



POST-FIRE PLANTING

Mary Stromberger, Soil and Crop Sciences Associate Professor at CSU, provided CNGA the following information regarding post-fire issues and re-planting in fire affected areas:

A major post-fire issue in areas of severe fires (complete tree and plant kill, with scorching of soil down to several inches in depth, roots are dead, etc.) is very high nutrient levels in the soil, particularly NH₄, P, Mg, and K. Very high levels can actually inhibit growth of many native plants, which do better in lower-nutrient concentration native soils. If they are concerned, homeowners should submit a soil sample to the Soil, Water, Plant Testing Laboratory at CSU for analysis (<http://www.soiltestinglab.colostate.edu/>). The lab will provide an interpretive summary to indicate if nutrients are elevated or in the normal range.

Severe fires can also reduce soil organic matter levels, which can be replaced by adding good quality compost (low in salts). I would not recommend that the ash be removed. The ash is a very stable form of carbon that might actually improve the quality of the soil over time. Ash (or black carbon or biochar) is also very porous and will absorb water and some of the excess nutrients. In the very least, the ash will not harm the plants (other than making the surface very hot). If the ash seems to prevent water from soaking into the soil, it can be raked in.

Another challenge is that in severely burned soils, the soil particles tend to be coated with a waxy coating (from the remains of plant material). This can make it difficult for soils to absorb water, especially when the soil is very dry. Owners may see water forming beads on the surface of dry soils, rather than soaking into the ground. This is called hydrophobicity. Once the soil does finally get wet then the hydrophobicity goes away temporarily until the soil becomes very dry again. It takes time (several years sometimes) for this to go away permanently.

In areas where the fire was not so severe (grasses are already coming back and only the very surface of the soil was charred), then it shouldn't be too difficult to replant and establish landscaping, and this can be done at any time now.

An additional resource to contact is Joel Reich, the CSU horticulture extension agent in Boulder County. His phone number is 303.678.6386 and email is jreich@bouldercounty.org