

FOOTBATHING



The required frequency of footbathing will be dependent on seasonal conditions and severity of disease. Footbathing will reduce transmission and establishment of disease but has minimal ongoing protection against reinfection. Therefore, frequent footbathing is often required to effectively control the spread of footrot.

During high challenge periods, the optimum frequency of footbathing is:

- Weekly if using short term footbaths (walkthrough/stand up to 5 minutes)- minimum of 6m long footbath, 10-20% zinc sulphate + 1-2% sodium lauryl sulphate or
- Every 3-4 weeks if using long-term footbaths (1 hour)- 20% zinc sulphate + 1% sodium lauryl sulphate.

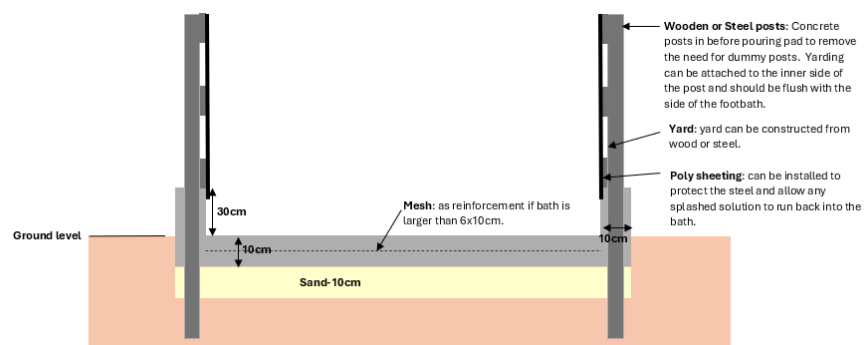
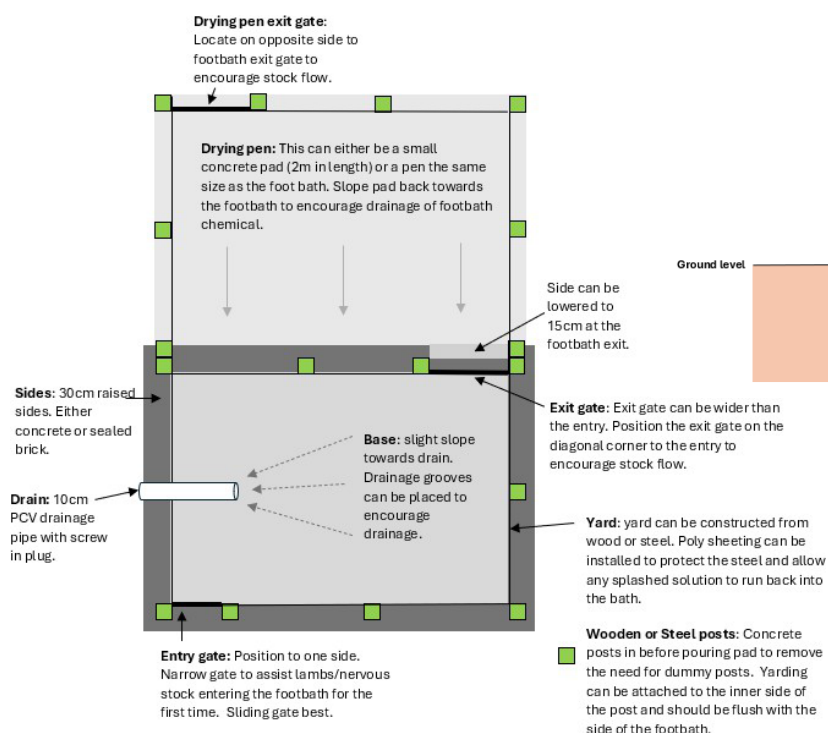
It is acknowledged that this level of footbathing may not always be possible or required. It is recommended to discuss your footbathing program with an accredited advisor who will help you determine the best program for your property.

Type of footbath:

For large flocks a permanent concrete bath will be most efficient whereas portable footbaths may be a better investment for smaller flocks. Discussing your footbathing program with your advisor will assist in determining what footbath is required.

Permanent concrete baths:

- Allow 1m² per 3 woolly or 4 shorn sheep.
- Aim for a holding capacity of 250 sheep for flocks of 4000 or more.
- Concrete floor with raised sides of 15-20cm (side can be concrete or sealed bricks).
- Construct a yard around the bath with a gate at each end. Timber is often used as footbath chemicals can be corrosive. The yard panels need to meet the wall of the footbath at the inside edge to prevent sheep resting their feet on a ledge.
- Sheep generally flow into square baths easier and are less likely to go down compared to troughs.
- Location:
 - Ideally permanent footbaths should be in a position where sheep can access **clean ground** following bathing (i.e. exit point of yards is separate to entry).
 - Locating a footbath at the exit of a shearing shed will help to remove dirt and debris from the feet prior to entering the footbath.
 - Locating a footbath undercover will help to maintain footbath concentration as it will prevent evaporation and dilution due to rain. It will also eliminate reflection on the water.
 - Locate footbath close to a water supply and near a safe disposal site for footbath chemicals. It is best to run used footbath solution through a pipe into an underground pit filled with rubble which will enable the solution to slowly soak away. Zinc is toxic so avoid disposal into bushland, productive areas or near waterways.



Top: side-on view of a permanent concrete footbath.

Left: Aerial view of a permanent concrete footbath.

Portable baths:

- Large, galvanised or polyethylene baths offer another solution for producers who do not want to construct a permanent footbath.
- Galvanised baths are usually 750mm wide (allows sheep to stand side by side) with high sides (600mm) to ensure all hooves remain in the solution and splashing is reduced. The height at the entrance and exit point is kept to 250mm.
- Polyethylene baths come in both race style and standing type configurations.
- Both galvanised and polyethylene baths come in modular configurations which allow baths to be assembled end to end to increase footbathing space.



Footbaths using recycled materials:

- As another alternative, footbaths can be constructed from recycled materials including:
- **Intermediate bulk containers (IBCs):** Weldmesh can be used on the base to prevent sheep slipping. Care must be taken to ensure sheep do not slip.
- **Shipping containers:**
Shipping containers are another alternative that can hold larger numbers of sheep and are potentially portable. Concrete slurry could be used on the floor to make cleaning easier, gates can be installed at each end and a drain installed to allow for emptying.



Calculating footbath volume and chemicals:

1. Calculate holding capacity of bath:

Length x Width x Depth = volume in cubic metres.

1 cubic metre = 1000L. Therefore, multiply above answer by 1000 to get volume in L.

Example (race type bath)

Length (8m), Width (3m) Depth (0.055m)

$8 \times 3 \times 0.055 = 1.32$ cubic metres.

$1.32 \times 1000 = 1320L$

2. Addition of chemicals:

- **For 20% zinc sulphate, 1% sodium lauryl sulphate solution:**
Add 1 25kg bag zinc sulphate and 1.2kg sodium lauryl sulphate to every 110L water.
- **For 10% zinc sulphate, 1% sodium lauryl sulphate solution:**
Add 1 25kg zinc sulphate and 2.4kg sodium lauryl sulphate to every 225L water.
- Mix with a stiff broom and ideally allow 24 hours prior to first use. Test with hydrometer prior to use.

3. Maintaining the solution:

- Check the concentration of the footbath twice a day using a hydrometer:
 - **10% solution should read between 1050-1060 units.**
 - **20% solution should read between 1070-1090 units**
- Strain the solution through a stocking before measuring to increase accuracy
- Top up regularly with extra chemical and water to maintain concentration and volume.
 - **If too low add 2.5kg ZS/100L water to increase strength by 10units**
 - **If too high add 25L water per 100L to decrease by 10units**
- Dirt and faeces can bind and inactivate zinc sulphate. If the footbath solution becomes thick and discoloured it may need to be discarded. Discard if solution becomes thicker than cream consistency.

Precautions:

Dogs: Always take care when using dogs around footbaths. Ensure fresh drinking water is always available to discourage them from drinking the footbath solution. Wash thoroughly with water if they do contact the solution. Monitor eyes for irritation.

Thirsty Sheep: avoid putting thirsty sheep into a footbath as they may drink the solution.

Drowning: do not overfill the footbath with sheep. Ensure appropriate supervision to ensure sheep do not go down and drown.

Footbathing-Key points:

- Short term(walkthrough-up to 5 min) footbaths need to be repeated at regular intervals (weekly) to effectively control the spread of footrot during high challenge periods.
- Long term footbaths (1 hour) can be repeated at less regular intervals (every 3-4 weeks).
- Maintain zinc concentration at 10-20% for walkthrough footbaths and 20% for stand-in footbaths. Measure concentration twice daily using a hydrometer.
- The addition of sodium lauryl sulphate at 1-2% improves penetration of the zinc and allows it to stay in contact with the foot, providing a longer benefit.
- Depth of the footbath should be 5-6cm (covering the foot/above the skin/horn junction).
- Hold sheep on dry ground for 1 hour following bathing when paddock conditions are wet. Not necessary in summer.
- Footbathing will be most effective if sheep can be moved into a clean paddock (not grazed for 1-2 weeks) following bathing.
- Footbathing is most effective against interdigital and minor under-run lesions. It is best done early in the spread period.
- Cure rates of 50-80% of affected feet or 30-50% of affected sheep may be expected from foot bathing provided treatment is repeated at appropriate intervals
- Footbathing is time consuming. Discuss your footbathing program with your advisor to ensure you are using your time efficiently and have realistic expectations of what you will achieve.

References:

Dr. Deb Lehmann

Australian Wool Innovation Ltd, 2020, Footrot- A guide to identification and Control in the field.

Abbott, K.A, Lewis, C.J, Current approaches to the management of ovine footrot, The Veterinary Journal, 2005, vol 169, pg. 28-41.