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## Gardening

Gardening is a therapeutic, outdoor hobby and a great way to enjoy the beauty of plants. In order to have a flourishing garden, you must have a keen grasp of the two most important aspects of gardening; soil cultivation and watering. Creating an environment that is both nutrient rich and properly watered will produce the best results no matter what type of plants you are growing. This section will cover a variety of techniques on soil preparation and watering methods.

### What We Will Cover

- Mulch
  - Purpose and Benefits
  - Organic Mulch
  - Inorganic Mulch
- Emitters Types
  - Pressure Compensating
  - Non-Compensating
  - Adjustable
- Where to Use Emitters
- Selecting the Right Emitter

# Gardening

## Mulch

Mulching is the process of applying a layer of material to the surface of soil. Applying mulch serves a variety of purposes that are all meant to cultivate a nutrient rich environment for plants to grow in. Mulch should be applied at various times during the year to keep soil properly maintained and to provide nutrients during specific growing seasons, depending on the plants you intend to grow. Mulch is normally applied around the base of plants and the surrounding area.

*Did you know  
Mulch can double as an artistic  
aspect of garden design, in  
addition to its many gardening  
benefits!*







## Purpose and Benefits

<b>Weed Control</b>	All mulches limit or completely eliminate weed growth. Whether you use organic or inorganic mulch, weeds will not be able to receive sufficient sunlight to grow or will die from the hot, inhospitable environment.
<b>Retain Soil Moisture</b>	Almost all types of mulch help soil retain moisture by reducing the amount of water evaporation that occurs on the ground surface. When water makes contact with mulch, such as a carpet of dead leaves, water is caught between the air pockets created by the leaves and gets trapped in the ground soil. Living mulch, however, uses some of the soil moisture for its own growth, while their leaves prevent moisture from escaping ground level.
<b>Fertilize</b>	<p>All organic mulches fertilize the plants as they help the soil retain moisture. As organic mulch decomposes, it releases nutrients into the ground. Mulches like grass clippings are decomposed quickly by ground organisms and provide the soil with important elements such as nitrogen, phosphorus and potassium. However, some organic mulch like sawdust takes nitrogen out of the soil. An important factor to consider when choosing the right mulch is the carbon-nitrogen ratio:</p> <ul style="list-style-type: none"><li>• Sawdust 400:1</li><li>• Young sweet clover 12:1</li></ul> <p>A substance that has a C:N ratio below 17:1 will actually add nitrogen to the soil while a ratio above 33:1 will take nitrogen from the soil. Between those two figures the result is neutral. The amount of interface your mulch has with the soil surface is also important to consider. Only the mulch that is in contact with the soil is able to transfer nutrients. Because of this, it is important to periodically turn the mulch over to get the most out of it.</p>
<b>Regulate Soil Temperature</b>	Depending on the climate and the needs of your garden plants, mulch can regulate the soil temperature to your plants' needs. Organic mulch is used to insulate the soil. Inorganic mulch, such as clear or black plastic, will heat the soil in the sunlight and hold that warmth overnight. Regulating the soil temperature can be used to lengthen the harvest period of certain garden crops.
<b>Plant Elevating</b>	Some plants and crops produce low-lying produce, such as tomatoes and melons. If left in contact with the ground, the fruit may get damaged by soil splatter and a number of insects and animals. A layer of mulch, organic or inorganic, will provide a barrier between the crops and the ground.
<b>Erosion</b>	Un-mulched soil can often succumb to rain and watering erosion. This is especially prevalent when gardens are planted on a slope. Organic mulch helps soak up excess water to reduce erosion.
<b>Plant Preparation</b>	Organic mulch can be used to prepare sod for planting the next year. Spreading mulch over the sod will smother the plants underneath making it easier to turn the soil a year later. In a permanent mulch garden the mulch will keep the soil soft, friable and easy to work.

# Organic Mulch

## Dead Organic Mulch

Organic mulch comes in both dead and living varieties. Dead organic mulch has the biggest variety and is best for most things. This category of mulch includes leaves, grass clippings, wood chips, hay and bark chips. These mulches decay over time, releasing their nutrients back into the soil. Organic mulch should be spread out evenly around the base of the garden plants between four to eight inches thick.

The thickness of your mulch layer depends on the coarseness of the mulch material. Sawdust only requires a couple of inches to smother weeds while hay or straw requires around eight inches. Materials that are very coarse, such as corn stalk or sugar cane, should be shredded before being applied or mixed with a less coarse material. Coarser materials are easier to spread across larger areas while finer materials are great for small areas. If there are still weeds after you have applied the mulch, simply apply more mulch.

You can often get organic mulch for free from municipal road crews and neighbors. If you choose to do this, it is important to know if the plants received any chemicals before they were turned into mulch. If they were, unwanted chemicals can be transferred to your garden. For example, there are certain broad-leaf plants that would suffer from herbicides designed to kill such plants.

Wood shavings and sawdust are sometimes used as animal bedding and can come mixed with manure and straw. Manure is a great addition to mulch and will provide additional nutrients to the soil. Other dead organic mulch materials include potato peels, buckwheat hulls, peanut shells, egg shells, lobster shells, feathers, hair, grapefruit skins, leather scraps, pea pods, pine needles, prune pits, newspaper and much more.

## Living Organic Mulch

Living organic mulch is low growing vegetation that can add nutrients back into the soil. Living mulch has the same benefits as dead mulch, but also requires resources to grow. Living mulch works best for crops like corn that grow tall and will not have to compete with the mulch for sunlight. For example clover is a legume and will actually add nitrogen to the soil. It is also low growing and spreads out over the surface to blanket the soil easily. Weeds are also a good mulch that can keep certain crops from hitting the ground.



## Inorganic Mulch

Inorganic mulch is used for the same purpose and has the same benefits as organic mulch. The main difference between the two is that inorganic mulch does not put nutrients back into the soil. Inorganic mulch includes materials such as gravel, black or clear plastic, and landscape fabric. Unlike organic mulch, inorganic materials do not naturally decompose and can thus last longer. Gravel, for example, is a one-time purchase. However, materials like landscape fabric can be much more expensive than organic mulch.

If you choose a material such as plastic, it may deteriorate from sun damage. To combat this, place a thin layer of mulch or dirt over the plastic. This will prevent sun damage and keep the plastic in place. Once your plants die in the fall, remove the plastic from the garden area. If left over the winter, it is much more likely to deteriorate and become a problem.







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## Chapter in Review

### Mulch

To have a flourishing garden, it is important to have a keen grasp of soil cultivation and watering. In this chapter we have presented a variety of techniques on soil preparation and watering methods. Use the chart on the right to insure you are using the best mulch for your garden or landscape.

If you ever have any questions regarding sprinklers or maintenance, you can always call our Customer Care team at The Drip Store. We're available Monday through Friday 7 a.m.-4 p.m. (PST) at 760-597-1669 or toll free 877-597-1669.

### The Best Mulch for Your Garden

Mulch	Benefits
Compost	<ul style="list-style-type: none"><li>• Improve soil structure</li><li>• Increase nutrient content</li><li>• Use less water</li><li>• Ward off plant diseases</li><li>• Great for vegetable gardens</li></ul>
Cocoa Hull Mulch	<ul style="list-style-type: none"><li>• Contains beneficial nutrients</li></ul>
Wood Chips	<ul style="list-style-type: none"><li>• Creates favorable environment for earth worms and soil microorganisms</li><li>• Use less water</li><li>• Great for trees, shrubs, perennials and small fruits</li></ul>
Pine Needles	<ul style="list-style-type: none"><li>• Weed control</li><li>• Cost</li></ul>
Pumice Rock	<ul style="list-style-type: none"><li>• Retain moisture</li><li>• Great for flower beds and perennial gardens</li></ul>