



Select Trees to Reduce Long Term Risk

by Marilyn Loser

2015 October 7

Last time I wrote about tree risk assessment and management. One way to reduce risk is to carefully select a tree for a specific planting site. Kamie Long, Assistant Colorado District Forester, spoke on this topic at the recent Western Colorado Community Forestry Conference.

For this column, I will focus on aspects I haven't covered in depth in the past.

According to Kamie, you should first consider the site conditions. She said, "Not many species can tolerate very compacted soils." There is a special tool for measuring compaction called a penetrometer. But, she said, if you don't have one, just use a digging spade. Can you dig the soil easily? If so, great. If jumping on the spade only penetrates the ground a little bit, or if you think you need a pickaxe, perhaps you should consider a different planting site.

You also need to consider soil pH, the measure of acidity. Alamosa soil tends to be alkaline. You can send in a sample to be analyzed by the Colorado State University Soil Testing Lab. It costs \$35 per sample. For more information, go to their website at <http://www.soiltestinglab.colostate.edu/>. For alkaline soil Kamie suggests most crabapple species, elm, hackberry, linden, and oak.

Soil drainage is important. To test, dig a hole one foot wide by one foot deep and fill it with water and let it drain overnight. The next day, refill the hole with water and monitor the drainage rate. According to the todayshomeowner.com website, "The ideal soil drainage is around 2 inches per hour. If drainage is more than 4 inches per hour, it's too fast. If the rate is less than 1 inch per hour, the drainage is too slow." Willows work well in waterlogged soils. Hackberry and other xeric species do well in faster draining soils.

Site exposure and cold hardiness are important considerations. Alamosa cold hardiness is generally considered to be Zone 3, although some Zone 4 trees do well here. If your site is sunny and windy, it will tend to dry out quickly and heat up quickly. Kamie suggests species that are native to prairies or exposed outcroppings such as hackberry, hawthorn, honeylocust, and bur oak for these areas.

What weather extremes does your site experience? Snow? Wind? "Trees fall when their ability to withstand loading events from storms is surpassed," said Kamie. Slow growing species are best as they tend to have high wood strength and low decay susceptibility. She suggests oak and Kentucky coffeetree.

Kamie strongly urges buying high quality nursery stock. If you are buying a container tree from a local nursery or garden center, she says to ask to have it taken out of the container for inspection before purchase. You don't want a tree with a lot of circling roots (root bound) or one with inadequate root structure (most of the soil falls away from the roots).

If you're buying a tree other than a crabapple, choose one without a multiple leader, unless it is easily fixed. The trunk should be single and straight, the branches well-spaced and not crossing. The trunk should not have any wounds, insects, or disease.

The root ball size should be adequate in relation to tree caliper. For example, a trunk caliper of one inch (measured six inches from the ground) should be in a container of five gallons or more, according to the University of Florida horticulture website. A two-inch caliper tree should be in a container of 20 gallons or more.

Your new tree may need a shave! I learned about a new technique for preparing a tree for planting after removing it from the container. Kamie mentioned Allison O'Connor's blog at csuhort.blogspot.com. Her March 2014 entry states, "The old recommendation was to take something sharp and slice through the roots. Unfortunately, research proved that this was ineffective. The new recommendation is to shave off about 1 inch of the outer periphery of the root system to physically remove the circling roots. Circling roots can turn into girdling roots, which can affect the tree's health. In fact, there's a thought that many tree failures are now a result of girdling roots, which act like a boa constrictor on the trunk, cutting off water and nutrient transport." Shave the sides (the root ball will look a little square) and the bottom.

I've talked further about choosing a good tree and about proper tree planting in previous columns. Please check the News & Blog tab at AlamosaTrees.net.

"Imagine if trees gave off WIFI signals. We would be planting so many trees and we'd probably save the planet, too. Too bad, they only produce the oxygen we breathe." Unknown