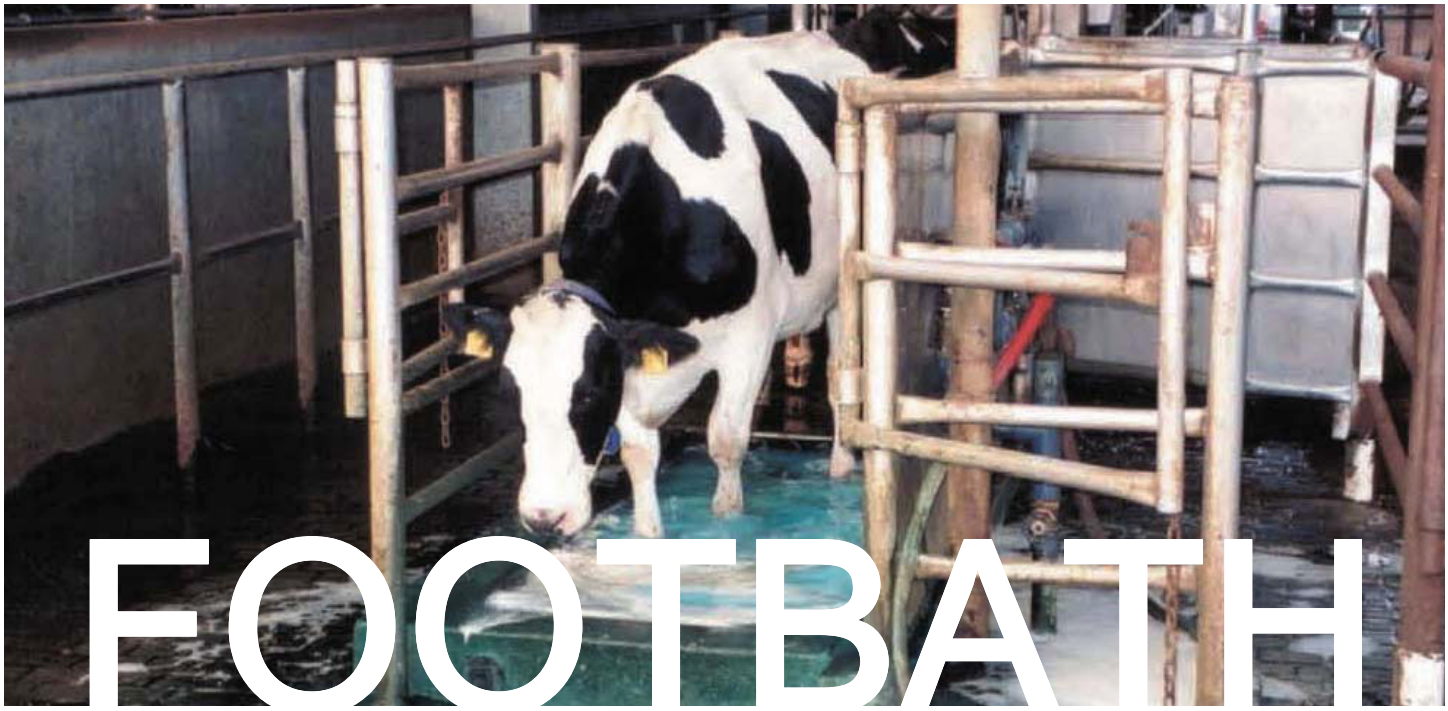


FOOTBATH

Footbaths are used to control infectious lesions that have an environmental origin, such as; digital dermatitis, interdigital dermatitis, and footrot. The purpose is to harden the claw horn, and to disinfect, depending on the type of chemicals used in the bath.

The use of footbath is effective if:

- The design is correct
- The location is correct
- It's managed correctly

It's very important that dairies keep records of the diseases to justify its use. Knowing the frequency and incidence of infectious lesions, will help evaluate the success of a footbath program.

COW HYGIENE SCORES & FREQUENCY OF FOOTBATH USE

It is important to determine how frequent the use of the footbath should be. The more contaminated the lower limb, the higher the frequency. In dairies with excellent cow hygiene scores, footbath usage might only be once weekly, in others it could vary between 3 to 7 times a week.

Proportion of Cows with Hygiene Scores of 3 and 4	Suggested Footbath
< 25 %	As required
25 - 50 %	2 days / week
51 - 75 %	5 days / week
> 75 %	7 days / week

Source: Nigel Cook, University of Wisconsin-Madison Veterinary School

SCORE 1

CLEAN
Little or no manure contamination

SCORE 2

SLIGHTLY DIRTY
Where the lower limb is lightly splashed with manure

SCORE 3

MODERATELY DIRTY
There are distinct plaques of manure on the foot, progressing up to the limb

SCORE 4

VERY DIRTY
Where there are confl uent plaques of caked-on manure on the foot and higher up the limb

Source: Nigel Cook, University of Wisconsin-Madison Veterinary School

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 2.5 to 3m long and approximately 1m wide with a depth of 15cm. 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.

Photograph courtesy of J.K. Shearer, University of Florida

4. There should be a gap of 1.8 to 2.4 m between the treatment and water (pre-bath) foot baths. Cows tend to defecate when entering foot baths. The 1.8 to 2.4 m gap between foot baths allows cows to complete defecation prior to entering the treatment foot bath.

5. Foot bath solutions should be 10 to 15cm deep to ensure adequate coverage of the foot area.

6. Change foot bath solutions after every 150 to 200 cows[a]. 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.

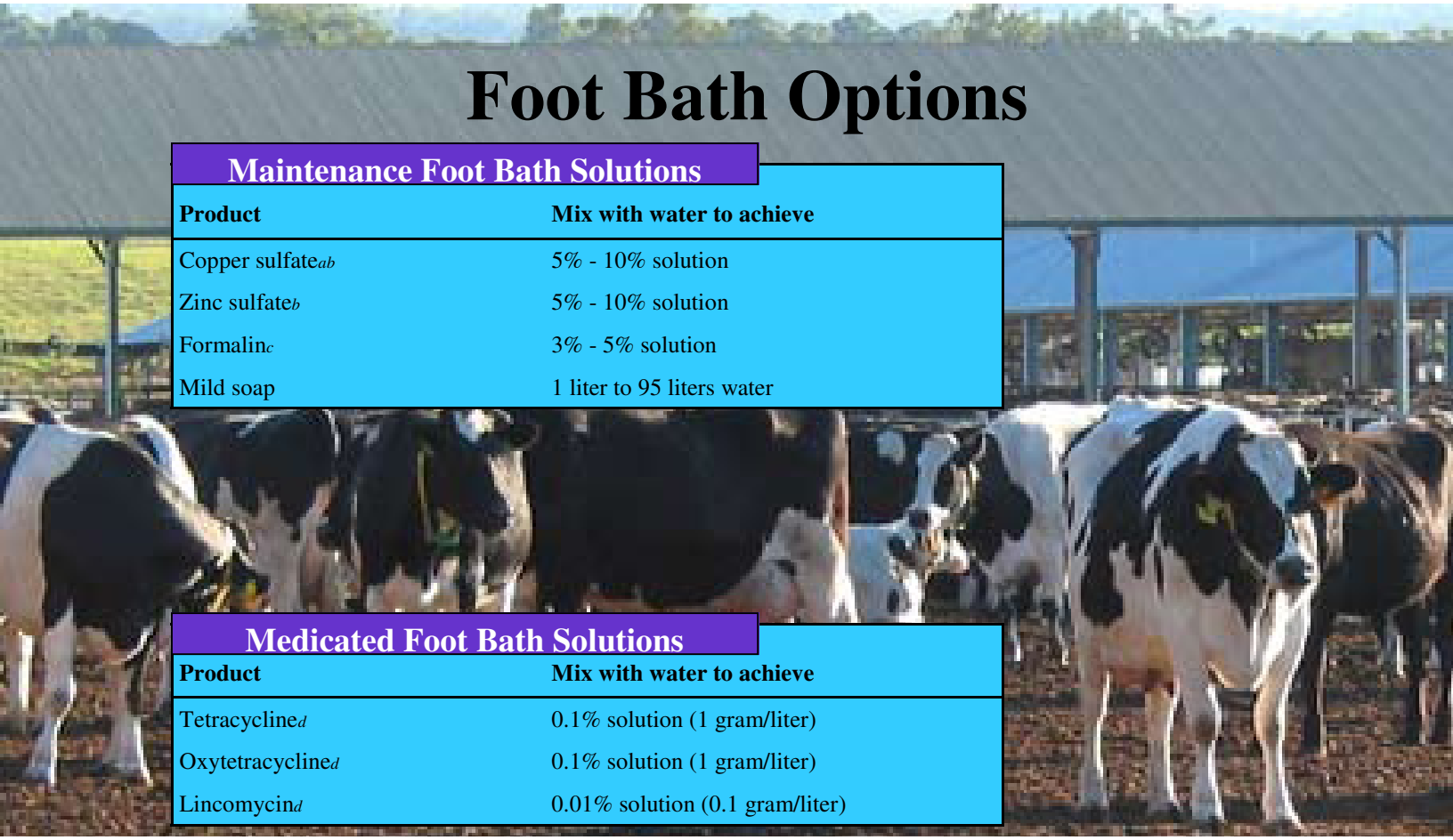
11. It is recommended that foot baths be used at least 3 to 4 days per week.

12. In arid regions, evaporation will concentrate active ingredients.

13. Formalin is not effective at temperatures below 7°C.

a) 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[ab]	5% - 10% solution
Zinc sulfate[b]	5% - 10% solution
Formalin[c]	3% - 5% solution
Mild soap	1 liter to 95 liters water

Medicated Foot Bath Solutions

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

a) Hot water will help dissolve copper sulfate. If using hard water, adding some vinegar will help dissolve solution.
b) 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.
c) 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.
d) This represents extra-label use of these products. Dairymen must consult with their veterinarian for proper labeling and further instruction.

Foot Bath Calculations

TO DETERMINE CAPACITY OF A FOOTBATH	TO DETERMINE HOW MANY KILOGRAMS OF DRY MATERIAL TO ADD TO ACHIEVE THE DESIRED SOLUTION	EXAMPLE: TO ACHIEVE A 5% COPPER SULFATE SOLUTION IN A FOOTBATH THAT MEASURES 3M LONG. 1M WIDE, AND 15CM DEEP.
Multiply: Length (m) x width (m) x depth (m) x 1000 = Number of liters	**Multiply:** Liters of water x percent solution desired = kilograms of dry product to add	3 x 1 x 0.15 x 1000 = 450 litres 450 x 0.05(5% solution) = 22.5 kg copper sulfate