier.

**SCHEDULE**

- Use footbath as recommended by hygiene scoring on consecutive days each week.
- Foot and leg hygiene of the herd will help determine the number of days required.
- Dirty cows require more frequent footbathing.
- On non-footbath days, keep hygiene in check with a soap bath.

**Schedule**

- 1 quart to 25 gallons of water

Cows should enter a clean, dry area after passing through the footbath.

Cows should be able to bypass permanent footbaths on days when they are not being used.

**Locate footbath**

- On a level surface, in an area regularly traveled by the cattle.

**Design and Location**

**Locate footbath on a level surface, in an area regularly traveled by the cattle.**

**Management**

**Alternate times for replenishing footbaths with fresh solution so each group of cows has access to fresh solution.**

**Thoroughly drain footbath and rinse with water before mixing a new batch of solution.**

**Design, location and management are key to footbath effectiveness**

A minimum length of 10 feet ensures that rear feet receive at least two immersions in solution.

Side walls are sloped from a height of 3 feet above the floor of the bath to the upper edge of the bath, and the sides should be enclosed to create a tunnel.

The amount of solution needed to fill a properly sized footbath (see back panel for common calculations).

50 – 52 gallons

The higher step-in height increases the number of foot immersions in the bath.

10" step-in height

It has been proven that cows have no problem with a curb of this height. The higher step-in height increases the number of foot immersions in solution.

4" minimum depth

To ensure full immersion of hoof in solution.

LENGTH: 10’ – 12’

A minimum length of 10 feet ensures that rear feet receive at least two immersions in solution.

HEIGHT: 3.0’

Side walls are sloped from a height of 3 feet above the floor of the bath to the upper edge of the bath, and the sides should be enclosed to create a tunnel.

ANGLE: 70%

Sloped side walls make cows feel at ease, not claustrophobic.

WIDTH: 1.6’ – 2.0’

Wide enough to ensure that cows can walk through comfortably while minimizing the amount of footbath solution – and hence, the amount of chemical – needed to charge the footbath.

10” step-in height

4” minimum depth

To ensure full immersion of hoof in solution.

50 – 52 gallons

To fill a properly sized footbath (see back panel for common calculations).

For more information contact your footbath supplier.

**Source:** Footbath design and use recommendations are adapted from paper published in The Veterinary Journal (Cook, et al., 2012) titled “Observations on the Design and Use of Footbaths for the Control of Infectious Foot Disease in Dairy Cattle.” Note: 10 inch step-in height (above) differs from published paper recommendation of 11 inch step-in height. Author has stated this is acceptable from a practical in-field use standpoint.