



## Getting New Trees to Market Is Not Easy: Part 1

*by Marilyn Loser*

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I had the good fortune to attend the excellent 2<sup>nd</sup> Annual Colorado Tree Diversity Conference at the Denver Botanical Gardens last week. While the conference was geared toward Denver, a city that is usually classified as United States Department of Agriculture (USDA) zone 5, I was hoping to hear about zone 3 and perhaps zone 4 trees suitable for our area.

All speakers talked about the role of climate change as a major factor in increasing the need for tree diversity in our urban areas. Early in November, evergreen trees were hit hard along the front range in Boulder and Denver. “Temperatures in Denver plunged from the high 60s to minus 14 degrees over just four days, and as a result, many trees suffered needle and bud damage that will impact tree health this year,” reports the Colorado State University website. “We won’t know the full impact on these trees until late spring, when their buds come out of dormancy,” said Keith Wood, Community Forestry Program Manager for the Colorado State Forest Service.

Many areas of the country are experiencing influxes of new pests and earlier plant flowering. For example, in the 1800’s, Massachusetts designated the first Sunday of May as Lilac Sunday. They’ve had to move it three weeks earlier as the blooms are gone by the original festival date. Closer to home we’ve seen the devastation of the Wolf Creek Pass forest due to bark beetle damage. The beetles aren’t new, but with warmer winter and drought conditions, they are thriving. Winter isn’t killing the beetles off and the drought-weakened trees aren’t resilient enough to withstand the onslaught.

And we’re seeing new pests. As I’ve written before, the Emerald Ash Borer (EAB) is just a truckload of firewood away from the San Luis Valley. Kathleen Alexander, Boulder Urban Forester, is struggling to cope with the problem. Metro Denver and surrounding communities have about 1.45 million ash trees. She reminded the audience that 60% of American Elms were removed from 1973 – 2012 due to Dutch Elm disease. The good news about the EAB is that it is picky – it only likes ash trees. Colorado doesn’t have any Asian Long horned Beetles (ALB) yet. Sadly, the ALB likes a wide variety of trees.

Does this discourage me from planting trees and encouraging you to plant trees? NO! But I would encourage you to refrain from planting a new ash tree (please see the March 5 2014 column at [AlamosaTrees.net](http://AlamosaTrees.net)).

Alexander said many terms are bandied about referring to what we need in urban forestry. We hear sustainable, adaptable, and stable. What she is aiming for is resiliency. “We need to be able to recover readily from an event,” Alexander said. How much diversity is good enough she asked? A much used approach in urban forestry is the mix of no more than 10% of any species, 20% of any genera, and 30% of any family. She believes this is not enough.

It's not just the mix that important, but the spatial distribution, she emphasized. She showed a PowerPoint slide of a housing subdivision that met the percentages, but had entire blocks of ashes and adjacent blocks of other identical trees. Lansing, Michigan, has rules that require at least five different genera of street trees per block and no two adjacent trees can be the same.

Keith Warren of J. Frank Schmidt & Son Nursery in talked about the process of bringing new tree species/varieties to market. Warren explained that you need to produce a better tree, not just a different tree.

There are three way to do this: breeding, building, and chance finds. It was a surprise to me that not many come from breeding, but it shouldn't have been. Many of us remember learning about Mendel's genetic experiments with common pea plants in school. It doesn't take long for pea plants to mature and die compared to the life cycle of trees!

Building is mostly a fruit-tree technique. It's an expensive technique that grafts various foliage/fruit onto hardy root stock.

New nursery trees are mostly due to chance finds that are further cultivated. Warren said he screens 5,000 special seedlings per year. From that he selects around 300 for small field propagation. Then a 10-year performance review is conducted. He said it's a cooperative endeavor amongst universities, landscapers, discoverers, and customers. If a tree goes to market, all involved share in the royalties.

Nurseries need to make a profit and are often leery of introducing a new species that hasn't been marketed heavily by a producer.

This column will be continued next time.

*"It is predicted that the world climate will be changing rapidly. New pests and diseases continue to be recognized. New plants, ones that are more adaptable, are need more than ever."* Kris Bachtell, Morton Arboretum