

2010 02 24 Alamosa Trees
by Marilyn Loser

A tree's old age

Many of Cole Park's trees are nearing the end of their lifespan as I mentioned in the last column. What does it mean for a tree to reach old age and then to decline? As Peter A. Thomas, professor of environmental science at Keele University, United Kingdom says, "Old age is not the problem for plants that it is for animals.

"Being modular, plants can grow new limbs when old ones die off. More crucial to the longevity of a tree is its size. A tree reaches a stage when it cannot get taller, owing mainly to the difficulties of bringing water up from the roots, and when its side branches cannot grow longer, because they are too expensive to support. So the number of leaves a tree holds becomes more or less fixed, and this means that the tree's ability to produce food--the sugar made in leaves by photosynthesis--also levels off.

"Yet each year the tree adds a new layer of wood under the bark, and the amount of wood needed to coat the whole tree increases, just as, in a set of Russian dolls, each new doll on the outside has to be bigger. As the tree grows, the amount of food needed for running it rises. The tree resembles a bank account whose income (sugary food) is fixed but whose outgo (respiration and new wood) keeps mounting. The tree compensates for a time by producing narrower and narrower rings, but there comes a point when a ring cannot get any narrower. Something has to give."

Take a look at the older trees in Cole Park. They are beautiful and graceful, but most of their lower branches have been trimmed leaving only a small canopy of leaves at the top. OK, you'll have to wait a few more months before viewing this year's leaf canopy. The trees' canopies aren't expanding much, if at all. The trees are close together, prohibiting much lateral branching, and they're about as tall as they will grow. Close inspection shows they haven't been putting on new buds that could develop into new branches, lower down.

Old trees can't produce enough food. There are noticeable dead branches near the top. The city prunes trees each summer, but I suspect they can't keep up with the demand. Branches seem to be dying faster than many of the trees can produce new growth.

"A tree's bank balance is also influenced by savings in the form of food reserves," says Thomas. "As a tree gets bigger, however, it has less food left over. At the same time, the larder--the sapwood--gets smaller. Eventually, infections penetrate inner structures, and storage capacity is lost behind a barrier zone, a layer of new cells produced in the inner bark to seal off infected wood. The living part of the tree is walled into a thinner and thinner space under the bark. Part of the tree dies.

"New branches on the trunk can still save its life, but a large old tree is not good at producing new shoots, perhaps because it is running out of stored buds or because they are trapped behind thick bark. New sprouts on weak trees often die just when people think the tree is going to live. This may be because the barrier zone is missing or because there are too few reserves left for the tree to grow a strip of tissue from the new branch down to the roots. Either way, disease easily overtakes the tree, and the branch withers away. At this point, the tired old tree bows out gracefully."

This may be what happened to the trees that flanked San Luis Valley Federal Bank and were cut down last fall. While nice looking and big, they were not particularly healthy. Apparently, they were infected, some had hollow cores, and there were more dying branches than new growth. The bank plans to replant this spring.

LEVEE MEETING. The city will host a public forum 6 pm, April 26, at the City Recreation Center. Some residents were mailed an invitational letter on March 17; I don't know the mailing criteria. According to email from Nathan Cherpeski, City Manager, he invited the Army Corps of Engineers but has not heard back. He said city staff will give a brief presentation on the issues and then open it up for comments. We need to turn out folks! Let me know what you think at <http://www.alamosatrees.net/blog>. The next column of *Alamosa Trees*, which appears every other Wednesday, will provide more information on this topic.

“The tree is more than first a seed, then a stem, then a living trunk, and then dead timber. The tree is a slow, enduring force straining to win the sky.” Antoine de Saint-Exupéry