



**Oak Woodland Restoration and
GSOB Management Workshop**
Hosted by UC Cooperative Extension San Diego
September 20 and 27, 2022

Questions & Answers from Webinar Text Chat

Q: What areas are the most threatened currently?

A: Green Valley, LA County. Wrightwood, SB Co. Oak Glen, Riverside Co? Lawrence Welk, Lilac Canyon, SD Co.

Q: Is there any research into degrees of mycorrhizal connectivity and ability to resist GSOB invasion?

A: Sorry I didn't include the role of mycorrhizae in oak health. So far we've not looked at the connection, but it's obvious oak growth and drought resistance are linked to these root association. It a question worth looking into, but the null model so far has been that all mature oaks are colonized equally. Do you think that it's possible to show link mycorrhizae levels with GSOB susceptibility, if so it would be a very fundable research topic.

Q: I have many volunteers from acorns. I am told I cannot donate them because they have not been inspected. I was told to destroy them. Seems such a waste

A: It's a difficult situation. The seedlings have a tap root that may be up to 6 ft deep. if you transplant them into a pot, that connection is destroyed - and the potted plant may never recover to the point where it can become a sapling if transplanted. So you can move and replant but figure that most will never become trees.

Q: Absent oak leaf litter mulch, would other types of wood mulch work?

A: Yes other types of wooden mulch work, as long as it is from healthy trees that have been chipped, and not diseased trees. One potential benefit is that oak leaves might have some soil microbes that can inoculate your newly planted seedlings and oak leaf litter mulch is generally near most planting sites while chipped mulch is not. Moving soil from under a healthy oak will also transport those microbes (but possibly some weeds as well, so future weeding will be needed)

Q: How do you properly store acorns before planting?

A: I didn't have enough time to properly go over this in my talk. Acorns should be processed and cold stratified. They should be placed in a bucket of water overnight and the sinkers (acorns that sink) should be kept, discard floaters. Then those sinkers can be placed in a small zipper-lock bag in the fridge for about 4-6 weeks. This cold



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stratification tricks them into thinking winter has passed and it's time to germinate when planted in the field. If left in the fridge for a while they will start to germinate inside the fridge (the vegetable drawer is a good place to keep them).

Q: After germination, when do you transplant?

A: You can transplant seedlings as soon as the leaves appear in the field. Acorns germinate root first and then seedlings send up leaves. Once you see those leaves there will be at least several inches of root down in the soil, if not more. Generally it is easier to transplant seedlings that are less than 2 ft. tall, but there is not really a cutoff point. As the seedlings get larger they need more care (especially water) as more of their roots will have been chopped off when digging them up. Smaller is better and easier, but larger can work too. Mature trees have been transplanted successfully, it's expensive \$\$\$, but can happen.

Q: How do you find licensed insecticide applicators?

A: Check out the tips on GSOB.org to find a licensed pesticide applicator: https://ucanr.edu/sites/gsobinfo/About_GSOB/Management_Options/#Find_A_PCA. Also, you can find a list here: <https://www.treesaregood.org/>. These are licensed arborists, but they usually are also licensed pesticide applicators, or the companies have one on staff.

Q: Can the tree mount any natural defenses? Is there any way to support or enhance those defenses?

A: It takes many years for a tree to be killed by GSOB, so the tree does try to mount a defense with the production of callus tissues. Maintaining optimal tree health would be helpful, but since this insect does attack healthy trees there isn't a guarantee that those efforts would save the tree, but it certainly couldn't hurt.

Q: We lost many black oaks in the 2020 fires with healthy resprouts of 8-10ft post-fire. If we remove infested black oaks to the ground as soon as we see signs of infestation, might they send up stump sprouts afterward and maintain black oaks in the ecosystem for some years before becoming large enough to support GSOB?

A: What has been seen is that larger parent trees produce more abundant and more vigorous sprouts than do smaller trees either after cutting or burning. Stumps should be cut low to the ground in order to produce more vigorous well-formed sprouts.



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Q: Can the trees be milled into lumber?

A: You can mill the trees into lumber, as long as the bark is managed properly, either by chipping, containment, burying, or burning.

Q: Is there a private landowner survey service available in San Diego County?

A: I don't know of any specific service but you can contact your local arborist company and see if they do that service. I have heard that some arborist companies do have this service. Hopefully this is helpful.

Q: would you be able to share that systematized survey protocol?

A: In item 4 of this story map you can find a survey form and a field identification guide that explains the ratings for the form.

<https://www.arcgis.com/apps/MapSeries/index.html?appid=a64d474ed1ba4719a5a1c3dc0d9b4aec#>

Questions and answers have been lightly edited for spelling and clarity.