



Equestrian News

June 2005

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A RIDING ARENA FOOTING PRIMER Riding Arena Footing: Connecting your Horse

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Horse people tend to be very particular in their likes and dislikes. You can ask one hundred different horse people their opinion on one product and get almost one hundred different answers. Riding arena footing preferences are a great example of this. Opinions and likes vary from discipline to discipline and even from person to person within each separate discipline. Footing is the material found on the surface of an engineered riding arena. English arena riding falls basically into two categories: dressage and hunter/jumpers. Dressage enthusiasts typically like their footing a bit deeper than the jumpers. In the western disciplines, footing depths are generally split into two categories: barrel racing and reining. Here the reiners typically like their footing deeper than barrel racers. Footing depths generally vary between 2 and 5 inches, depending on material type and riding style.



The basic job of footing remains the same for all disciplines. It should cushion the horse's hooves, and provide Discipline-appropriate traction (which includes the ability of the reining horses to slide). The footing should be non-toxic, odor

free, and as dust free as possible. It should also be consistent through out the arena (i.e., level, of uniform depth and firmness, etc.). When deciding which footing is right for you and your horses – ride it before you buy it. A particular footing or additive may feel great in your hand and feel completely different under hoof. Find a facility that has the kind of footing you are considering and ride on it – most footing manufacturers can provide you with a list of farms using their product. It is also recommended that you talk to the people who use it regularly and those responsible for maintaining it. Pertinent questions to ask include: How many riders use the arena per day/week? When was the footing

Bit Me Once, Bit Me Twice: Biting a horse is just logic, but it takes practice!

by Alejandra Abella for Equestrian Services, LLC

What kind of bit do I use? What does it do? Will this bit make my horse go "on the bit?!?" The questions about biting can be dizzying, and yet it is one of the most important pieces of equipment we put on our horses, so we have a right to ask questions. The problem is, although the answers are out there, there is also a lot of misinformation and incorrect naming, sometimes starting with the tack stores and catalogues that sell bits!

The truth is that biting is quite logic, and if you follow the basic principles of bit design, you can at least start walking on the right road. But don't expect it to be a straight one! Horses are like your pant size; they will change from time to time, so just like you jealously hang on to that size 4 pair of jeans, you will want to hang on to that simple snaffle in hopes that your horse will someday wear it again. However, most horses go through a variety of bits throughout their lives so....if you are a horse owner prepare to also be a bit collector.

Curbs and Snaffles....and joints, and links, and shanks, oh my!



A single-jointed snaffle, this one with eggbutt cheeks

So back to the basics: there are really only two major categories of bits. A Snaffle bit is *any* bit that has direct action from your hands, through the reins, and to the horse's mouth. Many times you will see bits with a joint on

the mouthpiece erroneously listed or tagged as a snaffle bit, but different mouthpieces –including jointed ones-- can be found in other kinds of bits, and snaffle refers only to the direct rein action on the bit. A Curb bit, the other major category of bits, is *any* bit that ads leverage to its action, by exerting pressure on the poll through shanks on the sides of the bit, and sometimes on the chin groove via a curb chain or strap. So, if your horse will listen to your hands when you apply direct action, and will bend and flex and go quietly, then all you need is some kind of snaffle. If he tends to be stiff and not want to listen, he may need a little more convincing in the form of a curb bit, which is a little stronger because it ads leverage to your hands, and the longer the shanks the more severe it can be. That is why you will see horse sale ads touting a horse that "goes on a snaffle," but keep in mind that there is no substitute for training. Less is more when it comes

installed? How much did it cost (both material and installation)? How often is the arena groomed and with what tool? What they are using for dust control – and if water, how much, how often, and how applied? Answers to these questions will help you decide on the best footing to meet your riding needs, budget, and time/maintenance threshold.

The following sections describe a variety of footing materials and additives, but are by no means exhaustive. Every year new products arrive on the market and many may prove to be excellent. In any event, it is important to have clear expectations regarding the performance of your footing (as well as the manufacturer and the contractor installing the material). Footing can be very costly to install and even more costly to replace if you are dissatisfied. So it is very important to do your homework and make your decisions wisely.

Another important rule of thumb when installing your footing – less is more. Even on the most tightly compacted base there will be some co-mingling of base and footing (effectively increasing the volume of footing). Start with less material than you think you will need because it is *much* easier to add additional material to your arena, than to remove it.

STONE DUST FOOTING

Here in the east it is common to see arenas with a product known as stone dust (a.k.a. blue stone or #10 screenings) as the footing. Typically stone dust is used as the engineered base of the riding arena because it compacts well and does not contain large stones. Some excavators will compact the stone dust then add additional stone dust in its loose form as the footing on top. It is more difficult to maintain this type of arena as the tendency is for all of the material to become highly compacted. With no clear delineation between footing and base (as opposed to the footing in the next section) and the need for more frequent and aggressive harrowing to keep the riding surface from becoming rock-hard, it requires a skilled operator to keep the compacted material level (it will tend to have rolling waves) with a consistent “fluffy” layer above it. Stone dust is the lowest cost material to use as footing and may be appropriate for you if the additional maintenance needs and the possibility of a less level surface will not adversely affect your riding.



SAND FOOTING

By far the most common substance used for footing is sand. Sand is most frequently used as a stand-alone footing, but is also the used with other lofting agents (see below). Sand placed over an engineered base composed of compacted stone dust is fairly easy to maintain. Sand will not harden like stone dust and when dragging, one can differentiate between fluffing the sand and harrowing into the base. Sand is the next most affordable footing material after stone dust. While there are a wide variety of sands marketed to equestrians, a washed concrete sand (ASTM C-33) is a good place to start. To meet the American Society of Testing and Materials (ASTM) specifications, all C-33 sands must meet specific particle size requirements (i.e., they are washed to remove fine, dust-causing particles and screened to remove all larger

to biting, so let's not put the entire hardware store in our horse's mouth!

What's in the Mouth

That's the next most important thing, because the design of the mouthpiece will also determine the



A slow-twist single-jointed snaffle, this one with full cheeks

action of the bit beyond the snaffle action on the corners and bars of the mouth, or the curb action on the corners, bars, poll and possibly also the chin groove. Jointed mouthpieces are designed to bend in an angle when you pull on the reins, creating pressure on the tongue, the bars of the mouth and sometimes the palate. But think of it logically: will a double-jointed

mouthpiece be more or less severe? The word "double" might point to more, but a double –otherwise known as French link–joint will actually lay the bit flatter in the horse's mouth, so it is less severe. And there are many combinations and permutations possible, but logic will always guide you: if there are edges on the cannons (the bars on each side of the mouthpiece), for example, as in a twisted wire or in a *slow* (less) or *fast* (more) twisted snaffle, how would that feel on the tongue as opposed to smooth cannons? How about thin, wiry bars versus thick bars? That's right, now you are getting it: more discomfort means more severity, for horses less willing to listen. Jingling "keys" in the middle of the bit? Wouldn't that make you salivate and try to "play" with them? Come to think of it, maybe that's why kids these days pierce their tongues.... Or how about a port? It looks like a bridge in the middle of the bit, and what is there in the mouth to bridge?

That's right, the tongue, and there are low, medium and high ports, as well as wide and narrow ports to accommodate both the tongue and the rider's need to still apply more or less pressure. But careful, because ports could also press into a low palate when the reins are pulled, so they are not for every horse.



A narrow-ported curb bit with curb chain

So what's in a bit? Logic and a *bit* of education and practice. To learn more, see if you are lucky enough to get your hands on *A Bit of Magic*, a small jewel of a paperback published by the British *Your Horse* magazine, or watch Stormy May's excellent DVD, *Understanding Bits*.



A curb bit, this one ported and with a copper roller for salivation

pebbles and rocks). There are two broad categories of sand available: manufactured sand which is produced as a product from rock crushing, and natural sand which is mined from wherever it has been deposited (e.g., river bed sand or bank sand). The chemical composition of the material from which the sand is made will also affect its performance in the ring. Generally speaking, a hard (e.g., quartz), angular C-33 sand will resist breakdown and provide good traction in your arena.

LOFTING AGENTS

People often prefer to add a lofting agent to sand to help with active recovery, retain moisture, and to add more cushion and spring. This list is seemingly endless with new products coming on the market almost monthly. To date there are three major categories on the market: rubber/plastic products, fiber products, and wood products.

Rubber Products

A wide variety of rubber and plastic products are available for use as lofting agents for your arena. Some, like crumb rubber (made from recycled tires), have been around for many years. Others, including ground sneakers or tennis balls, shredded surgical rubber, and stripped electrical wire casings have come to market more recently. Rubber lofting agents provide additional cushioning for your riding surface. In addition, many (the crumb rubbers in particular) help retain moisture by some of the material "floating" to the top of the sand and creating a "lid" to keep moisture in. The darker colored materials also absorb heat from the sun and will stay rideable longer in cold weather than sand-only footings. When installed correctly, these footings can provide a low maintenance, all weather quality riding surface both indoors and out.

Any of these products may be ideal for your situation and many are quite costly. It is important to be clear on what you are buying and what to expect. Even within the crumb rubber footings, cost, quality, and guarantees will vary greatly. Again, try it before you buy it and look for clear (i.e., written) information on how the product will perform and how the manufacturer will stand behind their product.

Fabric/Fiber Products:

Fabric and fiber based lofting agents have been used in Europe for some time and are now finding their way into arenas on this side of the Atlantic. Synthetic felt is ground into small pieces and mixed with sand. Alternatively, the short fibers from which the felt is made is mixed with sand to create a cushioning and moisture retaining footing. The fabric or fibers create virtually no dust as they wear. These footings are perhaps best suited for indoor arenas as the fibers and fabric are quite light weight and have a tendency to be blown by the wind. As grinding the felt requires specialized machinery, there are few sources for the material and it is fairly expensive. It generally performs at its best when installed in an indoor arena and is consistently watered with an irrigation system.

Wood Products

Wood products can provide cushioning and moisture retention for a sand-based footing. Chips and shredded material can also vary in size and texture creating inconsistent footing. As they are organic, these products will eventually decompose and lead to dusty (if dry) or compacted and/or slippery (if wet) conditions in your arena. Engineered

wood fiber products are more durable and consistent and reduce these issues. All wood products need to be replenished every couple of years (depending on conditions, arena traffic, etc.). Peat moss is another wood product used as an additive to arena footing. It can be mixed with other lofting agents to help maintain moisture content, but will only perform well if monitored and watered consistently. If not maintained properly, the peat moss dries and footings can become quite slippery.

COATED SAND

Another type of sand based footing is the polymer or wax coated sand. The polymer and wax coated sands are guaranteed to be dust free. In creating these materials, each individual particle of sand is coated to prevent dust. The material is engineered to have appropriate frictional characteristics for traction (it has the look and feel of brown sugar). Since it requires no water, it does not freeze. It does not compact so requires only minor grooming. Manufacturers offer differing claims of the durability of their products with the more durable being the more expensive. And expensive it can be. Footing for a 20m by 60m ring can cost between fifty and one hundred thousand dollars.

DUST CONTROL

Watering is still the most widely used form of dust control. It is safe and reliable. The most efficient method for watering an indoor arena is an overhead system. Overhead systems are very expensive, but provide the most consistent uniform coverage. Kickwall mounted rotor systems cannot provide even, consistent water coverage. By design, the circular spray pattern creates areas where the rotors overlap (that will tend to be wet) and areas where there are gaps between the sprays (that will be dry). This is less of an issue with outdoor arenas as rotors can be designed to only have overlap and the sloped base allows excess water to flow off the ring (like when it rains). New traveling irrigation systems are quite affordable and are very versatile in that you can use them in your indoor arena or outdoor arena. And they are quite efficient in putting down even, consistent water over the entire arena.

Some facilities are mixing in magnesium chloride in lieu of using an irrigation system to maintain a dust free riding environment. Make sure you use magnesium chloride and not calcium chloride as it will have a drying effect on the horse's hooves.

Another dust control procedure involves spraying a non-toxic synthetic liquid over the footing. Similar in principle to polymer coated sand, the liquid theoretically coats each particle of footing, trapping the dust in the sand. Regular harrowing is required to keep the materials properly mixed. With continued riding, both the sand and the liquid will degrade requiring additional applications every 6 to 12 months depending on use.