

HOW TO PROTECT AND MAINTAIN TREES

PROTECTION OF EXISTING TREES

Many trees are severely injured during construction projects. Protecting trees and tree root systems during construction is crucial. Leaving the grade and the drainage pattern (both surface and underground) intact is essential and protecting the root flares and trunks is important. Although tree roots grow out far beyond the drip line of the foliage, protecting the area from drip line to trunk will give most trees a fair chance of survival. Installing physical barriers such as temporary chain link or wood fencing is the only method that keeps automobile and foot traffic, fill soil, and construction debris off a tree's root system. Flimsy plastic tape and fences don't work. It is important to establish an envelope for access and construction activity and then build a sturdy fence on that line to help keep people, machines, and materials out and protect the trees. It is also worth the time and money to cover the entire site, inside and outside the fence, with a thick layer (8 to 12 inches) of shredded native tree trimmings mulch.

PRUNING

Trees don't need a lot of regular pruning. Thinning every year is usually not good for trees. Pruning is primarily for your benefit, not the tree's benefit. If tree limbs are against the house, in your way, or if more light is needed for plants under trees, prune some limbs away but don't be fooled into thinking that it is good for the tree. It's not – just good for your interests.

PRUNING CUTS INJURE THE TREE

When cuts need to be made, avoid making flush cuts. Cuts that are made flush against the tree trunk or larger limbs damage the tree. Flush cuts remove the branch collar which is the swollen ring of tissue extending from the trunk. This ring of tissue is Nature's healing device. It is part of the trunk or the large limb, not part of the limb being pruned away. After proper pruning cuts are made, the branch collar expands and grows over the pruning cuts to seal off or compartmentalize the wounds to prevent rot and insect attack. There is an easy way to tell if you have made your pruning cut is too close – the pruning wound will be oval. If the cut is round – that's perfect. Flush cuts almost always result in cavities forming in the tree.

There are exceptions. Some trees need pruning because they are misshaped or unbalanced. Some fruit trees such as peaches need regular pruning to encourage large fruit production and to make harvesting easier, but ornamental trees rarely need much. When a tree is drastically thinned, artificially lifted, or severely cut back, damage is done and plant stress is created. A good rule of thumb for trimming trees is to try to copy Nature's pruning techniques. Pruning a tree into an artificial shape is a waste of money, has ugly results, and is usually detrimental to the health of the plant. If you can't decide whether to trim or not, don't! Remember that any cut into the living tissue hurts the plant. If the trees didn't want the limbs and foliage, they wouldn't be there.

A common pruning mistake is the "lifting" or "raising" by removing lower limbs. Low limbs add grace and beauty to the tree. Removing them unnecessarily causes stress and leads to other health-related problems. Lifting doesn't even necessarily allow more light to reach the grass or other plantings beneath the tree. If the top of the tree has not been thinned, a solid canopy still exists and no significant increase of light to the ground plane has been created. It's best to remove only dead or damaged limbs, limbs that are rubbing, limbs with mistletoe or disease, and, in certain cases, enough of the canopy to allow shafts of sunlight all the way through the tree to the plants growing beneath. Limbs that are hitting the house, the car in the driveway or you as you walk by can be removed. But remember – it's for your benefit.

PRUNING PAINT

Pruning paints and wound dressing in general should not be used. Damaged living tissue will always heal faster if exposed to fresh air. Pruning paint will seal moisture and disease spores into a protected environment and actually increase the spread of pathogens. Some arborists still recommend painting the cuts on oak trees in oak wilt areas. I'm not sold on that idea. It's better to simply avoid pruning oaks in the spring and early summer when the trees are the most susceptible to the disease. If you must prune in the spring, go ahead and take their advice on applying wound dressing if you want, but use Lac Balsam or natural shellac instead of the black tar-like products.

CABLING

Cabling is another expensive technique that in most cases is unnecessary and detrimental to trees. Drilling holes in limbs and connecting them with metal cables is pretty silly. Cabling simply moves the stress points from one position to another. Cables are unsightly, expensive and create an artificial tension in trees that can actually lead to more ice and wind breakage instead of less. One of the few times cabling should be used is to keep a weak crotch from splitting. Proper cabling runs horizontally between vertical limbs or trunks and keeps them from splitting the tree in half. Even in this case, removing one of the weak sides is often a far better approach than cabling. Cabling should never be used to attempt to hold up weak or low hanging limbs. These low slung limbs usually have great tensile strength and don't need any help. Even in severe ice storms they bend to the ground under the weight of the ice but then spring back when the ice melts. Limbs most sensitive to ice storm damage are the vertical limbs especially on trees that have been over pruned or gutted.

MISTLETOE

Mistletoe is a plant parasite that primarily attaches to limbs or trunks of low quality, stressed trees. Common targets include hackberry, bois d'arc, Siberian elm, Arizona ash, locust, box elder and other ill-adapted or weak trees. Quality trees in stress from environmental problems are also subject to mistletoe attack. Removal is not practical at this time with any chemical or organic spray, so the only choices are removal by pruning and application of the Sick Tree Treatment. Heavy applications of dry molasses alone have been reported to knock out mistletoe. Infected limbs should be cut away completely if possible. If that can't be done, notch into the limb or trunk to remove the entire rooting structure of the mistletoe. Painting the wound with black pruning paint to prevent re-sprouting is okay to be used in this case. Improving the tree's health by improving the soil is the best preventative and best curative. Get rid of the mistletoe after removal, compost it, hang it over the doorways for the holidays or chop it up and sprinkle on fire ant mounds. Yep, it works. You can also make a fire ant mound drench from soaking mistletoe in water to make a tea.

MULCHING

Trees should be mulched at the time of planting and additional mulch should be added each year unless a green cover crop exists across the root system. When trees are planted in turf shredded mulch should cover the root ball to prevent the competition of grass roots, maintain soil moisture, and keep the soil temperature at the proper level. When trees are planted in beds, the entire bed should be mulched. Piling mulch up on the trunks of trees can keep the tree bark moist and lead to problems. Tree mulch should be 3 or 4" thick out the outer edge of the planting sloping to 0" at the truck of the tree. The root flare should always be left exposed.

FERTILIZING

Trees need very little fertilizer, but when used should be based on the surface area of ground rather than the diameter of the tree trunk. Organic programs feed the soil rather than the plants, so the amount of fertilizer is related to the amount of area, not the number, kind or size of plants. I normally fertilize once in the early spring and again in early summer with an organic fertilizer at the rate of 10 to 20 pounds per thousand square feet. A third application is sometimes needed in the fall, but this procedure is more for the plants around the trees than the trees themselves. Fertilizer should be spread on the surface of the soil rather than put in deep holes around the trees. The exception is while applying mycorrhizal fungi. Aerating 3 – 7" before application is helpful in this case. The root system of trees is much shallower than most people realize. Most of the roots are located in the top 7 inches of soil. Lava sand or other volcanic rock blends broadcast under trees at the rate of 40 to 80 pounds per 1,000 square feet is also very beneficial to the health of trees. If you live near a volcano, this isn't necessary.

WATERING

Watering depends on the soil type, climate, plant varieties, and sun exposure. If trees are planted in the fall using the natural techniques, the one thorough watering at planting may be all that is ever needed. This is a critical point for farmers and ranchers when irrigation water is not available.

I used to recommend that newly planted trees in the landscape should be thoroughly soaked every other week or so in the hot growing season and maybe once a month in the cooler seasons, all to be done in addition to regular watering of the grass areas or planting areas surrounding of the trees. If trees are planted properly and watered

thoroughly and properly additional soakings may not be needed. Obviously, rain will alter this schedule. Once trees are established, a regular watering of the surrounding planting areas is normally enough. During periods of extreme drought, the soaking procedure may need to be used again on introduced trees. On the other hand, adapted trees, planted properly and grown under an organic program will have huge root systems and healthy populations of beneficial mycorrhizal fungi on the roots. As a result, those trees will have the ability to access water and nutrients from the soil even in the harshest of conditions. If native trees are used, even the summer watering may not be needed. For all trees I now recommend the application of mycorrhizal fungi and it must touch the roots to be effective. The best products for this work are from Nature's Creation which comes in liquid and dry forms.

PEST CONTROL

Primary pest control results from planting adapted trees properly. Healthy trees have a natural resistance to insect pests and diseases. Sprays for insects and diseases should be applied only after pests are seen, and only environmentally safe alternatives to toxic poisons should be used. That does not mean diazinon, Dursban, Orthene, Pyrethrum, rotenone, Kelthane, Sevin or any other toxic product. Even problem flare ups of pests can be controlled with food products that are beneficial to the soil and the environment.

Aphids, for example, can be controlled with a strong blast of water and the release of ladybugs. Ladybugs (ladybird beetles), green lacewings, and trichogramma wasps provide excellent preventative control of aphids, spider mites, worms of all kinds, and other small insects. Beneficial insects should be released at dusk after wetting all the foliage or at daybreak when dew is on the foliage. Heavy infestations of pests can be knocked back with garlic-pepper tea and citrus oil added products. Bio Wash can be used for minor insect attacks.

Most fungal problems can be controlled by spraying Garrett Juice plus garlic tea. Potassium bicarbonate can be added for more power. Bio Wash is a commercial disease control that is quite effective. Hydrogen peroxide at 3% concentration is effective against bacterial diseases. The use of horticultural cormeal will shut down most minor fungal diseases in the soil. Mulching plants with shredded native tree trimmings will also help reduce insect pests and diseases. The Sick Tree Treatment should be used for all severe tree problems.