



AN AFFORDABLE WAY TO STORE TOPDRESSING SAND

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Have you ever topdressed greens with inconsistent moisture levels in the sand? You know how it works—dripping wet one time and powder dry the next. It is always a big headache. We tried vinyl tarps to cover our sand piles but to no avail; the sand was not consistently dry to our needs. We knew that keeping the sand in our building would be the answer, but unfortunately we could not use our limited indoor space for sand storage.

After spending some idle moments thinking about this problem, we decided to investigate the cost of materials used in the greenhouse industry. We learned that the materials we needed were very affordable and, most importantly, easy to install on top of our existing railroad tie storage bins.

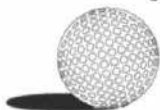
The first step to take before ordering materials is to determine the height of your tractor or frontend loader. Make sure that you order the correct length pipes to attain an arc tall enough to drive in and out of without hitting the frame or fabric of the structure.

Our bins are 17' wide and 20' deep with 4' high railroad tie sidewalls. If your bins are built square, the installation should be considerably easier to install than ours! Start by measuring your bins and marking the layout. We found that our bins were bowed out in the centers by 4" to 6". Be sure to make adjustments to your installation plans so the same width can be achieved throughout the depth of the bin. Lay out the pattern of pipes on the top of the bin walls. Keep your mea-

surements as square as possible. The hoop spacing should be on 4' centers. Design yourself an angle guide to ensure all holes are drilled at the same angle. This step is very important to achieve the same arc of the hoops. Drill the holes to a depth of 6" and remove all debris from the hole using a shop vac. Drill both holes for the first hoop, install it and check the arc to see if it meets your specifications. Do not worry if the hoops do not appear to be at the same height. When you install the support poles (cross members) the whole hoop house will draw itself together and straighten out.

The next step is to install the rain gutters and the wood strips along the hoops. At a later step, the plastic cover will be laid over the wood strips

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The front and back are left open. This allows the wind to blow through the structure



Pipes are positioned into the pre-drilled anchor holes.

and sandwiched with more strips. Use 1" x 4" x 10' treated lumber strips. The gutter is placed between the treated lumber and the hoops to seal out water (see photo). Lumber strips are attached to the bottom of the hoops using 3" long carriage bolts with a steel bracket that we made. We used 1/8" x 1/2" x 3" steel stock for the bracket. Muffler clamps will not work because they will interfere with the board installation process. The end hoops require 1" x 4" x 10' treated boards to be cut into 3' lengths; this will allow the boards to follow the arc of the hoops (see photo). Fasten the boards with carriage bolts.

The last step is to install the plastic cover. Use ultraviolet (UV) protected plastic that is 6 ml thick. The plastic is placed between the 1" x 4" boards. The boards are held together with 1" wood screws. The plastic has to be pulled as tight as possible, working from the center of the hoop house to the ends.

The entire installation process took us 20 hours for two separate covers, start to finish. The cost of the materials was \$500 per bin.

Materials needed for one hoop house:

(6) hoops, (3) stabilizer pipes, (18) cross connectors, 6 ml plastic, (16) 1" x 4" x 10' treated lumber, (80) 3/8" x 3"

carriage bolts, 1/8" x 1/2" x 6' metal stock (cut into 3" lengths with two holes drilled into each piece at the ends), and (2) 20' rain gutters.

We are extremely pleased with the results of the covers. Our sand was always the same moisture content for all topdressing applications this past season.

We did have one incident where the frame was hit by an operator while he was loading sand. We bent the pipe back to the original shape and patched the plastic. If your structure is ever hit, make sure that the pipes remained anchored to the full 6" depth. We never checked this after our frame was hit. We had 35 mph winds in November and the first two hoop frames were pulled out and bent. We have since repaired the wind damage and feel this should not happen again. 🙏



Support pipes are tightened.



Rain never entered the open ends of the bins.



Plastic is positioned between the boards and screwed together.

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