

# Use pipe, saw and gravel for plant-watering aid

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Watering only once a week usually spells death for new plants. One way to reduce plant mortality rates while abiding by the City of Santa Fe's recently imposed restrictions is called "deep pipe irrigation."

It's simple. You can either follow the steps below or invent your own method using the basic concept of getting water to plant roots, a variety of materials and a little ingenuity.

First, get 2- or 3-inch-diameter PVC pipe. You'll want each piece to be 18 to 24 inches long. Then, starting about six inches from the top, using almost any kind of saw, cut slits along one side of the pipe at two- or three-inch intervals, all the way down. Get some gravel, grab your shovel, and you're ready to install some deep pipe irrigation.

Dig a hole for your plant and then widen one side of the hole by 10-12 inches. Stick your piece of pipe vertically on the edge of the widened side of the hole

so that about three to six inches of non-perforated pipe stick out above the ground. Make sure the slits in the pipe will face the plant.

Plant your plant. Gently pack soil around the pipe. Fill the pipe with gravel. Make a small crescent-shaped berm or tree well for rainwater harvesting. (If the ground is completely flat, you can build a completely circular tree well.) The final step, as readers of this column know by now, is to mulch well. And you're done.

Well, actually, not quite. Don't forget to water, and when you do, of course you'll want to water both the plant and into the pipe itself. By leaking out at various intervals and at the bottom, the pipe will stimulate root growth where regular watering does not easily reach – especially in our clayey desert soils.

Books of straw (the square slices of bales) placed vertically near plants and watered in a



similar way can also work. The books are shorter than the pipe, so they won't water as deeply. Since the books are rather wide, you could end up exposing significantly large sections of plant roots to the air, especially if you put the book too close to your plant. If, to prevent this problem, you make the books skinnier, make sure the straw

books remain densely packed in order to prevent them from clogging up with soil.

When it is important for a particular plant to grow symmetrically, and often it is, using two or three deep pipes around the plant is a good idea. This will ensure that the roots and associated branches on one side of the plant do not grow more quickly than the others. In reclamation situations, one pipe is sufficient, but inside formal courtyards three evenly spaced pipes would probably be worth the effort.

We've used cardboard boxes filled with pumice and even local fist-sized rocks very effectively. Such pumice (or gravel) pockets should be shared among plants by installing each pocket in the center of a plant guild. These mini-reservoirs work especially well in the depressions of on-contour swales. They can make supplemental watering much less necessary, because significant

quantities of rainwater are funneled directly to the point where they are most needed.

In keeping with the permaculture principle that every element in a system should perform more than one function, the section of the pipe that sticks up out of the ground works effectively as a stake for securing wildlife prevention fencing around individual plants.

These pipes are also great places to add an extra irrigation emitter. In so doing the actual amount of water necessary to ensure plant survival will usually be much less than the amount needed to keep plants alive when they are only allowed one watering per week.

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