

Before starting on a planting project you have two possibilities to consider to ensure the future health of your trees and shrubs: **a.** you can match the plants you choose to your site or **b.** you can adjust your planting site to match the needs of your plants. In both cases you will first have to...

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 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.

Now that you know what soil you are dealing with you have an idea about its moisture retention, drainage and fertility. You will be ready to buy the plants that match the requirements of your planting site when you also have considered the hardiness zone you are in and **the 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. 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.

Allow 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!

If you have selected plants to your liking and the soil doesn't match the plants' requirements, you will have to do something about...

Amending your soil

It is always preferable to amend a bigger area than just your planting hole. The plant will be reluctant to send roots outside the planting hole if the soil is poor there, and the result could be stem girdling and stunted growth.

Some Suggestions to Improve your Soil

Sandy and Loamy Soil

Mix	1/4 Peat
	1/4 Compost or Composted Cow Manure
	1/2 Backfill Soil
Note: For very sandy soils use even more peat and organic matter to help retain the moisture in the soil.	

Clay Soil

Mix	1/3 Coarse Builder's Sand
	1/3 Organic Matter (Composted Cow Manure or Rough Compost)
	1/3 Backfill Soil
Note: To improve drainage and porosity use plenty of these amendments or else your soil will harden even more. It is very important to use coarse sand.	

AMENDMENTS	AMOUNT
Soil Activator	1/2 cup per tree
	40 oz for 100 sqft
Note: Revive - Soil Conditioner is rich in humates - 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 tree
	1 cup per rosebush
	5-7 lb for 100 sqft
Note: Natural phosphorus for stronger root growth hastens maturity and stimulates plant growth. It also promotes good color and sturdy stems. Use twice a year for all flowering trees, shrubs and perennials..	
Lime (Encap)	1/4 cup per tree
	10 oz for 100 sqft
Note: When the soil is too acidic, Encap Lime will raise the pH quickly - about 1.2 in about a week and is not leached out easily. The soil in Northern Wisconsin is generally too acidic. Repeat twice a year.	
Gypsum	1/4 cup per tree
	4-10 lb for 100 sqft
Note: Helps break up clay soil, minimizes salt damage to plants and neutralizes pet urine. Repeat twice a year.	
Start and Grow *(see Remark)	1/4 cup per big tree
	6-10 oz for 100 sqft
Note: Slow Release Fertilizer can be mixed into the planting hole but for container grown plants only, not for bareroot!! Apply a dry fertilizer like Ferti-lome Tree & Shrub food to all trees and shrubs twice a year only in the second year and all following years after planting.	
Root Stimulator	1 pint makes 9 gal Ready to use
	1 gallon makes 72 gal Ready to use
Note: 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.	

***Remark:** 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

NB: If you mix these amendments in your backfill soil, it is important to do this consistently and evenly.

Staple receipt here!

Our Guarantee

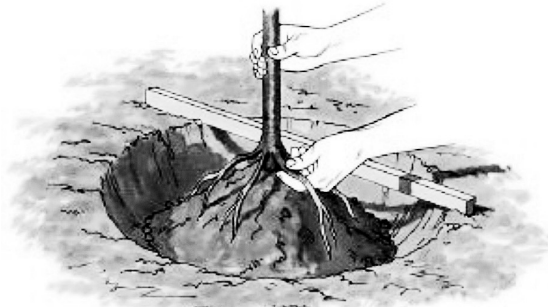
All trees and shrubs hardy to the zone that they are planted in, planted according to this guide and cared for properly, are guaranteed for 1 year from the date of purchase. The refund will be in the form of an even exchange or a credit slip for the sales price.

Ready to Plant

- ❖ You can dig an extra wide planting hole if you do not intend to amend the entire bed, but then you should backfill it with the amended soil mix until the planting hole is the size you want.
- ❖ Do not cut back the crown for one or two years. Prune only dead, broken, or poorly placed branches or double leaders. Don't cut back healthy branches to reduce the crown. See also our pruning guide.

Planting Bareroot

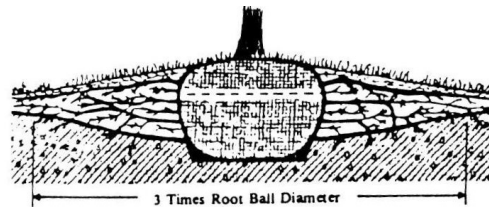
Keep the roots moist! You can keep the bareroot plant in a plastic bag up to a week if you make sure the roots don't dry out. It will benefit from soaking in a tub of water for up to 12 hours before planting. This treatment will get the maximum amount of water into the roots. A liquid root stimulator 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. 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), fill the hole 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. The level of placement should allow the root flare to be level with the surrounding soil or one to two inches above. 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.



- ❖ **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 four 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 necessary.
- ❖ **Spray** with animal deterrents the same day right after planting. Animals are always curious to try new additions to their diet. Follow the manufacturer's instructions on reapplication.
- ❖ **Stake** a tree only if it is large and will catch the wind, or if it is very small and might be trampled. Stake loosely, using carpet strips, canvas straps, or a professional kit. Remove stakes after one or two years. If the tree can stand on its own, it is best to leave it alone because the movements in

the wind strengthen the roots. Make sure you check yearly that none of your equipment has hurt the tree.

- ❖ **Wrap** your tree's trunk to prevent damage by mowing, trimming, rodents and sunburn in winter. Wrap it with a plastic tree wrap from the ground level up to the first branch. Leave it on year round until the trunk is snug - then remove and install a larger size. More trees die from lawnmower, weedwhip, and hose connector damage than from disease, animals or insects combined.
- ❖ **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, plant 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.
- ❖ Trunks appear 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 and Bareroot



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