From the UC Master Gardener Program of Contra Costa County

NEWS to GROW BY

Save Water by Irrigating with Ancient Ollas

by Janice Winsby

Larger olla is 15" high X 12 " wide. An Olla will keep the soil perfectly moist in an area approximately twice its diameter.

Along with everyone else in California these past few years, I am looking for ways to use less water in my garden. As a School Garden Educator in Concord, I am also starting a new spring planting bed where I work. This bed is situated far away from an irrigation source. Running a hose from two buildings away to hand water every day just wasn't a feasible option for me. Then a fellow Master Gardener told me about ollas. I had not heard of them, but after a little research, I realized they might be a perfect solution!

An olla (pronounced "oy-ah") is an unglazed clay pot which is buried in the garden bed and filled from the top with water. The neck of the pot is exposed to make filling easy and covered to prevent evaporation (as well as keep out dirt, mosquitos, and other bugs). Ollas have been in use as a watering tool for thousands of years—mostly in Africa and Asia. They came to 'The Americas' via the Conquistadors—hence their name, which is basically Spanish for pot.

The way ollas work is simple. Water will only flow from the olla when the surrounding soil loses moisture. As long as the olla remains at least half-full of water, the surrounding soil is kept at field capacity, which is ideal for the surrounding plant roots. It is an extremely efficient system; you can expect to save between 60-70% of water compared to using a watering can (Ezekiel et. al., 2017). The soil surface remains dry—discouraging weed growth or water loss from evaporation.

Water will permeate the soil in an area roughly twice the diameter of an olla, so plants should be placed within that area. Of course, everything varies according to soil type. Depending on the soil conditions, you will have to add water

every 24 – 72 hours. More porous sandy soils, like we have in the Eastern part of Contra Costa County, will allow more percolation downward, while clay soils, like the rest of us have, will hold onto water longer, allowing for more lateral movement.

There are a couple of caveats to keep in mind when using ollas. First, they take up a bit of space so ollas may not be the best choice if your planting area is limited. Second, they need to be kept at least half full to maintain field capacity while also avoiding a buildup of salts in the pores of the clay. Lastly, seedlings and transplants will need a few weeks of supplemental top watering while their root systems are being established.

If you have a remote garden area where drip irrigation is impractical, consider the **ancient method of olla irrigation**!

References:

Ezekiel, O., Ibrahim, I., & Kwatmen N. 2017. Effect of Radial Spacing on the Growth and Yield of Maize under Olla Irrigation. Global Journal of Science Frontier Research. Vol. 17:1. Pp. 83-88

Nickel, A., Brischke, A. 2021. Irrigating with Ollas.The University of Arizona Cooperative Extension. https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1911-2021.pdf

Photos courtesy of Janice Winsby and Danny Milks.