KINGMAN IS GROWING! Column

Salt and Desert Soils
By Marjorie Martinovic, Kingman Area Master Gardener

Do you like, desire, crave salty foods? Does the idea of French fries, potato chips, and crackers make you drool? It is a good thing you are human and not a plant.

Plants do not do well in salty soil. Guess what? Our soil has a large quantity of salt. Perhaps this is the reason why your plants are stressed.

PLANT DAMAGE FROM HIGH SALTS

**VISUAL DAMAGE**
*temporary wilting                         *early leaf drop
*leaf yellowing                              *stunting or reduced vigor
*leaf scorching or marginal burn

**NON-VISUAL DAMAGE**
*decrease in photosynthesis and energy production
*decreased tolerance to high and low temperatures
*reduced root growth          *potassium deficiency

When you water your plants, you may be contributing to the problem. The presence of high soil salts can cause a plant to become water stressed even though there is adequate water for the plant. Normally, water is drawn into the root as water is lost through the leaves. As soil salts become excessive, uptake of soil water becomes more difficult for the plant. The resulting damage looks similar to damage caused from drought or root injury.
Symptoms appear as leaf burn, stunted growth or premature leaf drop. As the damage progresses, twig or stem dieback occurs followed by plant death when the salt levels exceed the plant's maximum salt tolerance.

**SALT INJURY TO TREES, SHRUBS, VINES, GROUNDCOVERS**

*reduced growth*  *curling of new leaves*
*leaf tip burning or scorching*  *twig dieback*
*leaf chlorosis or yellowing*  *leaf and flower drop*
*delay in bud break or flowering*

Woody plants affected by high soil salts first display reduced growth. But growth reduction up to 40% can occur without signs of visual damage to the plant.

When leaf drop or yellowing occurs from high salts it is almost always the older leaves that are affected first. Then scorching or tip dieback of the younger or newer leaves. Severely damaged leaves then fall from the plant.

Advanced stages of decline include twig and branch dieback and eventually, plant death.

So we have identified the symptoms. What do we do now? Two common approaches for correcting the problems associated with soils high in salts are to use salt-tolerant plants or remove the salts.

Flushing the salts below the roots is relatively easy to do. Salts may be removed by leaching the salts with several irrigations of water. Of course, you need soil with good drainage.

Periodically, once a month or so, deeply water the plants, trees, etc. Use a soil probe to determine the depth of water penetration.

Plants growing on saline soils should not be allowed to become water stressed because this concentrates the salts in the root zone. Make sure you water frequently.

**Okay, go enjoy your salty chips and then water your plants.**

Kingman Area Master Gardeners will be holding a “NEWCOMERS” WORKSHOP on Saturday, October 18, 2008, 9:45 AM to 12:15 PM at the University of Arizona Mohave County Cooperative Extension, 101 E. Beale Street, Kingman. Did you just move to Kingman? Trying to figure out what to plant in our high desert? Or are you having problems with your existing landscape? Then this workshop is for you. Seating is limited so call to reserve your spot, 753-3788.

For more information contact The University of Arizona Mohave County Cooperative Extension at 101 E. Beale Street, Suite A, Kingman or telephone 928-753-3788.
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