

Solution concentration and management are key to lameness control

# Design and dilution

What's the latest research and advice on how to control and prevent one of the main causes of lameness in UK dairy herds? We spoke to two experts to find out more.

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**D**igital dermatitis accounts for between 20 and 25% of all cases of lameness in UK herds. And it is not only a serious welfare issue, but it also has serious financial implications. "Each case of digital dermatitis is estimated to cost between £75 and £82 in the UK," said Marijntje Speijers from Hillsborough's Agri-Food and Biosciences Institute, speaking to delegates at this year's British Society of Animal Science's annual conference, held at Queen's University, Belfast.

"Copper sulphate solutions are used extensively in footbaths for cattle to control this disease, but long-term use may have adverse effects on the environment through increasing soil copper levels.

## Footbathing regimes

"So we carried out a study to compare the effectiveness of different footbathing regimes using different copper sulphate concentrations in the treatment of digital dermatitis," she explained.

Lactating cows from the experimental herd at the were allocated to one of four treatment regimes: weekly footbathing with 5% copper sulphate; weekly footbathing with 2% copper sulphate; fortnightly footbathing with 5% copper sulphate; or fortnightly footbathing with 2% copper sulphate. Cows allocated to the weekly footbathing regime had, on average, a high prevalence of active digital dermatitis (DD) at start of the trial – more than 60% – whereas cows allocated to fortnightly footbathing had a lower prevalence of active DD, at less than 25%.

"And we found that cows on the weekly footbathing regime saw the prevalence of active DD lesions

decrease faster when the 5% rather than the 2% copper sulphate solution was used," said Dr Speijers.

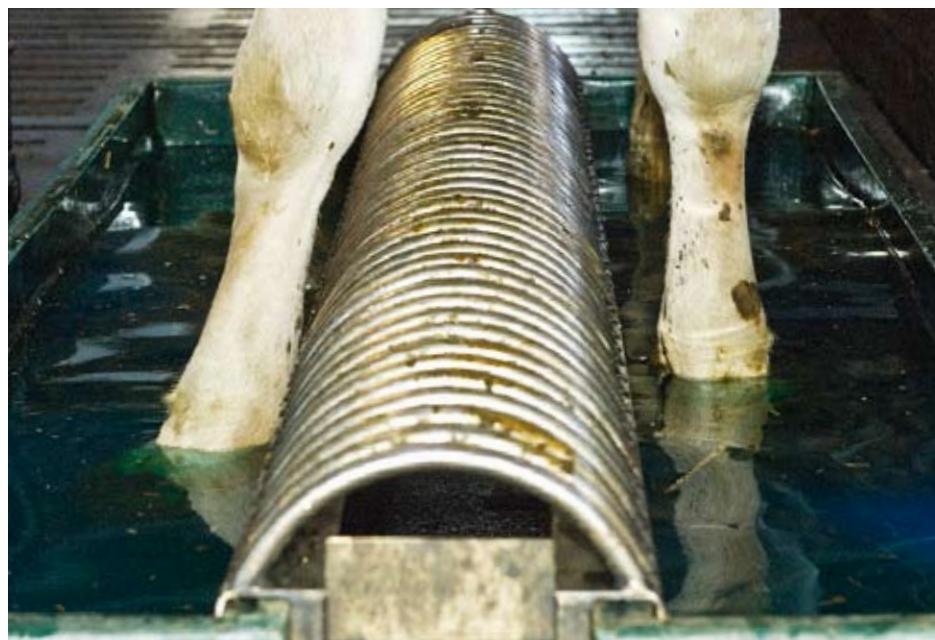
"Improved healing of DD lesions was also shown with the weekly 5% rather than 2% copper sulphate footbathing regime. And for cows on the fortnightly footbathing regime, with low levels of DD, there was no significant difference in number of active lesions, or in healing of lesions, between the 2% and 5% copper sulphate solutions."

The effectiveness of a footbath

programme hinges on proper footbath design and effective management techniques. Footbath design is vital, according to Zinpro's Dana Tomlinson. "They should be between 2.5 and 3m long, with a minimum depth of 15cm, and the footbath should also be wide enough that all four of the cow's feet get exposed to the footbath solution," he says. "And the footbath solution should be between 10 and 15cm deep to ensure adequate coverage of the foot area.

"Also ensure that footbaths are located on a level surface. Floors should provide adequate traction, but not be rough and abrasive, which may cause trauma to a cow's feet."

He adds that when it comes to footbath management, they should be used three or four days per week and, crucially, cows should enter a clean dry area after passing through a footbath. |



## Footbathing check list

- Change footbath solution after every 150 to 200 cows. Frequency will vary depending upon cow cleanliness, use of a pre-bath, type of disinfectant or chemical concentration used and weather conditions.
- 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.
- Use claw lesion records to monitor effectiveness of footbath management and efficacy of footbath solutions.