

Right Plant, Right Place Selection Guide

Use this guide to evaluate your site conditions and choose a tree or shrub to best suit your space.

1. **Light/Sun Exposure** North East South West
- Full Sun (usually south/southwest) Part Sun (usually east/north west)
- Filtered Light (some light, under tree, intermittent light) Shade (north facing, under canopy/awning)

2. **Water** High: unlimited water, high rain area/water pooling, irrigation Moderate: regular rainfall each month, some supplemental irrigation
- Low water, minimal rainfall No irrigation, little to no rainfall

**Typically, the north side of a structure will be shady and hold moisture/remain moist because of less sun exposure, whereas the south side of a structure will be sunny and require water more frequently because of high sun exposure.

3. **Exposure** Unprotected (out in the open, no surrounding plants/structures) Some protection (sun exposure most of the day, some plants around)
- Protected (under eaves, patio, Tree canopy, plants around) Shaded (protected with low sun)

4. **Soil Type** There are 3 main soil types: *sand, silt or clay*. Silt is the middle ground of all soil types with medium particle size, holds some water and nutrients, but not too much. More silt in the soil is your good friend. Sand has large particle size so it drains quickly and warms up fast. It is also the fastest to dry out. Clay has the smallest particles, thus is naturally high in nutrients and holds moisture, but doesn't allow for good air and water circulation. These can be categorized further into the following by testing your soil texture with your hands (more below). The ideal soil type is 40% sand, 40% silt and 20% clay, also known as *loam*. This type has good water drainage, good air circulation and holds nutrients and moisture best. If your soil isn't loamy, don't worry, you can amend your existing soil to get closer to the ideal soil for your plants. How do you know what kind of soil you have? Let's test it!

- The Squeeze Test: First, make sure your soil is moist (not wet!). Take a small handful of soil in your hand and gently squeeze/rub it between your palm, index finger and thumb. If it's gritty like sandpaper, it's mostly sand. If it's slippery and slimy, it's mostly clay.
- The Ribbon Test: Next, take another handful of moist soil and try to roll it into a snake/ribbon, similar what you can do with play dough. If you can form a ribbon and hold it vertically without it breaking, the soil is mostly clay. If the ribbon breaks, the soil is probably between 25-50% clay. If you can't make a ribbon at all, your soil is most likely more than 50% sand.
- The Jar Test: This one takes a bit longer but is much more accurate.
 - 1) Gather soil from a few places in your area to be planted, mix them together and let the soil dry out on a flat surface. Remove any rocks, roots and debris.
 - 2) Scoop up a cup of the soil and grind it into a powder with a mortar. You can also use a large stone.
 - 3) Place a 1" layer of the pulverized soil in the bottom of a clear glass quart jar, fill it 2/3 full with water and add a pinch of salt (the salt helps the soil separate). Shake the jar vigorously.
 - 4) Set the jar down and let it settle into different layers. Sand is the heaviest particle and will settle within a matter of minutes on the bottom. Silt will follow and form the

middle layer over a few hours. You will be able to see a visual difference between the large sand particles and the smaller silt particles. Any clay may take days to settle out.

- 5) Once all has settled and the water is mostly clear again, measure the total amount of soil (it should be around 1" again) and then measure each layer. For example, if the total soil layer is 1" deep and there is ½" layer of sand, the soil is 50% sand. The next layer, silt, measures at ¼" deep, the soil is 25% silt. The remaining 25% is clay.
- 6) Use the USDA Soil Texture Triangle (or this nifty calculator!) to find out your soil classification and check the box below:

https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_054167

Chalky Clay Loam Peat Sandy Silty

- pH: This is a measurement of acid or alkalinity in the soil, just like in other chemicals (you may remember this from science class). It is an invisible factor in *nutrient availability* in plants. Too alkaline or acidic soil can lead to plant poisoning and the uptake of toxic levels of elements by plants. The sweet spot is soil that is slightly acidic. The easiest way to test soil pH is to purchase an inexpensive pH test kit from a local hardware or gardener's supply store. Some stores and County Agricultural Extension Service offices will perform the test for a fee. Your sample will need to be clear of debris, dry and is best from multiple locations, 4-6" deep, mixed together. This is scale of pH, with the 6.0 to 7.5 being the sweet spot.

1	2	3	4	5	6	7	8	9	10	11	12	13+
Acid						Neutral						Alkaline

Record your soil's pH below:

Soil pH: _____

5. Hardiness Zone USDA Hardiness Zone: _____ Sunset Climate Zone: _____

**The USDA Hardiness Zone is found by entering your ZIP code: <https://planthardiness.ars.usda.gov/PHZMWeb/>

**Sunset Climate Zones are for the western United States only: <https://www.sunset.com/garden/climate-zones/sunset-climate-zones-california-nevada>

6. Competition from Other Plants Evaluate the area and ask yourself these questions:

- Will the hole for the new plant unearth tree roots?
- Will the hole for the new plant disturb more than 1/3 the roots of plants around it?
- Are there existing plants around the new plant? Will they have similar water needs? (If the answer is no, find a new location for your new plant.)
- Will you eventually place other plants around your new plant?
- Is there enough space for your new plant to grow full size, with minimal pruning, with minimal overlap (no more than ¼ of the size overlap to other plants)?

7. What's Above, Below & All Around Lastly, look all around. Plants are living, breathing organisms and just like humans, need space to grow and thrive. A basic rule of thumb is what the plant looks like on top—leaves and stems combined—is what the root structure looks like below times two. Plants need a good root system to keep them in the ground and to uptake all the good stuff (water, nutrients and air). Roots, especially the case with trees, will do whatever it takes to get food and water and that can sometimes mean getting into pipes, drains and other places that can ultimately cause a major problem. Ask yourself the following questions, mostly for planting trees:

- Are there utilities below that may be compromised by tree roots? Think water, sewer and drain lines (irrigation lines are typically closer to the surface, but still could be an issue). Sometimes

electrical and cable service lines are below ground too—stay away from them as well. A good rule of thumb is to be five (5) feet away from all underground utilities.

- Look up—do you see any utilities that may be affected by the growth of a tree over time? Think of electrical and satellite services; if a tree is near electrical lines, this can pose a hazard if the tree falls onto the lines. More than likely, your electrical service provider will come severely prune your tree beyond recognition or remove it entirely. Let's avoid that situation. A good rule of thumb is to fifteen to twenty (15-20) feet away from all overhead utilities.
- What do your views to and from the inside of your house/building show? You probably want your house/structure to look and feel safe, so its not best to cover your windows or block views of the door. Keeping plant height below windows is good practice. Trees and shrubs should not interfere with the building's roof or walls (cue maintenance!) nor block lighting.
- Know how big your plant will be, full grown, and plan accordingly. That tree or shrub may fit in your place right now in its current container size, but just like babies, it will grow and grow quickly if it's happy. Plan and measure the space around it and give it room. At first, your space may look empty but with patience and good practices, it will fill in and your trees and plants will appreciate your forethought.

8. Long Term Maintenance & Diseases Once all the above questions are answered, you can look at all your options for trees, shrubs and flowers. Along with the fun things like color, leaf shape, season of bloom, wildlife benefits and shape, consider the following questions. Many landscape books, encyclopedias and reputable online publications will help you find answers.

- How long will the plant live?
- Are there any diseases and/or pests that the plant is prone to? Will you be able to manage them? Can they spread to other plants? If you are in an agricultural area, check with your County Agricultural Extension Service to see if there are plants that aren't allowed. Some plants are hosts to pests and diseases that can destroy food crops.
- How often/do you have to prune or train the tree/shrub?
- How often will you have to fertilize it?
- Is there fruit or seeds that may attract birds, animals or other pollinators that you find undesirable? Remember, with birds and animals come their habitat and ultimately, poop. Weigh out the pros and cons and remember, pollinators are an important part of our ecosystem.
- Is the plant allergenic? Just like pH, the allergy spectrum is broad for plant material and everyone is different on their reaction to pollen and plant parts.
- Is the plant poisonous to humans and/or animals? Is this an undesirable feature to your planting? Just because there is toxicity to a plant, it may not outweigh the overall benefits. That is yours to decide.
- Is it invasive? If it is, you probably shouldn't plant it.
- What will it look like during the winter/dormant season?
- Is it edible? Many landscape plants are edible and can be used for culinary purposes.

****ALWAYS contact your local underground utility locator/alert before digging! Better safe than sorry!****

HAPPY PLANTING!