

Arid Zone Times

An Arid Zone Trees Publication

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Maintaining Healthy Crowns

Desert trees, like all plants, are divided anatomically into roots and shoots. Roots are all the below ground tissues that are involved in nutrient and water uptake from the soil as well as serving to anchor the tree. Shoots are all the above ground parts including trunks, branches, stems and ultimately leaves. Roots supply water and minerals and leaves produce sugars by photosynthesis. The crown, the very base of the trunk right at or slightly above the soil line, is the divider between these two critical tissue systems. It is an essential and highly vulnerable crossroads for all soil nutrients traveling up the plant and all sugars traveling down. Unlike most other species, many desert adapted trees have very little or no bark protecting the tender conducting tissues that lay just beneath the bark. Even relatively minor injuries can cause substantial damage to the crowns of desert species.

For trees to remain healthy and vigorous care must be taken to insure that the crown is not injured or damaged. While string trimmers and lawn mowers quickly come to mind, insects, pathogens (diseases), burrowing animals, pedestrian traffic, and vandalism can also be potent sources on damage. Many of these risk factors can be reduced by thoughtful tree placement within the landscape and using proper planting methods.

The crown should always remain above the level of the soil. Trees planted too deep or that settle after installation (due to insufficiently compacted soils), expose the crown to excess moisture. Post installation re-grading of the site associated with adding under-story plantings or modifying site drainage, can also serve to bury the crown. Excessive moisture on the lower trunk and crown can promote the development of certain root and crown rotting diseases.

Trees planted in lawn areas are exposed to the greatest number of risk factors. The risk associated with string trimmers and mowing equipment is multiplied by the fact that they are in the landscape at least once a week. The effects of even modest damage repeated week after week can be devastating on tree health. Creating a turf free area around the crown can act as an equipment buffer making mowing and trimming near the trunk unnecessary. Planting shrubs, annual color or ground covers around the base will also keep the trimmers at a safe distance. When planting under-story plants around desert species be sure that water demands of these plants are compatible with those of the tree and won't create over-watering problems.

In golf course setting, trees can be aggregated in decomposed granite areas slightly away from turf or trunks can be protected with commercially available, hard plastic guards that wrap around the base of the tree. The problem with these guards is that they may make maintenance workers less careful when working around trees by giving the impression that trunks are "protected" and cannot be damaged. Also these guards are not well suited for large multiple trunked specimens. Controlling turf immediately around the base of the tree can also be accomplished with contact herbicides instead of trimmers. Planting shrubs or ground covers around the bases can reduce damage associated with golfers attempting to hit balls nested against the trunk or those taking out their frustration on the crown of the tree.

Damage from subterranean insects, like Palo Verde Root Borer, are difficult to control. Keeping trees generally vigorous and healthy is the best means of defense. Similarly with burrowing animals, it is often difficult to know they are present until after significant damage has occurred. The risks associated with controlling burrowing animals with poison baits are unacceptable in most urban landscape and golf course settings.

With a care and planning, desert adapted trees can be used in a wide range of landscape applications. They can be expected to continue add shade, color and character to landscapes for the long term.

