

**Introduction**

As there are no control measures available for Panama TR4 implementing a range of on-farm biosecurity practices is essential to reducing the likelihood of Panama Tropical Race 4, or any other pest or disease entering your property. As with all aspects of on-farm biosecurity, you should first focus on how you can exclude people, machinery, vehicles or equipment, before you think about treating them. By following the process of Assess, Identify, Implement, Inform you are well on your way to implementing effective biosecurity exclusion strategies. Footwear exchange stations add an effective biosecurity layer to manage disease risk pathways onto and off your farm.

**Design of footwear exchanges**

Footwear exchange stations are a way to add layers to your biosecurity regime by preventing potentially contaminated footwear from entering or leaving the property. This includes any footwear worn by staff, contractors, or any other visitor. Consider your own shoes that you wear to town as potentially contaminated. Footwear exchanges may also be required for staff transiting across internal biosecurity zones. Regardless of the design of footwear exchange stations, they must satisfy some fundamental criteria for them to be effective;

- The footwear exchange station should be situated in an appropriate place at the interface of the Separation zone and public areas i.e. At the front entrance to the property. The station needs to perform its function for foot traffic both entering and exiting the property.
- Heavily contaminated footwear worn by staff working in the paddock may be exchanged before they enter the Separation zone i.e. The area where processing and dispatch takes place. This is most often where smoko and toilet amenities are situated in a packing shed.
- Footwear should be cleaned of surface dirt before entering the footwear exchange. This prevents the floor and boot racks from themselves being contaminated. Boot scrubbing brushes and footbaths at entry and exit points further reduce the risk of cross contamination.
- The footwear exchange floor should be kept as clean as possible and be designed for easy decontamination. Seats and boot racks should be designed to prevent cross contamination between “farm boots” and “street shoes” via shared surfaces.
- Colour coding or numbering farm boots will help to keep track of staff movements and ensure the footwear exchange is being used correctly.

**Summary**

Footwear exchange stations are an effective way of excluding footwear that has been worn in public areas, non-contiguous blocks, critical production areas or indeed on other banana farms. They define pathways for foot traffic and provide a point where footwear can be swapped over. In this way potentially contaminated soil and plant material carried in the tread of boots and shoes is confined to its point of origin. Used in conjunction with biosecurity zoning and decontamination they provide an effective way of preventing the spread of Panama TR4 spores. **A key element of footwear exchange stations is that they create a biosecurity system that is layered. By having a layered approach to biosecurity, it spreads the biosecurity risk across a range of measures, as no single biosecurity practice is 100% effective, 100% of the time.**



*Figure 1: Dedicated property footwear reduces the risk of spores being translocated between public areas and internal biosecurity zones. They should be designed to minimise contact between potentially contaminated surfaces including the footwear itself, the boot rack and the floor. This rack allows the soles of boots to be easily inspected. It minimises the point of contact between surfaces and is easily decontaminated. Boots are numbered and assigned to individuals allowing for easy tracking of personnel.*

*Figure 2: Footwear exchange stations should be situated at the point where personnel enter and exit the property or where internal biosecurity zones are crossed. In this example staff exchange their “street shoes” for dedicated farm boots when crossing from the Exclusion zone into the Separation zone and vice versa.*



*Figure 4: In this example personnel remove their “street shoes” on one side of the bench seat, swing around, and put on their farm boots. This provides segregation between zones and minimises the risk of cross contamination via footwear.*

*Figure 3: Boot scrubbing and footbaths further reduce the risk of cross contamination and help to keep the boot room clean.*

