

# Maintain Your Investment

By Heidi Zorn, Premier Equestrian



Grooming Equipment will have a direct result to your arena's long-term performance. Older styles of equipment like chain drags, or drags with only straight teeth, will not support proper mixing of the sand particles and don't work with textile additives.

The depth and angle of tine bars can be adjusted on all Premier Arena Drags. Groomers lift particles, mix, fluff, compact, and level the arena surface. Roller bars stabilize the groomer while adding compaction.

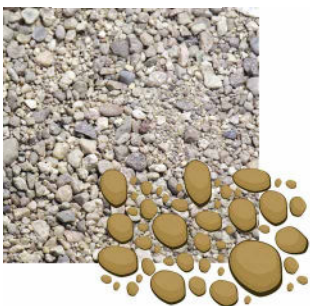
Even with the best sand and footing additive, proper maintenance is vital to the success of your arena and to the performance of your horses. Regular grooming will help eliminate divots and inconsistencies, and will help build confidence in your horses.

At Premier Equestrian, we believe that understanding your sand and footing is the first step to helping you better maintain an optimal surface for your horses.

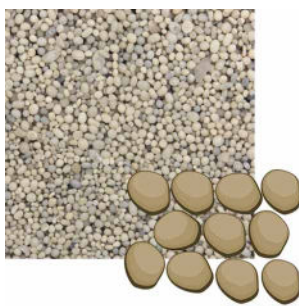
## Understanding Your Sand

One of the first things we analyze in an equestrian arena is the gradation of the sand particles. This refers to the range of particle sizes. A well-graded sand will have a combination of different sized particles. The variation of small particles will fill into the voids between the larger particles, stabilizing the surface from shifting and rolling.

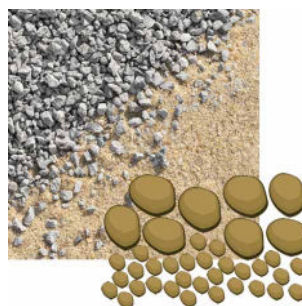
**Good Grading**



**No Grading**



**Gap Grading**



When sand has no grading, or is gap graded, you will have a severe separation of layers that are difficult to mix, and the surface can be very loose and unstable.

## Particle Size and Grooming?

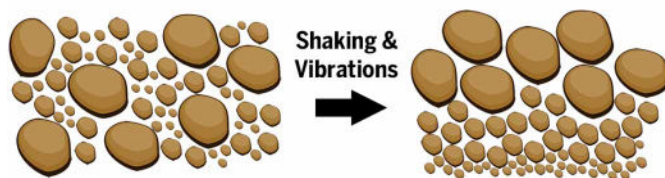
Lack of a grooming program enables the different sand particle sizes and additives to separate into layers. Vibrations and movement cause a phenomenon known as granular segregation, or “The Brazil Nut Effect”, where the largest particles end up on the surface.



Granular Segregation, or “The Brazil Nut Effect”: When shaken, the larger particles tend to rise to the top of the mixture.

Imagine a container of cereal. Initially your bowls are filled with consistently-sized pieces, but near the end of the box the pieces get smaller and smaller. Your arena is like that container. Due to constant vibrations and movement on the surface, the small particles will settle to the base through the voids of the larger particles, while the larger particles will migrate toward the top of the surface.

When the particles separate, the top layer can become unstable and the lower layer may compact. Regularly grooming your arena combats the separation of layers and keeps particles and additives evenly mixed.



## Maintaining Additives

Each material making up a footing products have a specific function to enhance sand qualities, and they are designed to be well incorporated into the sand.

Grooming prevents footing products from becoming separated from the sand. Without proper mixing the mechanics of the footing matrix and the quality of the surface are compromised.

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*“When an arena has hard spots, soft spots and different depths of footing, the horse is always questioning and not trusting himself. This creates tension and he will hold back his performance to protect himself. Having a consistent surface will enable the horse to develop proper fitness and confidence without having to worry about falling or an injury.”*

~ Sahar Daniel Hirosh  
Grand Prix Dressage Rider

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## Water

Water adds beneficial stabilization and grip, keeps dust out of the air, and most importantly acts as a binder. Keeping the surface damp when grooming will help the sand and additives stick together so they blend appropriately. Even without an additive, sand arenas will always perform better when watered.



Left: The dry materials can't mix together. Footing products rise to the top of the surface. Right: Water binds the sand and textiles together and add a structure to the footing.

Your watering routine will depend on your watering system, traffic, climate, indoor vs. outdoor, and the amount of moisture you naturally have (humidity, rainfall, none).

A water wagon, water reel or water truck, are very efficient and there is less water waste compared to sprinklers. Watering the evening before gives it time to perk down thru which helps with water retention. If you have sprinklers, make sure they are staggered for better coverage. Footing will use up to 100 gallons per 1000 s.f.. Example a 100' x 200' arena is 20,000 s.f. will need up to 2000 gallons per day to maintain footing consistency. Water when there is little to no wind to reduce over spray and water loss.

Take the time and adjust your watering routine if you haven't done so already. Are you too wet? Allow the arena to dry up a bit. Keep your tractor off of the footing if it is super sloppy. You can ride in it as long as you can walk in it.

Allowing your arena to become too dry can cause several issues. The main issue is that the fibers will separate from the sand and you will start to see the fibers sitting on top of the sand instead of being bound to it. The great news is that it can easily be fixed by watering and then grooming it back in.

Great arena footing doesn't come from just installing new sand or a brand-name footing product. You wouldn't buy the horse of your dreams and then just let him sit in a stall, would you? Creating an in-depth arena grooming and maintenance program is the best way to make sure that you are not just getting the arena of your dreams now, but also for the years to come. We strive for optimal longevity and performance from our surfaces, and good arena maintenance is one of the best things you can do for yourself and your horse.



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*The Arena Company*

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# Maintenance Basics

Your arena conditions and grooming goals will affect how you set up the groomer. To avoid damage to your groomer and to your arena, make lots of subtle adjustments and lower the tines in stages. The speed at which you groom will be affected by what you're trying to accomplish. We recommend not going above seven miles-per-hour or 1,800 rpm.



## Your Arena Base

1. Prevent damage to your base, arena mats, or separation cloth by digging to find out the maximum depth you may set the tines.
2. Make adjustments in small increments.
3. Pull forward a few feet, and check the depth. Allow for the width of your index finger between the point and your base.
4. Check for the base depth throughout your arena because there may be high and low spots.

## Grooming Patterns

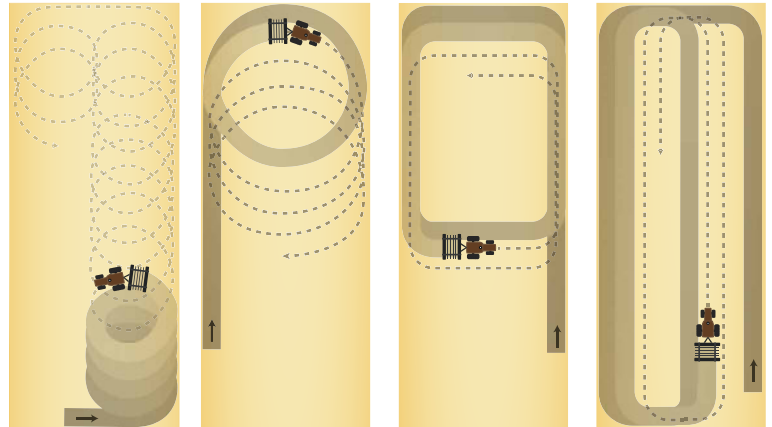
Change up the pattern each day so that the tractor doesn't create compaction. Be sure to not always drive on the rail. Here are some suggested patterns.

## Daily Maintenance

Daily grooming goals include cleaning up foot prints, removing ruts on the rail and around jumps, and keeping the surface level and consistent.

Be sure the groomer is level, and both rollers are set on the ground. All the weight should be on rollers.

- Daily grooming is best. However, if there are only a few rides each day, then every other day may be sufficient. If there is no use in the arena, the footing should still be groomed at least once a week to keep it primed.
- Arenas with textile additives require a consistent dampness to keep the sand and textile properly mixed. Watering should be done daily, or at least on an as-needed basis.
- Always remove organic material (manure, urine and leaves) from your arena. As it breaks down it will create dust, introduce bacteria and change the consistency of your surface over time.
- Always do a second pass with the compaction setting.



## Weekly Maintenance (Deep Conditioning)

Deep conditioning sessions may be in order if you have heavier traffic, you've had wet weather, or if the arena hasn't been used or groomed in several days (or longer).

- If you have a footing product, digging and mixing a bit deeper once a week will help maintain a proper blend. Hand raking the corners, edges or hard-to-reach spots is also a good weekly practice. See settings on the next page for mixing adjustments.
- If your arena has jumps, move them around and thoroughly condition the take-off and landing spots.
- Always do a second pass with the compaction setting.

## Yearly and Quarterly Maintenance

“Flipping” your surface once a year is beneficial if your arena has settled over a long period of time, or if regular maintenance has not been performed. This involves scraping up the footing above the base or base mats and flipping the sand and footing to re-blend the surface.

Every 3 - 4 months a very deep groom using the mixing and tilling option should be performed. This will mix all the different size particles back together as well as mix footing product throughout the surface evenly.

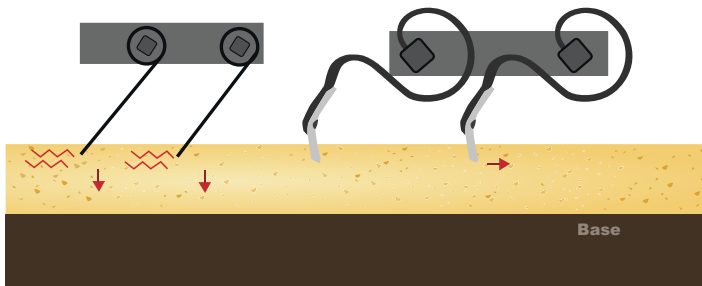
This is also a good time to examine the quality of your sand and footing additives. Sand breaks down over time and creates dust. You may need to incorporate some new sand and/or refresh your footing additives.



## Here are some of the ways you can set your groomer

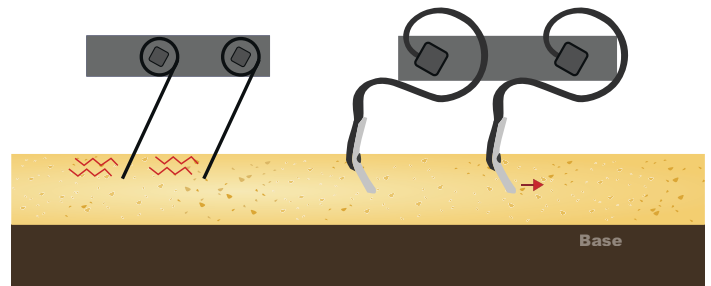
**Coil Tines**  
Passive position  
hole 1 or 2

**S-Tines**  
Passive position  
hole 1 or 2



**Coil Tines**  
Active position  
hole 3 or 4

**S-Tines**  
Active position  
hole 3 or 4



### Daily Refresh

**S-Tines and Coil Tines angled back and set shallow**

Position the S-Tines and coil tines to the passive position, hole 1 or 2 to fluff the top layer of the arena surface. Set between 1 - 1.5" depth. S-Tines will fill in the hoof prints and help level the surface. Coil tines fill in the grooves from S-Tines and help to compact the mid-base.

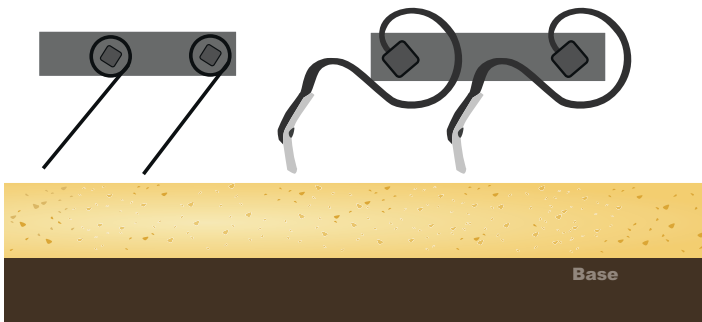
### Weekly Maintenance

**S-Tines mid-position, Coil Tines forward**

Set depth of S-Tines and Coil Tines 2 - 3". These will scrape hard spots in the base. S-Tines also loosen and redistribute material and sand to level the surface. Coil Tines will break up chunks and help mix and blend the arena surface.

**Coil Tines**  
Disengaged position  
hole 0

**S-Tines**  
Disengaged position  
hole 0



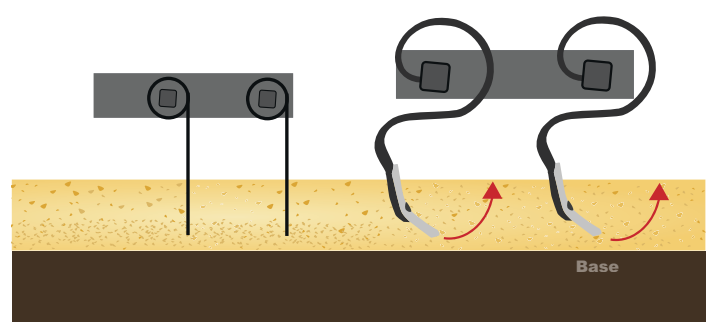
### Compaction Setting

**S-Tines disengaged, Coil Tines disengaged, out of surface.**

In the compaction setting, we want both sets of tines out of the surface and allow the roller to compact the surface.

**Coil Tines**  
Active position  
hole 5 or 6

**S-Tines**  
Active position  
hole 5 or 6



### Mixing & Tilling

**S-Tines and Coil Tines angled forward and set deep**

S-Tines will lift particles that have settled near the base. They also mix footing products together with sand. Coil tines will break up chunks and help mix and blend the arena surface.