

Footbaths

For Pastured Poultry Farms

Cooperative Extension • Delaware State University

A publication of the Agriculture and Natural Resources Program

Pastured poultry producers have greater exposure to disease agents because their management practices are specifically designed to allow the birds outdoor access.

Therefore, these flock owners may work harder to prevent losses due to disease. Although vectors of disease, such as rodents, wild birds, and insects, are not well controlled in most pastured operations, the flock owner has great control over the human activity on the farm.

Implementing a footbath station on a pastured poultry farm can be a cost effective biosecurity measure. Once it is understood how many disease-causing organisms travel onto and around farms, many flock owners take into consideration the economic value of a footbath versus the cost of replacing an entire flock. The minimal cost and maintenance of a footbath station requires some thought as to a suitable location. Teaching visitors and caregivers how to use the footbath allows flock owners to permit more than one person to care for the flock without concern for footwear cleanliness.

Footbath Location

Footbaths for a pastured poultry farmer include concerns about weather and location as well as the potential for birds drinking from a footbath. When considering the location for a footbath, choose a site where all must pass through. A door or gate is an excellent site for most footbaths. In a pastured poultry flock, this often means the entrance gate to the pasture.

Placing bricks, pavers, or pouring a concrete pad next to the gate will allow you to place the footbath on a surface that may easily be hosed off in the winter or swept clean in the summer. The size of the space you require depends on the site and the likelihood of mud accumulating during rainy or snowy weather. The goal is to have a surface large enough that excessive amounts of mud, leaves, or sticks are not tracked into the footbath from the immediate area.

Each pastured poultry producer experiences weather conditions that are unique to their farm. As such, each farmer must consider the weather conditions that the footbath will endure. This footbath may be exposed to the elements, so a lid for the footbath is an excellent addition. In the winter, a floating de-icer may keep the footbath liquid, but the disinfectant may be corrosive to any metal or dissipate much more quickly due to the de-icer.

Special Considerations

Another equally important consideration is the free-ranging nature of the poultry in a pastured flock. Your site selection should preferably be on the opposite side of the gate and away from poultry. If other pets are loose that may potentially drink from the footbath, a lid, once again, is an excellent addition to the footbath. The disinfectants used for footbaths, or for the cleaning of coops, may not always be suitable for consumption by pets or poultry. Read and follow all label directions for the disinfectant that you choose.

Dedicated Footwear

Along with using a footbath, wearing dedicated footwear is an excellent biosecurity measure. By using a dedicated pair of boots or shoes, flock owners prevent pathogens on their regular footwear from coming into contact with their flock. A pair of rubber boots is easily found at feed stores, or at some department stores (i.e. Walmart or Sears), and can be considered a part of the long-term investment in flock biosecurity.

For visitors to your farm, you may consider purchasing plastic disposable boot covers.

Disposable boot covers are also a good alternative option for those visitors who do not wish to walk through a footbath. Certain forms of footwear, such as sandals or flip-flops, do not lend themselves well to the utilization of a footbath. In this case, boot covers can permit visitors to see your flock rather than requiring them to stay with their vehicles. Plastic disposable boot covers, such as the Nasco® Big Boot, come in boxes of 25 pairs and usually cost under \$15. Disposable boot covers come in different thicknesses (4 mil or 6 mil) with higher numbers indicating thicker plastic.

Outreach component (marketing to the public)

It is well understood that much of the marketing associated with niche market poultry production is its transparency and welcoming nature to current and future customers. Such openness bears the risk for disease agent entry via visitors' contaminated footwear. The greatest part of biosecurity is the human component because disease organisms are really rather predictable. Question visitors as to their most recent whereabouts and request that those who have their own flocks at home not come into contact with your flock. However, not all visitors can recall where they have been within the past 72 hours prior to visiting your farm. Did a child visit a friend who has a pet bird? Did a customer walk onto someone's property who has ducks, but not chickens? Did the customer accidentally forget to change their footwear before coming to the farm? All of these scenarios are viable; for these reasons, your footbath will present itself as yet another barrier to disease carried customers' footwear.

Footbath Equipment

A footbath consists of 5 basic pieces of equipment. The first is a container with low sides and perhaps a lid. The sides should be low enough to allow a person to step in and out of the footbath without the risk of tripping. A plastic container is usually quite affordable and easy to replace. Masonry mixing trays, busboy trays, plastic storage bins, or cat litter pans are all viable and easily located solutions for footbath containers. A plastic container that does not have transparent sides is preferable as the effectiveness of some disinfectants can be negatively affected by sunlight.

The second piece of equipment is an Astroturf mat. An Astroturf doormat that has been cut down to the size of the footbath container will be sufficient. The third piece of equipment is a disinfectant that works against both bacteria and viruses. You should research disinfectants to determine if the disinfectant you choose is effective against poultry viruses, especially Avian Influenza. Disinfectants can be found at, or ordered from, local feed stores. Keep in mind that the mixing instructions vary for each disinfectant and that the label directions should always be followed. The disinfectant that you choose should be long lasting and able to stand up to organic material that is tracked through the footbath. Chlorine bleach is a cheap, short term footbath disinfectant, but the first person who walks through with heavily soiled footwear will quickly inactivate the disinfectant. Choose a disinfectant that is designed for use in livestock operations so that the disinfectant does not need to be changed more than once a week. The fourth piece of equipment is a long handled scrub brush. This will help scrub the grooves, sides, and top of footwear that enters the farm. A brush will also help dislodge any debris that may have dried to footwear. The last piece of equipment is a hose that is attached to a water source. Having a hose nearby makes it easier to clean

the footbath. A hose also makes water readily available to remix batches of the disinfectant for the footbath.

The use of a disinfectant footbath is not a new one for farmers. There are different products out there that may assist you in some cases. There is a disinfectant mat with 2-inch high sides that a customer may step in upon entering a building or other facility. This mat holds the pre-mixed disinfectant at the entrances of doors. There are also rubber fingers already built into this rubber mat for scrubbing the bottom of footwear. However, this particular product may not be suitable at the entrance of a field or pasture, as it does not have a cover. Other types of disinfectant mats use a foam rubber pad. Customers and employees step onto a mat that is embedded with disinfectant. The disinfectant is more of a foam in this format, but it provides adequate coverage of footwear. Again this is designed more for use at an entrance or doorway, but it does not have a cover to protect it from the elements if used outdoors. Another option is to have visitors walk through a footbath near the entrance of your farm and then spray their footwear with a hand-held spray bottle containing disinfectant before entering individual pastures.

Footbath Setup and Instructions

Post a sign that says that all must pass through the footbath. This sign is meant to reinforce what people are being asked to do verbally. It also serves as a reminder to employees, family, and visitors, that the health and safety of the flock is a priority. It is a good idea to post directions on the correct measuring and mixing procedures for creating fresh batches of disinfectant for your footbath. Employees or other temporary caretakers of the flock should know how to mix more disinfectant in case the footbath is spilled or at times of weekly cleaning. It is also a good idea to post the proper steps for cleaning footwear in the footbath. This serves as a reminder for everyone who uses the footbath regularly as well as notification for new users. Not all persons do a good job the first time they go through a footbath. Show new employees or visitors the correct way to clean their footwear. The standard procedure for using a footbath is as follows:

- Remove all debris (i.e. sticks, mud, leaves) before stepping into the footbath. Using the hose will aid in debris removal.
- Place the first shoe into the footbath. Make sure the entire tread, or bottom of the shoe, is immersed. Thoroughly and vigorously scrub the tread on the Astroturf mat on the bottom of the footbath.
- Dip the long-handled brush into the disinfectant bath and then scrub along the sides and top of the shoe.
- Place the first shoe on the other side of the footbath and place the second shoe into the footbath.
- Repeat steps 2 and three with the second shoe. Leave the disinfectant on the footwear after using the footbath. Proceed to your destination.

Footbath Maintenance

Footbaths should be cleaned weekly or when the disinfectant solution appears dirty. This may mean that in wet seasons, the disinfectant must be cleaned more than once a week. Follow the label instructions for the proper disposal of disinfectant. Do not dump the footbath in the immediate area surrounding the footbath station, otherwise muddy conditions could result. Once the disinfectant has been removed, remove the Astroturf mat and hose it off. Let the mat air dry. Scrub the footbath container thoroughly with the long-handled brush to remove any films that may attach to the plastic container.

How much does it cost?

The cost of putting together and maintaining a footbath is trivial in comparison to losing your entire flock. However, when budgeting for the purchase of footbath materials, the following may be used as a guide:

Disinfectant (1 gallon of concentrated solution)	\$25-35
Astroturf Mat	\$7-10
Long-handled Brush	\$7-10
Plastic Container (price varies depending on size)	\$5-10

Summary

Creating a footbath is neither difficult nor very expensive. The most difficult part of footbaths deciding whether or not to have one as a part of your farm's biosecurity program. The benefits to your flock, when used and maintained properly, are immeasurable.

For more information contact:

Brigid McCrea, Ph.D.
Poultry Extension Specialist
Assistant Professor
Delaware State University Cooperative Extension
1200 N. Dupont Highway
Dover, DE 19901
Phone: (302) 857-6432
E-mail: bmccrea@desu.edu



April 2013