

Mulch for Enhanced, Low-Cost, Low-Maintenance Valley Landscapes

Even though we are seriously aware of conserving moisture, slowing flood waters, reducing pesticide use, having healthier plants, smothering weeds, saving money, recycling materials, -- and on and on, we still have not yet discovered all the benefits of mulching. **We have discovered** that mulches can help us and our plants make it through the hot, dry times ahead -- BUT, mulching IS about SAVING. Saving plant life, chemical use, money, the environment, and labor, FOR NOW AND FOREVER!!!!

What is mulch?

Organic mulch consists of dead leaves, twigs, fallen branches and other plant debris which accumulate on the earth's surface. These organic mulches not only conserve moisture, they also feed plants, earth worms, microbes and other beneficial soil life. As microbes digest organic materials they give off a sticky substance that glues soil particles into a crumb-like structure. This crumb-like soil structure allows water to soak in better. Water that soaks in is held on the soil for future plant use.

What Does Mulch Accomplish?

Mulch insulates and protects soil from drying caused by evaporation of water from soil exposed to hot sun and winds. Mulches break the force of rain and irrigation water thereby preventing erosion, soil compaction and crusting. Mulched soils absorb water faster. Mulches prevent splashing of mud and certain plant disease organisms onto plants and flowers during rain or overhead irrigation. The mulch stops light from reaching the soil which prevents germination of many weed seeds. Fewer weeds provide less competition for available moisture and nutrients. Using mulches to control weeds is safer than applying herbicides or cultivating which can damage tender, newly formed roots. Mulches also add attractive features to landscape.

Management of Mulch

Apply mulch in a layer 2 to 6 inches thick. Layer thickness depends on mulch material, e.g., coarser mulches are applied more thickly. Four inches of loose fibrous materials works well around trees and shrubs. Thick layers of very fine material block air to the roots of plants. In their search for air, roots will grow up into mulch, which can be harmful to plants. Organic mulches should be added regularly to maintain the desired layer thickness. Shredded branches and large two-inch bark pieces are considered a fibrous or loose mulch. Leaves or leaves mixed with some grass clippings and one-inch size bark would be a medium mulch. When using medium mulch, the layer should be about two inches thick. One-half inch and smaller materials, such as fine-screened and double-ground bark, should only be one inch thick. When piled too thickly, these tiny

particles can quickly settle together and prevent air and water from penetrating into the soil. The finer, smaller materials should be used around small flowers and vegetables. When applying mulch around plants, cover the entire area of soil containing roots.

Mulching Your Lawn

The Texas A&M “Don't Bag It” program which encourages people to mow frequently and allow grass clippings to remain on lawn areas, mulches your lawn naturally.

Naturally you wouldn't use the same mulch you put around flowers, shrubs and trees. It is best to supply one-half inch of fine screened compost in the fall or early winter after the grass has stopped growing. Lawns are our biggest water consumers. For this reason lawns are the most important places to practice water conservation by mulching. Lawns with no crumb structure, no humus, no beneficial soil life or root colonizing microbes require more care, more water, more money and more of your time.

Watering with Mulch

While mulches do retain moisture in the soil, it will still be necessary to water plants growing in mulched soils. Water should be targeted beneath the mulch specifically at the root zone of desirable plants. Drip irrigation is the most efficient, effective watering technique. Probe around plants with your finger to test for soil moisture, and to know when to water. If the soil is moist several inches deep, it will form a ball when squeezed, this means there is adequate moisture present. Operation of a drip system for three hours per day every other day during the hot, dry periods will insure adequate soil moisture.

Proper Use of Mulches

In garden beds planted every year, organic mulches can be incorporated into the soil each year to improve soil structure. New mulch is applied each year. One question with organic mulches dependent upon the state of decomposition is whether to add a nitrogen source to the mulch. Many fresh materials may require this to avoid nitrogen tie-up in the microbes decomposing the mulch. Slow-release nitrogen fertilizers are the most effective. When required, nitrogen can be added at the rate of one-half pound of actual nitrogen (N) per 10 cubic feet of mulch material.

ORGANIC MULCHES

Municipal Tree Trimmings - Using local mulch (from municipal tree trimmings) around plants has certain advantages over pine or hardwood bark. The contents of the local mulch is much closer to the contents of rich compost. The local mulch actually feeds plants whereas bark usually causes nutrients to be robbed from plants. Contact the Brownsville City landfill for compost materials, information and classes.

Additional Organic Mulches

Bark (Pine) - Ground bark is available mostly from pine trees in sizes ranging from 2-inch chunks to a fine grind. It provides an attractive long-lasting cover and is usually reddish brown in color.

Grass clippings - These should be used only before grass seed has ripened, must be spread thin (two inches or less) and allowed to dry. If applied too thick they will build up heat and foul odors and become slimy during decomposition.

Compost - This dark colored material is easily spread and has slight nutrient value. It may be highly satisfactory where available from commercial producers or homeowners.

Peat Moss - Fine texture and good color are characteristic of peat moss, but it has a tendency to dry out and become impervious to water. It is costly to use in large quantities. Domestic peat moss may be so finely ground that it will blow away and is difficult to wet if it becomes dry. Water may run off rather than be absorbed by it.

Sawdust - If fresh sawdust is incorporated into the soil, supplemental nitrogen should be added to prevent nutrient deficiencies.

Wood Shavings - Shavings last longer than sawdust and will not mat as badly, decompose rapidly but blow away easily during strong winds. Wood chips mixed with shavings pull much nitrogen from soil. Nitrogen level must be increased.

Straw - Straw is coarser, more durable than most kinds of hay, and in most instances, is not attractive in ornamental plantings unless chopped. Straw requires applications of nitrogen because of its non-decomposed nature.

INORGANIC MULCHES

Inorganic materials used for mulches do not add nutrients or humus to soil.

Crushed Rock - Crushed volcanic rock or stones are available in many colors or sizes and make a permanent cover. These materials are especially useful around plants subject to crown rot. Spread deeply, crushed rock can be walked on immediately after watering. Remember that white rock radiates sunlight and can create too much heat for most plants to survive. Black rock absorbs heat and can cause soil temperatures to be hotter than normal. A caution: Inorganic mulches of this type are exceedingly difficult to maintain and keep clean under pine or other very small-leaved evergreens.

Pea Gravel - Pea gravel is an attractive permanent mulch. It is usually applied 2 to 4 inches deep and can be reused indefinitely. Pea gravel in various sizes is especially good for soil surface around plants in containers.

Plastic Film - Plastic **film** is used to cover vegetable beds. In ornamentals it is often used under gravel or stone mulches. It is not practical under sharp stones unless used with 1 - inch layer of sand between soil and stones. Plastic is difficult to dispose of when used on large areas.

(Information source: Malcolm Beck, Texas' Premier Naturist. Garden-Ville Horticultural Products and Jerry M. Parsons and Roland E. Roberts Texas Agricultural Extension Horticulturists Texas A&M University System.)

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