

Planting Tips

Overview

Gardeners begin each new season with high expectations. We want to grow lots of flowers and lots of edibles, especially tomatoes! The secret to growing bountiful harvests is within reach whenever a few basic guidelines are followed.

It all begins with selecting a suitable site, preparing the soil, and then following up with appropriate watering and fertilizing. Select plants well suited to your site's conditions of sunlight and/or shade.

In general, flowering plants and fruiting vegetables require at least 6 hours of sunlight daily, while leafy edibles such as lettuces, spinach and chard do well with fewer hours or even with bright shade. It seems that exceptions always exist, so verify the requirements for each of your choices.

Prepare the Soil Before You Plant

To prepare the planting bed, begin by removing weeds, rocks, and any other debris. Whatever kind of soil you have, be it sandy or clay, it can be improved by mixing in lots of organic matter. After mixing in compost, level the area, and then rake in a starter dose of all-purpose fertilizer to give your seasonal plants a jump start.

Mixing in a generous amount of compost provides the magic everyone wants for their soil. Two inches is considered a minimum amount to mix in, but more is better. If you skip this step, your plants may grow, but mixing in compost helps ensure they will be vigorous and well able to produce the bountiful harvests you expect.

Follow these guidelines to success:

- *Annual flowers and vegetables* – Amend the planting bed by mixing 2 to 4 inches of compost into the existing soil.
- *Lawns, groundcovers and flower beds* – Amend the entire area by mixing 2 to 4 inches of compost into the existing soil. In this case, 4 inches is the better choice because these are long-term plantings. To do so, mix in 2 inches first, and then 2 inches more.
- *Trees and shrubs* – Don't mix compost into the planting hole. Instead, use the compost as a 2-inch deep mulch on the soil surface after you plant the tree. Extend the mulch 30 inches outward from the trunk, but keep it away from the trunk's bark.

- *Established perennials, shrubs and trees* – Apply 1 to 2 inches of compost as mulch on the soil surface.

Guideline for Determining the Amount of Compost Required to Amend Soil:

1 cubic foot	=	1" over 10 sq. ft.
1 yard	=	27 cubic feet
1 yard	=	3" over 100 sq. ft.
3 yards	=	1" over 1000 sq. ft.

For instance, to apply compost 2 inches deep over a garden area of 10 square feet, you will need 2 cubic feet of compost. Mix well with native soil to a depth of one shovel or, in other words, to about 6 to 8 inches deep. If you plan to add 4 inches total, mix in compost in two batches. Know that mixing in less than 2 inches of compost won't improve your soil nor will it benefit your plants, thus wasting your time, effort, and money.

Any compost – homemade, bagged, or bulk – is fine to use. You can locate a bulk supplier in the Yellow Pages under headings such as Soil or Bark Dust.

Improve Drainage

Most folks with clay-based soils will need to improve drainage. Although mixing in lots of compost is a beginning, some of our clay soils will benefit further if you make raised beds, with or without a rigid edge or border. Consider 8 inches as a minimum height but realize that higher would be even better.

Sometimes soil conditions are such that you may need professional assistance to improve drainage.

It's useful to know that gypsum improves drainage only when soil contains high levels of sodium. This occurs in clay soil that normally has sodium in its structure and when soil is irrigated by water softened with a sodium-exchange device. Gypsum doesn't improve drainage in our area's clay soil unless you use softened water.

Know Your Soil pH

In order to successfully grow plants in your garden and landscape, you also need to consider pH which determines whether or not fertilizer elements can be absorbed by roots.

A soil's pH is measured on a scale from 0 to 14. The majority of commonly grown plants grow best with a pH range between 5.5 and 7.5. There are exceptions to this,

such as rhododendrons (approx. pH 5.5) and blueberries (approx. pH 4.5).

The average pH of local soil is approximately 5.5 to 5.8; in other words, it is somewhat acidic but quite close to what's good for a majority of plants.

If you want to do your own pH soil test, do-it-yourself kits from the garden center can give you a ballpark figure as long as you use a fresh kit.

But if you suspect a serious soil problem, a professional lab test is much more precise. Such tests go beyond pH to determine the amount of phosphorus, potassium and more. Nitrogen is seldom, if ever, tested or reported.

To Change Soil pH

In our region, a general practice is to lime the soil in the fall every 2nd or 3rd year. This practice will increase the pH to a range suitable for a majority of plants. The recommended amount of lime to use is 50 lb. per 1000 sq. ft. Agricultural lime is the form most commonly used but, if your soil is quite sandy, dolomite lime is a better choice since it also supplies magnesium.

If you substitute wood ashes for lime, apply far less, about 15 to 25 lb. per 1000 sq. ft. Proceed with caution since wood ashes are inconsistent in strength.

After adding lime or wood ashes, wait at least 3 weeks before fertilizing to avoid nitrogen loss.

If you need to decrease pH by a relatively large amount, mix agricultural sulfur into the soil. Mix in the first dose the fall before you plant, then follow up every 2 to 3 years by lightly scratching additional sulfur into the surface soil around the plant. On average, apply 50 lb. per 1000 sq. ft.

Contrary to popular wisdom, gypsum doesn't change soil pH.

Irrigate and Fertilize

When you place transplants in the ground, be certain that both the root balls and the soil are moist. To settle the soil around the transplants' roots, water with a soluble fertilizer diluted to half-strength.

Follow-up care requires providing adequate water and fertilizer. Your goal is to keep seasonal plants moving at top speed so that they produce the abundant yields you expect. Early on, you'll need to water the area of the root ball often because new roots haven't yet extended into the surrounding soil.

Each and every irrigation should moisten the entire root zone of your plants. An average for established plants is to water 8 to 10 inches deep for lawns, 12 to 15 inches deep for flowers and vegetables, and 3 to 4 feet deep for most trees and shrubs, if soil conditions allow.

Be aware that wilting, even if mild, damages plants permanently, with seasonal plants being particularly sensitive to a water shortage. The result is that flowering plants won't have as many blossoms while vegetable harvests will be skimpy.

Choose an all-purpose fertilizer for your seasonal flowers and vegetables, applying it according to label directions. Perennials typically get by with little to no supplemental fertilizer.

Ornamental trees and shrubs typically do just fine without supplemental fertilizer as long as you provide a mulch of compost that's maintained at several inches deep. If new growth is between 12 to 18 inches each year, don't fertilize. If you do fertilize, spread a nitrogen fertilizer on the ground under the canopy and within the drip-line, then water thoroughly.

Additional information

Oregon State University publications are available at your county's OSU Extension Service office. Some publications are available online at <http://extension.oregonstate.edu/gardening>

Gardening with Composts, Mulches, and Row Covers EC 1247

Understanding Nitrogen Fertilizers EC 1492

Using Nitrogen Fertilizers Wisely EC 1493

Fertilizing Your Garden: Vegetables, Fruits and Ornamentals EC 1503

For Master Gardener™ advice

- Call Home Horticulture Helpline: 503-655-8631 (Clackamas County), 503-821-1150 (Washington County), or 503-445-4608 (Multnomah County).

- For more 10-Minute University™ handouts and class schedule, visit www.cmastergardeners.org

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