Mulch and water wisely

SCOTT MCKAIN

It's September once again and time to report on the garden experiments I have been doing to grow food in the most efficient and sustainable way. Now that the climate of southern California has arrived in Douglas County, the techniques we have used in the past may not be working so well. I have been writing about climate change for years, but even I was caught off guard by some aspects of our new normal.

This has been the year of mulch. Natural mulch is dead plant material resting on the soil surface. As I learned in our Master Gardener's course, material on the surface has little effect on the fertility of the soil underneath. But it does slow water evaporation.

Last year at this time, I reported on my tests of various mulches, including straw, paper and plastic. Plastic was by far the most effective in conserving moisture. I reported that I would use plastic mulch this summer throughout my garden and report back. This is what I found.

The vegetable garden beds are 4 feet wide by 30 feet long, mounded, flat and level. From an on-line vendor, I bought a 4-foot by 3000-foot roll of plastic for $200, including shipping. I chose a general use semi-transparent plastic, 1.2 mils thick, green in color. It is designed to be used for one season and then discarded.

The plastic was stretched tight across the bed and the edges were buried. I installed the plastic two weeks before I needed a bed. This let the soil warm before planting. The remaining beds continued to grow the winter cover crop. The soil under the plastic was about 5 degrees warmer than the uncovered beds. This advanced planting time to an earlier date.

I start my seedlings under a plant light in early spring. To transplant to a bed, slice the plastic with a razor knife about 4 inches long. Spread the opening with two fingers and remove a core of soil with a bulb planter. The pot the seedling is in should be the same size as the hole. Place the plant in the hole, press the soil firmly and water. The plastic will return to its original shape.

I do direct seeding with a sharp putty knife. Push it through the plastic to the required depth, drop in the seed, firm the soil and water. Seeds planted in summer heat should also be covered with straw to keep cool until sprouting. This is not necessary with heat-loving seeds like corn and beans.

I tried three different methods of irrigation. Hand watering is done with a water wand I made from a ½-inch copper pipe, capped on the end and little holes drilled around. Push the end with the holes under the plastic and open the valve. I got tired of this in a hurry.

Soaker hoses work well under the plastic, but with some drawbacks. The water needs to be filtered and the pressure kept under 20 pounds. It is also difficult to check performance with the soaker hose covered.

My favorite is the PVC pipe method. Assemble a ¾-inch PVC pipe the length of the bed. The is no need to glue the joints. Drill 1/16-inch holes every 8 inches, one on each side of the pipe. Cap one end and hook up the water supply to the other. Under the plastic, I run it at full pressure. Five minutes gives a nice deep soak.

I would be happy to discuss this in more detail by email and hear what y'all are doing to save water.

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