

To understand what is the best winterization strategy, always remember the single most important rule:

*It's better to shed water than to soak it up.*

Again, this is absolutely the rule to follow.

Now let's explore the wonders of winterization in depth!

### **Maintain Slope:**

Every pipe stall is built in such a way that it has a minimum 2% slope. Over the years we have found that any less, and rain stays in the stall. How much is 2%? It's 6" of fall over 24'. Typically this means that from the gate under the shelter to the back, the height difference is 6". In a rain storm, if the proper grade is maintained, rainfall will flow easily out of the stall. Without survey equipment, how do you know what 2% is? That's easy; just follow the angle of the pipe rails which have been set at the proper angle.

It is also important to remember that drainage flow is not directly out the back, but typically is diagonally out of the stall. This allows not just an individual stall to drain, but for the whole block of stalls to drain. Building walls, dams, mounds etc. of stall footing to prevent your upside neighbor's water from flowing into your stall is unfair. That's because you are also sending some of your rainfall into your downside neighbor's stall. So maybe 20% of the upside stall's water is draining into yours, but then you're sending 20% of yours into the downside neighbor. Anyways the net effect is zero as you cancel each other out.

The other issue arising from building dams / walls, is that you're actually trapping the water in your upside neighbors stall, thus preventing the drainage and putting their horse at risk. Remember that not only is your stall draining, but the block of stalls also has to be put on a slope so once the water from the individual stalls drains out, then all that water must then leave the block of stalls.

For those 24' x 24's in the middle of the stable that face the creek (#'s 1-10, 23-33, 46-58) your stalls are a little different. We'll put the lightest bump in the center that will direct the water to the outside of the stall where it can safely exit. Don't feel that you've been short-changed. Because of the configuration of these stalls, and the angle of the winter sun, these stalls receive the most sunlight, and will dry out the fastest. As we have increased the size and slope of the up-slope shelters, significantly more rain water is diverted into the aisle and not to the down-slope stalls. These stalls now will often do the best in the rainy winter.

### **Pack it hard.**

The harder the surface of the footing, the faster the water will shed off. In a dream world, your stall's footing will be like concrete (when it rains) so that water will quickly run off. The faster the water leaves, the more time that any remaining moisture can evaporate between storms. Then, when the next storm comes, the footing is hard, dry, and smooth. Thus the next storm's water quickly runs off. Life just get's better and better.

This cycle can also work in reverse. If a stall gets muddy, it will get worse because the surface is unable to be restored in between storms. First the horse trots in the footing creating deep depressions. Then the next storm comes along, and the depressions fill up, resulting in even more water being trapped. The footing is now muddier and consequently gets even deeper depressions. With each rain event, it get worse.

By taking a few minutes each day (and especially after a rain event) and raking your stall to fill in any hoof prints, you'll be developing a solid footing for the next storm. Remember that your horse's hooves are very heavy and they will compact the soil in whatever shape it's left in. If raked even and smooth, it will compact even and smooth. Leave it uneven, and that's what you'll get, only harder.

The importance of soil / footing compaction can't be emphasized enough. When soil is

loose, it contains many pockets of air. These same pockets then fill up with water when it rains. Because the water is below the surface, it can't run off. The only way to get rid of it is through evaporation, and this takes quite awhile. Remember that only a very small amount will percolate down into the subsoil. So don't think that is your exit plan. Over the years we have tried all manner of drains and seepage pits. They all fail quickly. Again the primary objective is to shed the water off.

### **Shavings Usage**

Given the above, hopefully you'll see that putting shavings to soak up wet stalls is not advisable. Placing shavings in exposed areas acts as a mulch that prevents moisture from evaporating or running off. Shavings also degrade and this raises the bacteria level which leads to thrush. Lastly, shavings create small voids in the soil which also hold more water than if there none. The emotional rush of dumping a few bags of shavings to make the stall smell and look pretty, ultimately will prevent the water from flowing and from evaporating. Down the road this will create an even bigger problem. Shavings do play a role if they are kept under the shelter.

In the past we cautioned about the use of shavings during the wet months. Now that the shelters are much larger, feel free to bed under the shelter. By encouraging your horse to remain under cover, your horse will make less trips outside. This means fewer hoof prints and less water retention. Now that all the waterers have been moved under the shelter, your horse can eat and drink in the dryness, and have less reason to go outside.

### **FAQ**

*What do I do if for some inexplicable reason my stall turns into a mud pit?*

First of all, several hours of self-flagellation is a good start. Now that that's over, you may be tempted to dig out all that mud until you hit bedrock. That's all well and good until the next rain, when now your stall becomes the local swimming hole. If there is enough of a

break in the storm pattern, it's best to rake your stall and allow it to compact. You might also consider adding some birds' eye gravel to "thicken" up the mush.

If digging is the only action that will still your heart, then the ultimate answer is to fill the pit you've dug with 100% bird's eye gravel. Since it won't have time to compact, you're better off filling it with a material that can support the weight of your horse.

Here's a brief synopsis of other products that may show up in an especially heavy REM stage:

**DryStall:** The all-mineral pumice like material provides some cushion, and more importantly won't decompose. It does eventually get ground up and turns finer and finer, eventually disappearing. I give high marks to the marketing department of DryStall for such a great name, but it is not the solution to muddy problems. Remember that the primary rule is to shed water, not to trap it and have it percolated. DryStall does fill voids, and doesn't decompose.

### **Shavings:**

**Micro-Shavings** - Do not use when it's raining!!!

**Mini-Shavings** - While not as bad as micro's if you can keep all of them under the shelter you're probably ok.

**Regular** - Of all the pine based shavings, the large size of these are the best.

**Rice Hulls.** Since the hull's job is to protect the seed, rice hulls tend to hold less water than the micro-shavings. Some folks like these, and others don't -probably better in the summer.

**Cedar Shavings** are a good alternative to pine shavings. The cedar resists decomposing and thus the bacteria level is far lower. Less bacteria = less thrush.

*What is a good rake to use in my stall?*

Home Depot / Lowes sell cheap garden rakes like this one.

If you want to take it to another level then purchasing a landscape rake—it really does a nice job. It does cost about \$30 or more, but it does makes for flatter abs.



A word of caution for those with OCD; the goal is to fill and flatten the stall. “Really going at it” will make

things worse because over raking creates air pockets, and remember these hold water. This is especially true if your sweat starts to create mud. Just a few minutes each day is enough. . . . You’re better off washing your hands instead again.

