

Determine the Quality of your Soil

Soil pH and Fertility

Send in a soil sample (1-2 cups of a mixture from several spots in the garden) to the local Cooperative Extension Service Office (www.uwlab.soils.wisc.edu) to have the pH tested and soil fertility determined.

Soil texture

- ❖ **Sandy soil** which has a major part of coarse sand particles, feels rough and gritty and breaks up easily when you rub it between your fingers. Sandy soils lose water and nutrients quickly because of the fast drainage.
- ❖ **Silt and clay** soils have much smaller particles (clay being the finest) and form into a solid lump in your hands. They hold water and nutrients for a long time.
- ❖ **Loamy soil** breaks into several small clumps. Many plants grow best in medium textured loamy soil.

Amend your Soil

Sandy and Loamy Soil

Mix: ¼ Peat, ¼ Compost / Composted Cow Manure + ½ Backfill Soil

For very sandy soils use even more peat and organic matter to help retain the moisture in the soil.

You can also use Com-Peat, a blend of peat and leaf compost (1cuft / bag)

Clay Soil

Mix: ½ Rough Compost / rough organic matter + ½ Backfill Soil

Partially decomposed bark mulch can also be used as organic matter.

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| Humates | 1/4 cup per tree |
| | 20 oz for 100 sq ft |
| Highly decomposed organic materials that have fossilized over millions of years. They promote enhanced activity of soil microbes improving moisture retention and releasing locked up nutrients in the soil. Use at planting time for a strong start. Repeat twice a year. | |
| Bonemeal | 1 cup per shrub / tree |
| | 1 cup per rosebush |
| | 5-7 lb for 100 sq ft |
| Natural phosphorus for stronger root growth hastens maturity and stimulates plant growth and flowering. It also promotes good color and sturdy stems. Use twice a year for all flowering trees, shrubs and perennials. | |
| Fast Acting Lime | 1/4 cup per tree |
| | 16 oz for 100 sq ft |
| When the soil is too acidic, Fast Acting Lime will raise the pH and is not leached out easily. The soil in Northern Wisconsin is generally too acidic. Repeat twice a year. | |
| Gypsum | 3/4 cup per tree |
| | 4-10 lb for 100 sq ft |
| Helps break up clay soil, minimizes salt damage to plants and neutralizes pet urine. Repeat twice a year. | |
| Start-n-Grow Slow release fertilizer | 1 oz per ft of height for trees and shrubs |
| | 6-10 oz for 100 sq ft |
| Can be mixed into the planting hole but for container grown plants only, not for bareroot. Apply in spring to established trees, shrubs and perennials. Apply <i>Tree & Shrub Food</i> in fall. | |
| Sustane 8-2-4 Organic fertilizer | 1 cup per shrub 2 cups per tree |
| | 5 – 10 lb for 100 ft |
| Consists of stable compost, potash & feather meal. Replenishes the soil with humus and all essential nutrients. Apply in spring and fall. | |
| Root Stimulator | 2 oz / gal of water ½ gal per shrub 1 gal per tree or large shrub |
| | 1 gallon conc. makes 72 gal Ready to use |
| Water your trees, shrubs, annuals and perennials in with Root Stimulator to strengthen early root formation and stronger root development. It reduces transplant shock and promotes greener, more vigorous plants. Apply once again 2 weeks later. | |

| AMENDMENTS | AMOUNT |
|------------|--------|
|------------|--------|

Important notes:

Fertilizers come in 3 basic forms: liquid, dry and coated (slow release). Never apply dry fertilizer directly into a planting hole! It can burn the roots and encourage root rot.

When mixing these amendments in your backfill soil, it is important to do this consistently and evenly.

Find the right sun-shade conditions

Planting the right plant in the correct sunlight is one of the basic skills of gardening - a skill repaying you with increased flowering, good growth rates and less potential pests and disease problems.

Full Sun means the plant should get at least 6 hours of direct sunlight a day. This does not have to be baking hot sun, but it must be unobstructed light, preferably including intense noon sun.

Part Shade, Partial Shade or Dappled Shade means only 3 to 6 hours of direct sunlight a day. Bear in mind that noontime sun can be far too intense for these plants; they often thrive best if they receive only morning sun or else the less severe evening sun. Dappled shade occurs when strong sunlight makes its way partially through the branches and leaves of a sheltering or overhanging tree.

Full Shade or Deep Shade means less than 3 hours of sunlight daily will be sufficient, but bear in mind full shade does not mean no sun. There aren't many plants, except mushrooms that can survive in the dark!

Now you know what soil you are dealing with, you have an idea about its moisture retention, drainage and fertility. You know how much sun and shade you have. When you have considered the hardiness zone you are in, you will be ready to buy the plants that match your planting site!

Our Guarantee

Our guarantee for nursery stock covers the current growing season in which the stock is purchased, so long as appropriate planting, watering and care was given.

Important Follow up Care

You have chosen the right spot and planted it according to the tips in this handout.



How to ensure success?

Watering

Newly planted trees and shrubs need **DAILY** water for the first **two weeks**, making sure the rootball is saturated at each watering. Fill a bucket with a hose. Do not leave a hose unattended by the plant as the water will run off easily.

After 2 weeks - reduce watering to every **other** day and watch to see how much it is drying out in-between.

After another week or two, water **twice a week**, as long as it is dry when you push your finger down in the soil.

Thereafter water once a week

One inch of rain is comparable to a good watering!

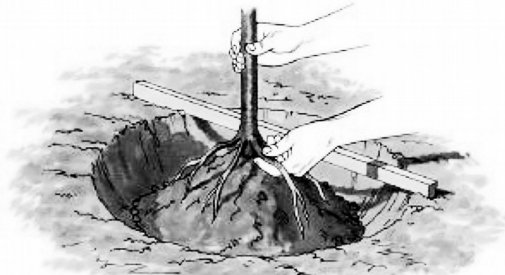
Know your soil

These recommendations depends on your soil type. Sandy soils require more frequent waterings and more water while clay soils less frequent.

Mulching is a good way to reduce watering frequency, as a plants will dry out more slowly. You still need to check with your finger to see how quickly the soil underneath the mulch dries out.

Planting Bareroot

Keep the roots moist! You can keep the bareroot plant in a plastic bag up to a week if you make sure the roots don't dry out. It will benefit from soaking in a tub of water for up to 12 hours before planting. This treatment will get the maximum amount of water into the roots. A liquid root stimulator may be added to the water. Dig a wide hole with sloping sides the same depth as the roots, allowing the roots to spread symmetrically outward from the trunk/stem.



The root flare (point on the trunk where the major roots emerge, see above) should be level with the surrounding soil.

Most new root growth will be within the top six to twelve inches of the soil. Prune any damaged roots. It will help the plant. Prepare the soil well (see above) - remember no dry fertilizer at planting time - place the soil firmly around the roots (do not compact it), water in with root-stimulator mixed with water, let it settle, add some more soil if needed, and water again.

Planting Containers

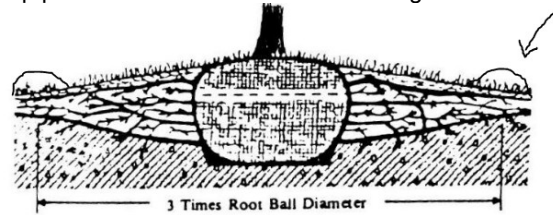
Dig a shallow hole three times as wide as the root ball or pot. Slope the sidewalls for good root growth and make it only as deep as necessary.

Deeper is NOT better!

Mix some soil for the backfill with your soil amendments unless you have already improved the whole bed. Remove the plant from its container and set it in the hole with the root flare (see above) level with the surrounding soil. If the root flare is not visible, carefully remove some of the soil around the trunk until you find it. One quarter of the root ball should be

above grade in poorly drained, compacted, or wet site. Then fill the hole up with your planting mix sloping the soil outward and downward from the root flare. Water thoroughly.

Make a small berm around the perimeter of the hole to help prevent water run off when watering.



- ❖ **Water** regularly the first year. The quantity depends on the needs of the plants and the soil type. Sandy soils require more water - clay soils less. Feel under the mulch with your finger. When it feels dry water thoroughly.
- ❖ **Mulch** The most important thing you can do for any tree/shrub next to watering it is to apply a good layer of mulch at least two to three inches deep over much of the plants root zone, but keep it at least 4-6 inches away from the base of the trunk. Mulching helps in retaining moisture, preventing weeds and adding organic matter to the soil as it decomposes. Repeat annually if needed.
- ❖ **Deer deterrents:** Fencing is the best. Animal repellent sprays also work well. It is important to have some kind of deterrent the same day you plant where animals will be a problem. They are always curious to try new additions to their diet. Follow the labels instructions on re-application.
- ❖ **Stake** a tree only if it is necessary. If the tree can stand on its own, it is best to leave it alone because the movements in the wind strengthen the roots. If staking is needed, use a non abrasive material, canvas strip, piece of garden hose, etc. that will not damage the tree. Place it loosely around the trunk. Check yearly that none of your equipment has hurt the tree.
- ❖ **Wrap** your tree's trunk to prevent damage by rodents and sunburn in winter. This needs to be done before deer rutting season in the fall. Deer love to use a nice straight trunk to shed their velvet. Wrap it with a white plastic tree wrap from the ground level up to the first branch. More trees die from lawnmower, weedwhip, and hose connector damage than from disease, animals or insects combined. Remove the tree wrap in the spring.

Preventing stem girdling roots.

Stem girdling roots (SGR) occur when a tree is planted too deeply or when it is container grown and the roots begin to encircle the trunk. Prune or discard any crossing or abnormal roots before planting the tree, or the roots may begin to grow around the base of the tree. This causes compression that cuts off or restricts the movement of water, nutrients and stored food reserves. SGR literally starves the tree to death.



Symptoms of SGR include a chain reaction of signs:

- ❖ Substantial reduction in growth.
- ❖ Tree begins to turn its autumn color in summer.
- ❖ Base of the tree does not show a distinct flare.
- ❖ Trunk appears to have a straight side or a concave depression.

Proper care in planting is the solution to SGR.

Planting Guide for Trees and Shrubs

Containers & Bareroot



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