



Thrillers, Fillers, and Spillers... But No Rocks

Every spring, gardeners are challenged with filling empty pots.

by Carol Barany for Yakima Valley Master Gardeners

Gardeners across the Yakima Valley are hauling their empty patio, porch, and deck pots out of storage. Unseasonably cold weather may have postponed it, but we're tired of waiting. It's time to get ready for a new container gardening season.

These days, any empty pot is considered to be nothing less than a blank canvas. Filling it "artfully" with the right combination of plants each spring can be downright intimidating. Posts of dazzling compositions on social media sites only serve to raise

the bar even higher. As a design-challenged gardener, I turn to the “Thrillers, Spillers and Fillers” template for guidance.

Using three different types of plants in a single container usually results in a lush and visually appealing arrangement. A “thriller” is a tall plant with dramatic form or color that grabs your attention. Call it the “diva” of the arrangement. “Fillers” are mid-size, mounding, or rounded plants that surround and enhance the thriller as they weave through the open spaces. A “spiller” adds to the interest by cascading over the edges of the pot.

What else does a well-designed container need? To improve drainage, gardeners often fill the bottom of their pots with stones or gravel before adding soil and plants. If you’re one of them, I’ve got some bad news.

Soil science tells us that rocks in the bottom of containers do not contribute to better draining soils and healthier plants. In fact, it’s just the opposite.

When it comes to plants, soil stores and supplies water and minerals. Soil also serves as a site for air exchange between the root zone and atmosphere. Even though roots are buried, they can absorb oxygen from the small air spaces in soil. We’ve all learned the hard way that most plants die quickly in waterlogged soil.

When we water our containers, water moves through the soil and the excess flows out through the drainage hole. What happens in a container with rocks or gravel in the bottom? Water moves through the soil, and when it meets the rock or gravel layer, the water moves sideways and stays there, creating a saturated zone called a “perched water table.” This is the saturation point where capillary action is canceled out by the force of gravity.

Any layer of difference will create a perched water table. It can be a coarser planting mix, pottery shards, pool noodles, beer cans, empty water bottles, Styrofoam pellets, bubble wrap, or tennis balls.

Gardeners have used all these materials to fill the bottoms of their pots.

You don't have to take my word for it.

Linda Chalker-Scott, Ph.D., Extension Horticulturist and Associate Professor at the Puyallup Research and Extension Center, Washington State University, calls adding a layer of gravel or other coarse material in the bottom of containers to improve drainage "just one of those myths that refuses to die, regardless of solid scientific evidence to the contrary!"

She points out that nearly 100 years ago soil scientists proved that water does not move easily from layers of finer textured materials to layers of more coarsely textured media.

Additionally, she reports that one study found that "more moisture was retained in soil underlain by gravel than that underlain by sand. The coarser the underlying material, the more difficult it is for water to move across the interface. Gravity will not move water from a fine soil texture into a coarser material until the finer soil is saturated. Since the stated goal for using coarse material in the bottoms of containers is to keep soil from getting water logged, it is ironic that adding this material will induce the very state it is intended to prevent."

If you were adding a layer of rocks or gravel to keep potting soil from falling through the pot's drainage hole, place a piece of newspaper, a coffee filter or a paper towel over the drainage hole. This keeps the potting soil inside the pot but still allows water to drain efficiently.

If you're trying to fill space at the bottom of a really large pot to save on soil, or to make the pot less heavy to move, custom cut a piece of plywood to fit inside the pot at the depth needed for healthy plant roots. You'll still need a drainage hole drilled into the plywood so water drains efficiently. Stones and bricks can be placed at the bottom of the pot before the

plywood goes in to provide stability if you live in a windy area.

A visit to Dr. Chalker-Scott's web page at <http://www.theinformedgardener.com> is always worth it. On a mission to educate and inform, she is never afraid to correct misconceptions borne of "old wisdom" that often turns out to be more myth than scientific fact.

