

In the Garden

Playing With Fire - How Plants Adapt to Our Forest Fires

Many of us sat transfixed to the news of the devastation wrought by Australia's terrible bush fires this year. This happens to us too when we have a bad wildfire season. Did you know that many plants are adapted to fire and some actually require fire to reproduce? In an earlier career I worked with field crews studying the fires and their effects on plants in the Northwest Territories and Northern Saskatchewan. We visited areas that had been burnt over the past few years. I was astonished how fast the forest renewed itself. The outcome of that study was, in remote areas, to let the fires burn.

Chief among the plants that needed fire were the Lodgepole pines. Their cones are sealed with resinous sap and fall to the ground waiting for fire to burn their cones and release the seed. In Australia, the Eucalyptus trees will resprout. They have specialized buds that are protected under the bark of their trunks. When the trees are burned, these buds emerge to produce new leaves and branches.

Other plants rely on underground structures for regrowth, which allows them to "come back" even if



the aboveground portion has been destroyed. In Australia, some Banksia species have swollen stem bases or underground woody organs known as lignotubers from which new shoots can emerge. Similarly, many herbaceous plants have fleshy bulbs, rhizomes, or other types of underground stems from which green shoots rapidly develop in the wake of a fire. If a wildfire has devastated a forest in B.C. come back in a year and witness the fireweed covering the area. This is because there is a bank of seeds existing in the soil of the burnt forest. The ash from the fire is very fertile and plants can respond quickly to this opportunity. Add to that the fact that suddenly there is

light where before the forest canopy blocked sunlight.

In B.C., the Ponderosa Pine employs another strategy. Some fires remain close to the ground. This pine self-prunes the lower branches. With a tall crown, *horticulturally known as a raised skirt*, the fire has less opportunity to flare up the tree. Naturally, this does not work when nearby trees are candling and embers are flying everywhere.

In Spain, the Stone Pines have extremely high skirts and avoid a lot of fire damage. One thing that never withstands fire is human habitation. There was a lot of talk about interface fire meaning that area between the forest and our houses. It was recommended at the time to prune trees away from your house. This is something we completely ignore on Vancouver Island. We love trees and they cascade merrily over our houses, powerlines, and streets. With climate change I wonder if we will have to change that behavior? Will we have similar situations in our forests as Australia? Let's hope that this year is kind to us and we have a nice damp summer! *Happy gardening!*

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