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Taproot

August 2024

I hope everyone has been holding up through the heat! This July was the hottest month on record for much of northern California, just underscoring the need for climate adaptation in our urban landscapes. Unfortunately, we also need to be strategizing for new pests that are arriving in our region. In this issue of *Taproot*, you'll find recordings of talks on beetles that threaten our urban forests, research updates, QWEL training information, and recent journal articles that may be of interest.

Please feel free to share this newsletter with anyone who might be interested, or direct them to sign up **here**.

Best regards,

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Invasive borers: Recordings of ISHB-FD and MOB talks

Invasive shothole borers (ISHB) are likely heading our way, and Mediterranean oak borers (MOB) have already established in Sacramento, expanding rapidly. Recordings of recent talks on these borers are now available (and they are anything but boring!).

Invasive Shothole Borer-Fusarium Dieback Symposium

A half-day UC ANR symposium covering many ISHB-FD topics, including distribution and management strategies

Recording: **https://www.youtube.com/watch?v=e4Lua3bvLqg**
More information: **https://ucanr.edu/sites/pshb/**

Mediterranean Oak Borers: Sacramento Regional Update

A talk by Dr. Curtis Ewing at our Sacramento office covering many aspects of MOB biology and management, with a particular focus on the spread in Sacramento

Recording: **https://youtu.be/Bk7aHLhHLSg**
(Sorry the audio quality is not impeccable.)

Key points:

- MOB attacks species of white oaks. In California, it primarily attacks valley oak (*Quercus lobata*) and less commonly blue oak (*Q. douglasii*); however, there are heavily infested stands of blue oak in Sacramento County.
- MOB was first detected in Citrus Heights in 2021 and has spread along stream corridors, expanding to Fair Oaks and beyond; it has recently been confirmed in the Curtis Park neighborhood in Sacramento. It is almost certainly more widespread than the areas with confirmed detections. *Please report suspicious trees.*
- Symptoms include trellis-like galleries in dropped limbs (gallery structure is distinctive); top-down decline and dieback, usually on one side; stunted foliage in apical clumps (popcorn pattern) on infested branches; and very fine boring dust.
- Management: Don't move firewood. Improve tree vigor by reducing water stress. Remove infested trees and chip them ≤3 inches; leave on site. Solarization and chemical options have *not* proven effective (pest note still needs to be updated). It may be possible to save trees with early detection and aggressive pruning of infested branches, but more research is necessary.

More information: https://ucanr.edu/sites/mobpc

Please contact me if you would like ISA CEUs for attending the MOB talk.

Research Updates

A few studies are in the works, and I look forward to having results to share with you!

Climate Ready Trees

I'm working with collaborators at UC Davis and the USDA Forest Service to investigate the cooling benefits of trees that are predicted to do well with minimal irrigation in our region's changing climate. We're comparing trees planted in the **Climate Ready Trees** trial on the UC Davis campus to more commonly planted tree species in the Cannery neighborhood in Davis. We're grateful for an award from **The Britton Fund** that made this research possible.

In addition, I've been working with Tree Davis to monitor the growth and survival of over 1,000 trees planted in the city's recent Community Canopy initiative. So far, the climate ready trees are performing well!

Sheet Mulching

There is essentially no research in the scientific literature on this commonly advocated practice, making it difficult to provide science-based recommendations. We're working on changing that! If you have experience with sheet mulching, I'd love to hear from you. What works or doesn't work for you, and what questions do you have?

I've been assisting advisors Jim Downer and Ben Faber with a study in Ventura County looking at the effects of cardboard, woodchip mulch, and compost on soil properties and the performance of young coast live oaks (*Quercus agrifolia*). I'm also starting a new project with advisors Chris Shogren and Karey Windbiel-Rojas to track how turf removal and sheet mulching affect mature landscape trees in Sacramento and Orange County. (Thanks again to The Britton Fund for supporting this research!) Finally, we're planning a turf removal & sheet mulching trial at the Sacramento County Branch Center.

UC Davis graduate student Mickie Tang measures light interception under a study tree in the Cannery neighborhood in Davis

Setting up sheet mulching experimental treatments at the Hansen REC in Ventura County

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QWEL Training

The Regional Water Authority will be offering a training for the Qualified Water Efficient Landscaper (QWEL) professional certification in October. The training is mostly virtual, offers 19.5 APLD CEUs, and costs $50.00. Register at **qwel.net**.

From the Journals

A few recently published studies that might be of interest:

Training volunteers to prune recently planted, small street trees
This study found that volunteers could successfully learn structural pruning with minimal training.

Impacts of irrigation scheduling on urban green space cooling
The afternoon cooling benefit of turfgrass was greater when irrigation was applied in several smaller events across the day instead of in a single large event.

Managing urban trees through storms in three United States cities
Interviews with urban forestry professionals highlighted varying perceived risks from trees in storms and the need for more collaboration on storm preparation activities.

Visit the UCCE Capitol Corridor website