Soil Systems

Composting, soil sponges and much more! **20 minutes at this station!**

Soils sustain life!
Soil Science Society of America

Goal: Soil Systems: To restore soil health and prevent soil erosion. In my yard, you will see:

1. composting to add organics and aid in water retention,
2. soil covers,
3. soil sponges, and
4. wind breaks

1. As Master Gardeners, we know the difference between dirt and soil. Soils are essential to life and we are just beginning to understand their complexity and importance to us. As gardeners, we start out by analyzing our soil and seeing what we can do to improve our gardens. Restoring soil health is one of the most important things we can do to be sustainable.
2. As gardeners in West Texas, we know how important compost is to our gardens. Check out the three composters in my back alleyway that I use to compost suitable garden and kitchen waste as well as the pine shaving litter from the chicken coop. I use this compost for the food gardens yearly. In addition, I have a pile of decomposing wood chips from the Citizen's Recycling Center that I use in the non-food beds. I have composted with worms since 1987. Before chickens, I used an anerobic Bokashi bin composter in my kitchen to compost all our kitchen waste. There is very little food waste at my house!
3. Soils determine what kinds and how well plants will grow. In clay soils, the particles clump together and become sticky. Plants have a hard time growing because their roots are always wet. In very sandy soils, water travels too quickly so plants have trouble growing. The best soil is a mixture of all three with lots of organic matter. We call that a loam. Organics in soil provide nutrients, improves soil structure, and increases water holding capacity. Remember that the best producing soils are loam. Out here our soils are generally sandy and have little organic material. If you have time or have never mad a mudball look at the folder on Soil Texture and feel the various grain sizes. Then look at the two soil samples to see how organics affect a soil. Finally, if you want to, you are welcome to make a mudball from any of the soils around you!

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4. One simple technique to save water in your soil is to create soil sponges: areas of various underground, biodegradable materials. These buried "sponges" increase the water holding capacity and increase nutrient levels as they decompose. See the folder on soil sponges. They can be as large or small as you want to make them and can be filled with anything that is a natural, not synthetic material that will break down over time. This includes old newspapers, compost, yard waste, and non-synthetic clothing or fabric such as wool sweaters or cotton T-shirts!
5. Most of the soil in my yard is covered either by vegetation or with either an organic or inorganic mulch. Look for these areas as you transition through the stations. As you pass through the Food Systems station, look at the garden cover example. These garden covers are very versatile and can be used in winter cold or in summer heat to moderate soil temperatures, retain soil moisture and reduce soil erosion by wind.
6. The fence surrounding most of my yard functions as a wind break. In the front patio, notice how the buffalo grass and the frog fruit serves to lessen soil erosion by both wind and water. I have planted a variety of plants in the chicken yard to reduce soil erosion and as a buffer against cold north winds.