

# Soil Preparation



## Improving soil is important

**G**ood soil preparation saves time, energy and money. When planted in well-prepared soil, landscape plants grow deep, healthy roots. Deeply-rooted plants require less frequent watering and are more resistant to disease and insect pests.

Effective soil preparation is a key step to growing a resilient, healthy landscape in Colorado Springs.

Lawns, flowers, shrubs and trees rarely thrive when planted in unprepared Colorado soils. The main reason is that Colorado soils have very low levels of organic matter or are highly compacted, which limits plant growth in all types of soils, regardless of whether they are sandy, gravelly or clay.

Residents who plant without preparing the soil often end up with persistent lawn problems or landscape plants that simply do not thrive. Applying fertilizer to the soil surface after planting will not solve the problem.

**In order to have a healthy, attractive landscape, take time to prepare the soil before you plant.**

Prepare the soil wherever you plan on installing lawn or landscape plants such as flowers, grasses, shrubs and trees. Don't skip this step. There is not an easy way to go back and fix the soil once plants are installed. If you are working with a landscape contractor, make sure soil preparation is part of the installation plan. The first step is to get a soil test.



## Evaluate before adding materials

A soil test will determine exactly what you should add to the soil and how much depending on what type of landscape plants you want to grow. Colorado soils often need organic matter added to support healthy plants, particularly in new developments or areas that were not previously planted. Some soils need added fertilizer as well.



On the other hand, soils found in older neighborhoods sometimes don't need any additions. One cannot look at a soil and determine what will make it grow healthier plants. A soil test report takes all of the guesswork out of soil improvement by listing exactly what the soil needs.

## To get a soil test

Contact the Colorado State University Soil Testing Laboratory at [soiltestinglab.colostate.edu](http://soiltestinglab.colostate.edu) or 970-491-5061.

They can also provide a list of private soil testing labs, if desired. In general, a routine soil test costs around \$31.



## What is organic matter?

To improve the growth of lawns and landscape plants, many soil test recommendations will instruct you to add organic amendments to the soil. The term organic amendment refers to material derived from decomposing plant and animal products that is mixed into the soil. It is critical that all soil amendments be tilled into the existing soil. If not, layers of material can prevent water from moving downward into the soil.

Water efficiency videos are online at [youtube.com/springsutilities](http://youtube.com/springsutilities).





## Preparing the soil

- 1 If listed on the soil test recommendations, purchase organic amendment, such as compost, composted manure, aged barnyard manure, and sphagnum peat moss, as well as fertilizer, if needed.
- 2 Spread the amendment on the soil surface to the proper depth. If the soil test recommendations include adding a phosphate fertilizer, apply it to the soil surface at the appropriate rate using a fertilizer spreader.

If no soil test results are available, incorporate three to six cubic yards of organic amendment for every 1,000 square feet of intended planting area. Three to six cubic yards of organic material per 1,000 square feet is equal to a depth of one to two inches.

- 3 Use a tiller or shovel to mix the materials into the existing soil as deep as possible. At least six inches is ideal.

- 4 After preparing the soil, apply mulch to the soil surface within a few days to prevent weed invasion and soil erosion. Be sure to terrace or contour areas with unstable soil before attempting to till them. Once the soil is prepared, plants can be installed immediately or over time as time and money allow.



## Some amendments are better than others

### Organic amendments that help plants grow include:

- compost
- composted manure
- aged barnyard manure
- sphagnum peat moss

These organic amendments will improve all types of soils, including sandy, gravelly and clay soils.

### Avoid materials such as:

- topsoil
- sand
- fresh manure
- feedlot manure
- wood ashes
- biosolids
- mountain peat

They will add excess salts to the soil or increase the pH beyond the limit that plants can tolerate.

In addition, do not use leaves, wood chips, and bark that have not yet decomposed. These materials cause nutrient deficiencies in surrounding plants until they have broken down sufficiently, which can take many years.

**Learn more:** Call 668-4555  
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