

## CSU Extension Post-Fire Landscaping Webinar

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Question	Answer
1 <b>Could you speak about toxic chemicals from appliances that burned like computers?</b>	Unfortunately there are a lot of complex toxic compounds generating from the burning of plastics and electronics. In the few studies that have been performed with some of these compounds, many of them were found to damage biological systems.
2 <b>Will the harmful exogenous chemicals be taken up by edible plants?</b>	Some may, so a soil test is important to determine what you have in your soil. Crops like tomatoes and peppers are lower risk for bioaccumulation than root crops (carrots) and leafy greens.
3 <b>How much concern about soil a few miles from the primary burn area where the ash blew in?</b>	It depends what the soil is being used for, and how much ash was wind-deposited. On lawns, it shouldn't be too much of a concern. If there was significant ash deposition on soils used for growing vegetables, then you would want to think about removing and replacing that soil
4 <b>Re: Ash in soils: Can you differentiate between soil that actually burned vs. ash that was deposited in the perimeter of the fire. Should all ash be removed and how?</b>	This would be a question to ask directly to the Boulder County Health Department. <a href="https://www.bouldercounty.org/disasters/wildfires/marshall/">https://www.bouldercounty.org/disasters/wildfires/marshall/</a>

5 **How can the soil / ash be remediated as needed? I have ash piles that I have been told to get remediated by professional but don't know who can do that (I have asked restoration companies but nobody seems to know)**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

6 **Where can the Marshall Fire "problematic ash" be disposed and what will be the long-term environmental impact of this disposal of ash?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

7 **What do we estimate the ash shadow is beyond the house footprint? Mostly the house toxicity dropped straight down where no plants are or where or will be in the future. But there was significant wind.**

The significant wind around the time of the Marshall Fire is certainly a cause for concern here. It appears that a lot of ash was mobilized by the wind and deposited in neighborhoods that didn't burn.

8 **How to remove and dispose of ash?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

9 **If we are in moderate risk category with lots of ash that was present at front and back door post fire. Is it advisable to aerate and fertilize now prior to testing as companies are moving forward with spring lawn practices? Or is it not advisable to aerate and open the deeper soil to what may be present prior to testing or even after if in moderate risk areas?**

Yes, as long as the aeration doesn't cause a lot of ash mobilization you should be fine doing this. Promoting grass growth will help to sequester the ash. Be sure to wear a mask and gloves as you aerate however, just in case ash is disturbed and mobilized by this activity.

10 **What is the risk for a property engulfed in smoke, but not burned?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

11 **How do we mitigate leaves etc, that have ash on them?**

You can hose them off, or rely on any natural precipitation that we hopefully will get. Remember, the risk with ash is inhaling/ingesting.

12 **We have 2 bee hives on the edge of Davidson Mesa. Should we be worried about consuming the honey they produce this summer? Sorry if someone answered this already. I can't find my question anymore.**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

13 **Can someone speak more to the dichotomies within the recommendations? How do we try to create sustainable/beneficial/appealing ecosystems in our yards for pollinators, birds, healthy soils, etc., and still remove the array of grasses and dormant plants, etc., that might be recommended to create defensible space?**

This is best discussed with a landscape professional to review the pros and cons, your comfort level, along with a maintenance plan.

14 **I used to be a hemp farmer. It has excellent capabilities to remediate soil and reduce toxic elements. Would the County support us growing hemp on open areas of pur property?**

You can direct this question to the County Parks and Open Space Ag Dept. <https://www.bouldercounty.org/open-space/management/agriculture/>

15 **Can you talk about gardening/turf safety for young children who put things in their mouth? What should we replace soil/turf wise, how long should we wait to let them play outside?**

Two things will affect the presence of ash. Precipitation and growth of grass that helps to sequester the ash deeper in the ground.

16 **Are there trees that are more resistant to fire? This will help us make selections for our replanting; and for others just thinking about trees for there already healthy landscape.**

There are trees that are more adapted to fire and have thick bark such as cottonwood and ponderosa. Ponderosa for example are native to fire prone areas and the thick bark protects them. That said, if fire makes it up into the canopy, they can be volatile and burn. If the fire stays low and just hits the trunk, they are more protected.

17 **The City of Louisville soil tests reported on the City website do not include dioxins. Is there a plan to test for this?**

This would be a question to ask directly to the City of Louisville.

18 **The results from the soil tests taken by the City of Louisville in multiple areas indicated very low or negligible amounts of heavy metals. Do you know if these tests included the heavy metal and soil tests you're recommending for our yards? And how do those results mesh with your concerns about toxicity in the soil?**

This would be a question to ask directly to the City of Louisville.

19 **Is Louisville going to allow weeds and grasses to overgrow as they did last year?**

This would be a question to ask directly to the City of Louisville.

20 **Could Boulder County set up a tree listing for those who are removing trees or shrubs for fire mitigation purposes, to give them to those who lost vegetation in the fire? Obviously there are transplanting costs to be figured out too, but a match-making service for re-homing trees and shrubs would be awesome.**

This would be a question to ask directly to the City of Louisville or Boulder County.

21 **Is roof water safe to use now with the possibility of soot and toxins from the fire?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

22 **Could you say more about creating pollinator habitat and why it might be important?**

Here are a two excellent resources on why pollinator habitat is important. <https://www.pollinator.org/pollinators> and <https://www.xerces.org/pollinator-conservation>

23 **How long does it take for soils and grass to absorb and cover heavy metals so that there are no longer on the surface (ie getting on your shoes or being able to go barefoot on the grass)? And then how long until it's deep enough that gardening is safe?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

24 **There was mention of wood fences being fire pathways, is it recommended to avoid wood fencing now?**

You should avoid wooden fencing that goes right to your house in the first part of the ignition zone. Transitioning from wood around perimeter to metal near the house is an option.

25 **Will removing the extensive mulch in the front yard remove enough ash to just go forth with new mulch?**

It's hard to say without seeing the site, but ash will likely have settled through the mulch onto the soil so you'll still want to take safety precautions.

26 **Are more water-dense trees like Aspens next to a home okay if you remove lower branches? Or do they carry fire up to the roof?**

The key with any tree is that it is far enough away from your house that it won't bring fire to the roof. Paying attention to the ignition zones is key. <https://wildfirerisk.org/reduce-risk/home-ignition-zone/>

27 **With respect to choices for new trees: Many websites and Chris Woods' talk indicate that spruce trees are a fire risk. However, looking at the Louisville burn area, we see that spruce trees appear to be among the few plants still standing and they have green needles. So, are they really a fire hazard in urban fires?**

Unfortunately, there is not a lot of information available for urban areas. Any plant that is not well maintained, such as containing dead limbs, is more flammable.

28 **How do we dispose of ash contaminated soil or [wood] mulch?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

29 **We are right on the burn scar, our fence, trees and grass all burned, fire was close to our home, but house is still standing. At what point do we consider scraping the yard and replacing the soil - again, all houses directly behind us were destroyed?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

30 **Are there health concerns with small children playing in parks and playgrounds giving the presence of soot, char, and ash is at a minimum trace around town?**

The main concern is the ash particles being kicked up and becoming airborne (then able to be inhaled or ingested). If they are playing in an area that didn't receive much ash deposit and/or the soil/ash is staying on the ground, it's not much of a concern. Each site will have a specific answer, however.

31 **What amount of organic material to add annually?**

This would depend on how much organic matter you already have in the soil. It is recommended to have 3-5% OM in soil where you will be growing crops like vegetables. A soil test can help you make these decisions.

32 **How to wash produce?**

Here is a good publication from Washington State University titled Washing Fresh Produce - Consumer Food Safety:  
<https://extension.wsu.edu/foodsafety/content/washing-fresh-produce/>

33 **How large is the tree protection area?**

CSU has a fact sheet titled 'Fire-Resistant Landscaping' that discusses defensible space and recommends having at least 10 feet between the tree crowns, more if you are on a steep slope. This and other guidelines are discussed here: <https://extension.colostate.edu/topic-areas/natural-resources/fire-resistant-landscaping-6-303/>

34 **How to choose a new tree?**

CSU Extension offers several lists of good trees for Colorado's climate and are separated into Large Deciduous Trees, Small Deciduous Trees, Xeric Trees and Shrubs and Evergreen Trees. All four of these lists/fact sheets can be found on the Extension website.

35 **What are some good fire resistant perennial flowers and pollinator plants for our new gardens?**

CSU Extension has a great list of fire resistant plants. Firewise Plant Materials Fact Sheet No. 6.305  
<https://extension.colostate.edu/topic-areas/natural-resources/firewise-plant-materials-6-305/>

36 **Is it safe to walk around our neighborhoods near the burned down homes? For us and our dogs? Not in the burn area but among the smoke damaged standing homes.**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

37 **My neighbor's houses burned down, but my house is standing -if nothing is done to my lawn, is it safe to walk barefoot or have my cat or dog walk or roll in the grass?**

If you had significant ash deposited on your grass, you need to be sure that it doesn't get kicked up and that you and your pets don't carry it in the house.

38 **What are the mitigation details and guidance? Was hoping there would be more conversation on that. Like how deep to remove soil? Where to dispose it? Who is the expert that can advise with these questions?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

39 **If your garden is just flowers (not food), is soil removal necessary after all the snow we've had? In other words, is it safe to dig in and weed now, or will it be soon? Thank you.**

The concern with ash is it getting churned up and then inhaled or ingested. Otherwise, it's okay to weed and do other gardening activities. This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

40 **Are pollinators and birds at risk enjoying the plants in the ash affected areas?**

This would be a great question for the experts at the Butterfly Pavilion. <https://butterflies.org/>

41 **We have a beehive (one block from burned houses). Should we expect that there is significant toxin contamination of honey?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

42 **1/2 mile east of last house in Louisville, should we remove our mulch and replace in our garden beds?**

It's difficult to know how much ash has been deposited in your area. However, to err on the side of caution I would recommend replacing the ash if it isn't too much trouble

43 **Can you talk about how to remediate mulched areas? If you're in a moderate risk zone, should these just be encapsulated with a new layer of mulch or should it be scraped and re-mulched?**

I would err on the side of caution and plan to replace the mulch, especially if it's in an area where vegetables will be grown

44 **Any information about who to contact to get estimate of number of shrubs which may have filled a part of yard which burned to the soil - this would be for insurance claim**

You could talk to someone at a garden center or nursery. You can also do a quick calculation of square footage that was burned and mature size of shrub to figure out how many would have filled the space. Ex: 300 sq ft burned, each shrub grows to 3'x3' (9 sq ft) so if the area was full of shrubs there would have been ~34 shrubs ( $300/9=33.33$ ).

45 **What is your thought about where Louisville did this soil testing. I think they tested some of the safest area. I would like to see what is in my unburnt yard but is right across the street from 300 burnt homes. I am down-wind to these fires.**

This would be a question to ask directly to the City of Louisville.

46 **is it dangerous for backyard chickens to eat bugs and plants in lightly burned areas? is it dangerous to eat their eggs?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

47 **Will dandelion fluff carry toxins since it has deep roots?**

Research does show that dandelions bioaccumulate toxins including heavy metals.

48 **Since the fire occurred in the winter, I'm not concerned about vegetables that are covered with ash. I'm concerned about what toxins the leafy vegetables have INSIDE them. If I grow lettuce greens this year, is it safe to eat them?**

Best to do a soil test to see what you have in your soil, then make your decision based off that. Leafy greens are the most likely to bioaccumulate (substances become concentrated in plant parts) toxins into the part of the plant that you eat. If there is any concern, avoid planting leafy greens in soil that had ash deposited on it for this year. Also refer to Boulder County Public Health decision tree.

49 **Will perennial plants, if healthy, act similarly to grass in terms of being resilient to ash and grow around and over it to remediate the area without having to remove ash? Can I add fertilizer and mulch to my perennial garden like Tony recommends for grass in order to help promote growth? Thank you!**

It depends on the species, but generally speaking, if the shrubs weren't affected directly by the fire they should do fine. Fertilizing them is a good idea to promote good health.

50 **This question is about my backyard cleanup, if I remove a few inches of soil or the overwintered leaves in the gardens, where should it go?**

This would be a question to ask directly to the Boulder County Health Department. <https://www.bouldercounty.org/disasters/wildfires/marshall/>

51 **I have a raised gardenbed that partially burned, as well as the home nextdoor. Should we totally dump all the soil in it, or if not how many inches should we remove before testing?**

Yes, I would recommend replacing the soil. Even if any toxic compounds were initially formed or deposited in the top few cm, there is potential for them to move down deeper into the soil as it rains and snow melts.

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