



New Thinking About Planting Groups of Trees

by Marilyn Loser

2016 November 16

I hope I'm done planting trees in my yard; I have 27 and I'm no spring chicken! However, I'm reading "The Hidden Life of Trees" by German Peter Wohlleben and I'm learning some new things. If I had it to do over, I would consider a different approach to my plantings.

My scheme was to plant a variety of tree species that would do well in our Alamosa yard and plant them far enough from one another to give them plenty of room to spread their boughs and roots. I had what I will call a "park tree" mentality. When I think of most parks in Alamosa and other places I've visited around the world, each tree is an individual, planted in its own space.

But what if trees do better when planted in groupings of their own kind? What if there is a "Wood Wide Web"? What if tree roots and mycorrhizal (the associated symbiotic fungus) communicate with and support each other?

This is what Wohlleben purports in his book that is backed by science. He has spent his time in European forests. Most recently he administers an old forest in Eifel, Germany that is predominantly beech and oak.

Early in his career, his job was to assess trees for their suitability for their market value. He says, "My appreciation of trees was restricted to this narrow point of view." He admits to girdling trees. In this process, a strip of bark three feet wide is removed all around the trunk to kill the tree. The tree trunk stays standing, but having lost its canopy, more light penetrates the forest. He now feels this is brutal as the tree dies a slow death.

In spite of this treatment, he's observed that some of the trees survived. How can this be? Regarding the science of this process he says, "Without bark the tree cannot transport sugar from its leaves to its roots. As the roots starve, they shut down their pumping mechanisms, and because water no longer flows through the trunk up to the crown, the whole tree dries out."

But some did survive. "I know now that this was only possible with the help of intact neighboring trees. Thanks to the underground network, neighbors took over the disrupted task of provisioning the roots and thus made it possible for their buddies to survive." It appears that some species of trees, such as beeches, are more communal than others and that they help trees of their own species. At the other end of the spectrum, poplars are loaners and don't seem to interact with their neighbors.

Wohlleben – his name translates to "Livewell" -- has observed living stumps in old, undisturbed forests. These stumps, some at least 100 years old, have a green layer under the bark. "This color is found only in

chlorophyll,” he writes, “which makes new leaves green; reserves of chlorophyll are also stored in the trunks of living trees.”

“Scientists investigating similar situations have discovered that assistance may either be delivered remotely by fungal networks around the root tips – which facilitate nutrient exchange between trees – or the roots themselves may be interconnected.” He notes he’s seen similar living stumps of species such as oak, spruce, fir, and Douglas fir.

The point isn’t to dwell on stumps, but rather on the interconnectedness of trees. And, it is true that the forests he tramps are quite different from the community and mountain forests in the San Luis Valley.

But what if I’d planted my Austrian pines fairly close to one another? Could it benefit all of them? I could never get spruce trees to thrive in my yard. But what if I’d planted a copse of three of them – would their chances of survival have been greater? Wohlleben says, when referring to trees, “A pair of true friends is careful right from the outset not to grow overly thick branches in each other’s direction ... they develop sturdy branches only at the outer edges of their crowns, only in the direction of ‘non-friends’.”

He has been criticized by some for being too anthropomorphic (ascribing human characteristics to nonhuman things), but others feel this approach makes the subject matter more accessible to a wide range of people. It seems to have worked; the book is an international best seller. Thanks to Lucy Adams for suggesting this book.

“Trees may recognize with their roots who are their friends, who are their families, where their kids are. Then they may also recognize trees that are not so welcome. There are some stumps in these old beech reservations that are alive, and there are some that are rotten, which obviously have had no contact with the roots of supporting neighbors. So perhaps they are like hermits.” Wohlleben