

## *Key Points*

- *Wash baths are not recommended, as they do not keep the treatment bath cleaner, may cause dilution of the treatment bath, and add a significant amount of water to the manure handling system.*
- *Footbaths should be 10-12 feet (3-3.7 m) long to increase the number of foot treatments.*
- *A 10-inch (26 cm) step-in height will reduce losses of treatment solutions from the bath.*
- *Reducing footbath width to 24 inches (61 cm) or wider with sloped sidewalls is well accepted by mature cows and will maintain a similar volume of shorter footbaths.*
- *A 'Footbath Dose Calculator' is available to accurately mix treatment solutions on The Dairyland Initiative website.*

Footbath regimes are an integral component of infectious hoof disease control in freestall dairy systems. Topical application of antibacterials such as copper sulfate, formalin, zinc compounds and other disinfectants have been shown to aid the control of foot rot and digital dermatitis (heel warts), and the footbath is a simple mechanism for treating large numbers of cattle quickly and efficiently.

## ***Should I use a wash bath?***

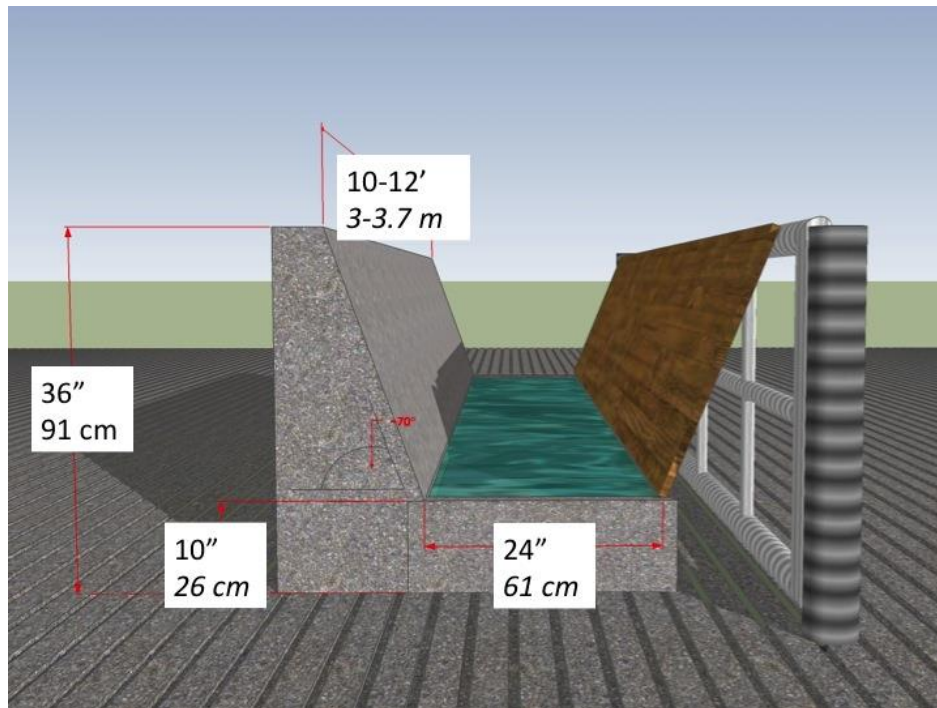
Use of a wash bath has two other significant problems. Firstly, when they are located immediately adjacent to the treatment bath, the water from the wash bath is transferred to the treatment bath, diluting the antibacterial being used as the cows pass through the baths, potentially reducing efficacy. Secondly, use of a wash bath adds a significant amount of water volume to the manure lagoon over the course of a year, which has to be stored and spread on the land. No wash bath should be included in the footbath design.

## ***What dimensions should I use for a footbath?***

Length is the critical dimension as it determines the number of foot immersions that occur as the cow walks through the bath. At the typical length of 72 inches (1.8 m), half of the rear feet receive only one immersion as the cow walks through the bath - meaning that we are disinfecting one rear foot half as much as another. If transfer of chemical to the foot is important, we would suggest that footbath length should optimize the number of foot immersions, therefore, footbaths should be 10-12 feet (3-3.7 m) long.

The disadvantage of making the bath longer is that the volume and required amount of chemical increases if we do not change the other dimensions so the footbath should have a step-in height of 10 inches (26 cm) and be at least 24 inches wide (61 cm) or wider.

A 12 foot (3.7 m) long bath, 24 inches (0.6 m) wide with a 10 inch (26 cm) step-in height filled to 3.5 inches (9 cm) would contain 52 gallons of solution - no more than most of the traditional shorter baths. Sidewalls 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. This design will promote cow flow through the bath and reduce defecation. Because the bath is a long tunnel, we would advise creating a hinged drop panel on one side of the bath, so that if a cow fell and couldn't get up, she could be rescued.



**Above:** Recommended slope-sided design with one or two side drop panels.

**Below:** Example of a footbath in a robotic milking barn, which is situated between the central crossover alleys and the robots, and fitted with one-directional gates to prevent the cows from entering backwards into the robot area.

