



Lithic or Organic Mulch?

by Marilyn Loser

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To mulch or not to mulch a tree is no longer the question. Most folks want to conserve water and have healthy trees. Frequently, trees aren't being planted in lawns and the wise realize tree roots grow horizontally more than vertically down into soil. Mulch can help us out. The question is - what kind of mulch?

Organic mulches include wood chips, pine needles, bark, leaves, and compost mixes. Organic mulches decompose in the landscape at different rates depending on the material and climate. Those that decompose faster must be replenished more often. Because the decomposition process improves soil quality and fertility, most arborists and horticulturists prefer organic mulch.

Lithic (rock) mulch includes various types, sizes, and colors of small to large stones and rocks. Inorganic mulches do not decompose and do not need to be replenished often. According to Dale Lightfoot, who has researched lithic mulch agriculture on Easter Island and in northern New Mexico, "lithic mulch is applied to garden plots, especially during periods of drought, in order to reduce soil erosion from wind and water, increase soil temperature to extend the growing season, moderate diurnal soil temperature extremes, increase water infiltration, and reduce the evaporative loss of water from wind and sun."

On the other hand, lithic mulchs do little or nothing to improve soil structure, add organic materials, or provide nutrients. However, for the home gardener in Alamosa, they require less maintenance than organic mulch. Those who disparage lithic mulch often say that the rock overheats the soil which in turn harms roots and actually causes increased evaporation. I wonder if their experience has been with black or dark red rocks rather than more reflective light colored stone?

We have a mixture of the two types of mulches in our yard. In the past I've used a lot of shredded bark and wood chips as I love the way they look and appreciate recycling nutrients back into the land. On the other hand, I've grown weary of the San Luis Valley wind's ability to rearrange the mulch and require us to yearly add more mulch and frequently rake it back into place.

During the last 2 summers, I've replaced some areas of bark/chips with light colored pea gravel and, so far, I'm delighted with the results. Most of our trees' roots have access to garden areas not covered with lithic mulch. I hope they will receive organic nutrition from these areas.

Trees entirely surround by lithic mulch are more problematic. I recently purchased a root feeder which allows me to feed with liquid fertilizer. We'll see how it goes.

Another approach is to combine the two types of mulch. I've read of people mulching trees planted in the spring with leaves, then covering the leaves with flat rocks up to 1 foot in diameter. Placing the rocks a few inches apart allows air and water to penetrate the soil. Enthusiasts report that the leaves decompose much faster than without the rocks and that the trees thrive in the warmer soil during the cool spring.

Something I've seen in Alamosa in recent years is the use of grapefruit-sized boulders stacked a foot or so high around a tree. My guess is the goal is to prevent weed whackers from damaging the tree. It may be fine as long as the rocks aren't right up against the trunk and don't trap moisture, soil and debris against the trunk. Wet bark near the ground is susceptible to bark decay.

Arborists agree that using black plastic under mulch and over root areas (current and future) should be avoided. Sure, the plastic keeps weeds down, but prevents air and moisture getting to the roots.

However, arborists don't agree as to whether using landscaping fabric (fabric that allows water to percolate through, but helps prevent weeds from growing up) under mulch is a good idea. Opponents say the tightly woven fabric prevents nutrients mixing into the soil and traps blowing sand (did I mention we have a lot of wind in the San Luis Valley?) allowing weeds to grow on top of the fabric.

Proper mulching is not a cut and dried topic. The method may be as important as the material. Around Alamosa, people usually aim for 4" depth of mulch. If your tree is watered by sprinklers, make sure mulch is not so deep that the water never gets to the roots. Also, ensure that the mulch isn't matted as that will prevent air and water reaching the roots.

Mulch should be placed on top of the soil, not dug in the soil under trees. Remember, many feeder roots are in the top foot of soil. If possible, mulch out at least to the drip line.

"People who will not sustain trees will soon live in a world which cannot sustain people" Bryce Nelson