

# PROSCAPE

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golf course architects and consultants.

**Q:** Recently I seeded my bent nursery with seed that was certified as *Poa annua* free, but already I see annual bluegrass plants. Could they have come in with the bentgrass seed even though it was certified as *Poa* free?

**A:** Yes. Seed certification is done to large volumes of seeds called "Lots" which may be as large as a box car load. This means that some unscrupulous seed dealers buy large volumes of seed and may make 150 tests (one gram sample size) on the lot, but need only submit one result for tagging purposes. Thus 149 of the 150 samples could be contaminated and only one test not show impurities; and it is this test result that is attached to the "Lot." Everything is legal and you have no recourse although your seed may have had as much as 80-100 *Poa annua* seeds per pound. The best insurance against such mistakes is to buy only from reputable seed dealers and send a 25 gram sample, not a one gram sample, to a seed test lab after the seed is delivered to your storage area to insure you have the specified quality. The old adage is "as you sow, so shall you mow."

**Q:** Our sand traps keep washing out from every rain or even after a heavy irrigation. What can we do to keep the sand in place?

**A:** This is a difficult problem unless the sand trap is properly built to begin with. Perhaps by describ-

ing how a trap should be built will allow you to make corrections:

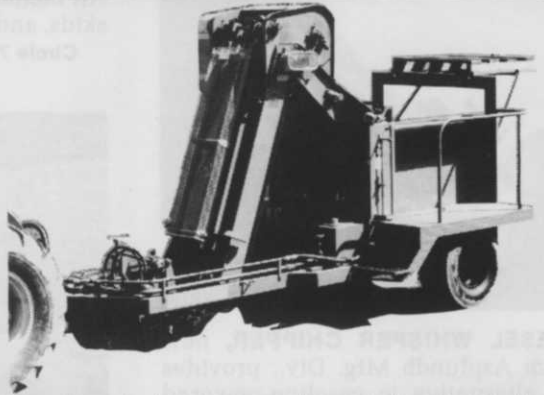
- 1) First the trap edges should be elevated to drain as much water away from the trap as possible. This means the sand trap edge nearest the green might be 6" higher than the green or surrounding land so that water drains toward the green or a drainage swale.
- 2) The slope of the trap should be not more than 3:1 to reduce washing of sand off the faces.
- 3) The depth of sand should be a minimum of 6" to allow percolation and subsurface movement of water.
- 4) The sand trap bottoms should be concave and smooth with a stable clay or hard base to facilitate this subsurface water movement.
- 5) The sand size should be between 1/4 to 1 mm. in size to provide a firm but well drained texture.
- 6) Traps should be tile drained and gravel back-filled to the trap subgrade to remove water that enters the trap.
- 7) If your membership permits, allow the grass on trap edges to grow a little longer to reduce velocity of water entering the trap.

These suggestions may not result in most artistic traps but they will require less maintenance.

**Q:** We plan to do some tile drainage using perforated, flexible, plastic tile and are considering using 2" tile. Others tell us that we should use nothing smaller than 4". Which is best?



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**A:** I don't believe it is a question of which is best, for most products meet or exceed the A.S.T.M. D 1248 specifications. Rather it is a matter of for what purpose you are using the tile. For PURR-Wick construction I believe Dr. Daniel's design concept is based on 2" tile. For all other drainage consider the following:

1. The cost of material for 4" tile is about 1/3 higher than for 2" tile.
2. However a 4" tile carries four times the water of a 2" —  
Area of circle =  $\pi r^2$  where  $r$  = radius  
Area of 2" tile =  $3.14 \times 1^2 = 3.14$  inches<sup>2</sup>  
Area of 4" tile =  $3.14 \times 2^2 = 12.56$  inches<sup>2</sup>
3. The cost of trenching and laying is only slightly higher for 4" over 2".
4. However you have a larger margin of installation error with 4" tile. A 2" undulation with 2" tile may result in a silt trap while it would take a 4" error before you got a similar result using larger tile. This is most important if the trench bottom is uneven as in rock, or unstable as in mud.

In summary, if the money is available to do the job, the 4" tile would be the better choice.

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