

# Foot Baths – Key Points

1. Locate the foot bath in an area regularly traveled by cattle. The exit lanes from milking parlors work well.
2. Foot baths should be 8 to 10 feet long and approximately 3 feet wide with a depth of 6 inches. Locate foot baths on a level surface.
3. If practical, locate a foot bath containing water (pre-bath) preceding the treatment foot bath. This will help to clean cows feet prior to entering the treatment foot bath.
4. There should be a gap of 6 to 8 feet between the treatment and water (pre-bath) foot baths. Cows tend to defecate when entering foot baths. The 6 to 8 foot gap between foot baths allows cows to complete defecation prior to entering the treatment foot bath.
5. Foot bath solutions should be 4 to 6 inches deep to ensure adequate coverage of the foot area.
6. Change foot bath solutions after every 150 to 200 cows<sup>a</sup>. This will vary due to reasons such as cow cleanliness, use of a pre-bath, type and concentration of medication used, and weather conditions.
7. Thoroughly drain foot bath and rinse with water before mixing a new batch of solution.
8. Alternate times for replenishing foot baths with fresh solution so each group of cows has access to fresh solution.
9. Cows should enter a clean dry area after passing through the foot bath.
10. Foot baths are most effective for treating diseases of the interdigital skin such as interdigital dermatitis and foot rot.
11. It is recommended that foot baths be used at least 3 to 4 days per week.
12. In arid regions, evaporation will concentrate active ingredients.
13. Formalin is not effective at temperatures below 45°F.



Picture courtesy J. K. Shearer, University of Florida

<sup>a</sup> Manure deactivates the chemicals used in a foot bath; therefore, foot baths must be managed properly to achieve maximum effectiveness. A poorly managed foot bath can actually become a vector for certain infectious diseases of the foot.

# Foot Bath Options

## Maintenance Foot Bath Solutions

Product	Mix with water to achieve
Copper sulfate <sup>ab</sup>	5% - 10% solution
Zinc sulfate <sup>b</sup>	5% - 10% solution
Formalin <sup>c</sup>	3% - 5% solution
Mild soap	1 quart to 25 gallons water

## Medicated Foot Bath Solutions

Product	Mix with water to achieve
Tetracycline <sup>d</sup>	0.1% solution (1 gram/liter)
Oxytetracycline <sup>d</sup>	0.1% solution (1 gram/liter)
Lincomycin <sup>d</sup>	0.01% solution (0.1 gram/liter)

<sup>a</sup> Hot water will help dissolve copper sulfate. If using hard water, adding some vinegar will help dissolve solution.

<sup>b</sup> Due to amount of trace minerals added, dairy producers should consult with their agronomist to determine potential implications of applying manure containing high levels of trace minerals. Some success has been reported using 15 to 20% zinc sulfate foot baths. However, producers may have trouble dissolving this amount of zinc sulfate and impact on zinc content of manure will be substantial.

<sup>c</sup> 3 to 5 gallons of a 36% formaldehyde solution added per 100 gallons of footbath solution. In some areas, formaldehyde use is prohibited. Caution must be exercised when using formaldehyde as fumes are harmful to both cattle and humans. Use in a well-ventilated area and always wear protective eye wear. Furthermore, formaldehyde is a suspected carcinogen.

<sup>d</sup> This represents extra-label use of these products. Dairy men must consult with their veterinarian for proper labeling and further instruction.

# Foot Bath Calculations

## To Determine Capacity of a Foot Bath

**Multiply:**  
 Length (ft) x width (ft) x depth (ft) x 7.46 =  
 Number of gallons

## To Convert Gallons to Pounds

**Multiply:**  
 Number of gallons x 8.33 = Pounds of water

## To Determine How Many Pounds of Dry Material to Add to Achieve the Desired Solution

**Multiply:**  
 Pounds of water x percent solution desired =  
 Pounds of dry product to add

## Example: To achieve a 5% copper sulfate solution in a foot bath that measures 10 ft long, 3 ft wide, and 6 in deep.

10 x 3 x 0.5 x 7.46 = 111.9 gallons  
 111.9 gallons x 8.33 = 932.1 lbs of water  
 932.1 x 0.05 (5% solution) = 46.6 lbs copper sulfate