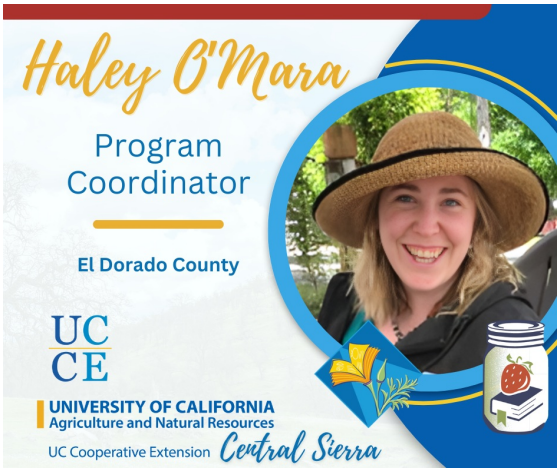
Hello, Lindsey!

My name is Haley O'Mara and I just started my new position as Program Coordinator for the UC Master Food Preserver and UC Master Gardner programs in El Dorado County. I am excited to meet everyone and learn all about the wonderful projects and events happening now and being planned for the future.

I grew up in Sacramento and moved to Bakersfield during high school. While earning my BS in Biology at CSUB I worked as a naturalist at Wind Wolves Preserve and discovered my passion for nature and teaching. I worked for a little while conducting biological surveys for endangered plant and animal species in Kern County but quickly decided I missed teaching. I taught biology at Arvin High School for nine years with a focus on teaching science literacy and mentoring new teachers, meanwhile earning my MS in Biology from Washington University in St. Louis.

STAFF SPOTLIGHT



Haley O'Mara
Program Coordinator, El Dorado County
UC Master Food Preservers &
UC Master Gardeners
homara@ucanr.edu | **(530) 621-5532**

I moved to Placerville in 2021 to be closer to family and made the tough decision to leave public school education to pursue meaningful, environmental-related work. While I miss teaching in the classroom (I will always be a teacher at heart), I am excited for this career transition.

To continue my environmental education, I became a student at American River College, and it was through Jennifer Neale's class that I became a certified UC California Naturalist. Having recently experienced the Caldor Fire, I focused my capstone project on the intersection of defensible space and native landscaping. Through an interesting chain of events, I came to participate in the certified UC Climate Steward course led by Nic Russo from the American River Conservancy and finished my AS in Environmental Conservation through American River College last year.

It's clear that I'm working with many welcoming and passionate folks who are doing amazing things with the community. My goal in these early days is to be the best sponge I can be, ready to absorb information, learn and ask questions. I'm grateful for this opportunity and can't wait to get started!

SEPTEMBER CLASSES & EVENTS

September 7, 2024	Collecting and Saving Seeds	*Placerville, El Dorado*
	Gardening with Native Plants	*El Dorado Hills, El Dorado*
	Fall Planting	*Jackson, Amador*

	Open Garden Day	*Sonora, Tuolumne*
September 10, 2024	4-H Volunteer Orientation	*Online*
September 11, 2024	UC Climate Stewards Course	*Placerville, El Dorado*
September 14, 2024	Some Like it Hot (or Not!)	*Placerville, El Dorado*
	Dwarf Fruit Trees	*Sonora, Tuolumne*
	Bringing Birds to Your Garden	*Placerville, El Dorado*
	Fruit Tree Pruning	*Jackson, Amador*
September 19, 2024	Post-Fire Resilience Workshop	*Online*
September 21, 2024	Fabulous Fall Fruits	*Jackson, Amador*
	Gardening for Pollinators	*Placerville, El Dorado*
September 26, 2024	Riparian Management Class	*Online*
September 28, 2024	Ironstone Concours d'Elegance	*Murphys, Calaveras*
	Shade Gardening	*Placerville, El Dorado*
	Plant Sale	*San Andreas, Calaveras*
	Harvest Festival	*San Andreas, Calaveras*
September 30, 2024	4-H Volunteer Orientation	*Online*

Follow us on social media!

CalFresh Healthy Living | University of California | UC CE | University of California Agriculture and Natural Resources

Harvest of the Month: Cantaloupe

The type of cantaloupe we grow and eat in the US today are thought to have originated in Africa and were brought to North America in approximately the sixteenth century. They are round and look like they have netting over a green or yellow background.

To choose a cantaloupe at the grocery store, look for one that smells sweet, has a smooth, rounded “belly button” on the stem end, and yields slightly to pressure on the end opposite of the stem scar. If one side of the melon looks blemished, it is probably the spot where the melon rested on the ground. It’s only a cosmetic

Cantaloupe Slushie

This homemade Cantaloupe Slushie is the perfect naturally

defect.

Once you cut into a melon (wash it first to prevent the knife from bringing germs from the outside into the flesh), store it in the refrigerator crisper. It will last about five days.

A quarter of a medium sized melon has 50 calories and is loaded with Vitamin A and Vitamin C.

sweetened treat to help beat the summer heat...and it's made with just 3 simple ingredients!

Get the Recipe

Free UC ANR Publication 8095
Cantaloupe: Safe Methods to Store, Preserve, and Enjoy

Free Pressure Canner Gauge Testing

UCCE Master Food Preservers of El Dorado, Amador and Tuolumne Counties have devices to test Presto Brand pressure canner gauges and offer **free pressure gauge testing at our offices**. Call the office nearest you to set up a drop-off of your canner and you will receive a phone call when it has been tested and is ready for pickup. Usually testing can be done within a week. **Read More**

Do you want more local meat options?

Take a few minutes to complete our survey and help us bring more local meats to your favorite spots to shop!
Survey closes 10/15.

Take the Survey

Across California, the University of California's Cooperative Extension offices are problem-solving centers—the bridge between local issues and the power of UC research. Our county-based staff is part of the community – we live and work in the areas we serve. We are stewards, problem-solvers, catalysts, collaborators, and educators.

Your neighbors love birds and feed every two-winged, feathered creature for miles. Another neighbor has a bright green thumb; his fruit trees produce more than anyone can eat. Your six cats' food is outside the backdoor. What do all these occurrences have in common? They make your neighborhood a cruise ship dining experience for rats.

There are two main types of problem rats, roof rats and Norway rats. They live different lifestyles, are not compatible and do not like each other. Roof rats are climbers, preferring to nest in dense shrubs, trees, or even ivy. If roof rats move indoors, they choose higher enclosed spots like attics, walls, and cabinets. Roof rats have a longer tail than their body. Norway rats are burrowers. Larger than their cousins, the roof rats, Norway rats are stocky. They build nests underground, under woodpiles, and along foundations. Their nests are filled with shredded cloth or paper. They prefer to live at ground level. Not only are they larger, but they have a flatter nose with small eyes and ears.

Rats move around at night. They make up for poor eyesight with memory, and a keen sense of smell, hearing, and touch. They memorize routes, feeding and watering locations, shelters, and obstacles. Both species are wary of new things in their environment and will shy away from new traps.

How can you manage a population that produces up to a maximum of eight babies six times a year? There are three elements to controlling increasing numbers: sanitation, rodent proofing, and population control. Sanitation means not providing food or lodging. Keep vegetation away from buildings, distancing vines and shrubs a "flying jump" away from your home. Rat proofing your building will create the strongest deterrent for rats invading your personal space. Fill holes and gaps using steel wool, wire screens, and sheet metal. Pick up and store chicken and bird feeders at night. Clean up old fruit from trees or on the ground. Dog and cat food should be picked up at twilight.

Permanent population control is the goal. There is only one sure way to stop the explosion, either trapping or baiting. Baiting with rodenticides can also kill natural predators. If your population is huge, natural predators will not be able to get ahead of the curve. Trapping is the only answer.

Wooden snap traps are the least expensive and reusable. Newer plastic traps are easier to set and easier to clean. Rats traveling up branches may require traps going up and down the limbs. Rats prefer to hug walls, so place traps coming and going along walls. More traps are better. Use bait towards the back of the bait plate. Leave traps baited but unset for several days, allowing rodents to become accustomed to them; then set the traps. Use disposable gloves when setting or cleaning any trap. Glue traps and live traps require dispatch and disposal of rodents. Setting them free only makes your problem into someone else's problem.

Rats transmit scary diseases—such as murine typhus, leptospirosis, salmonellosis, and rat-bite fever—to humans and livestock (and some may carry plague). Rat destructiveness and diseases are a concern for all. Controlling populations keeps your community and family safer.

Julie Silva is a University of California Cooperative Extension Master Gardener of Tuolumne County. University of California Cooperative Extension Central Sierra Master Gardeners can answer home gardening questions. Call 209-533-5912 in Tuolumne County, 209-754-2880 in Calaveras County or fill out our easy-to-use questionnaire. Check out our UCCE Master Gardener webpage. You can find us on Facebook, on the radio at kaad-lp.org or 103.5 FM on Motherlode Community Radio and YouTube.

Amador County Demo Garden
Open 2nd Saturday | 10:00am-12:00pm

Calaveras County Demo Garden
Open Thursdays | 9:00am-1:00pm

El Dorado County Demo Garden
Open Fri & Sat | 9:00am-1:00pm

Tuolumne County Demo Garden
Open First Saturday | 10:00am-1:00pm

Avoid Probiscis Pain, Plant A Garden That Repels Mosquitos

Mosquitoes are relentless, what drives them...

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Post-Fire Forest Resilience Workshop Series

Lake, Mendocino & Colusa counties

Zoom sessions will be held Thursday evenings, September 19 through October 17. The series culminates with an in-person workshop in Lake County on Saturday, October 19. The Fall 2024 series is geared towards private forest landowners within the coastal mountains of Lake County and surrounding counties but is suitable for landowners, agencies, non-profits, tribes, community members and anyone with a desire to learn about post-fire forested landscapes. Ecosystem discussions will highlight mixed conifer systems, grasslands, oaks, and redwoods. Registration for the workshop is $25 which covers workshop materials and lunch the day of the field trip. **Register Now**

For more information contact Katie Reidy or view the workshop flyer.

Understanding soil nutrient availability

by Hardeep Singh, UCCE Central Sierra Local Food Systems Advisor

This article will help you understand why a plant/tree may exhibit nutrient deficiency symptoms even in the presence of nutrients in the soil. It will also assist you with your nutrient management decisions.

Soil is naturally a rich resource of all the nutrients the plant/tree needs. Still, there are several factors, such as soil type, texture, moisture, pH, soil depth, etc., impacting the ability of a plant/tree to obtain these nutrients from the soil for growth. Nutrient availability depends upon the amount and solubility of nutrients in the soil dictated by the above soil properties. Some nutrients such as nitrate nitrogen, Mg, S, B, Ca, and K are mobile in the moist soil and move towards the plant roots with water via a process called 'Mass Flow.' Meanwhile, the other nutrients, mostly the micronutrients such as Fe, Zn, Cu, and Mn, are immobile in the soil, and roots must grow very close to these nutrients in the soil to absorb them. The immobility of micronutrients within the soil makes their availability dependent on the root health and distribution. The presence of any soil or environmental conditions that could restrict root growth, such as

soil compaction, waterlogging, or the presence of toxic ions (for example, Na and Cl), could also reduce the availability of these micronutrients. Soil pH is another factor that strongly influences the solubility of soil micronutrients, and strongly acidic or alkaline soil pH can cause their deficiency or toxicity.

Depending upon the above factors, different species have relative effectiveness in accessing nutrients from the soil and exhibiting nutrient deficiency or toxicity symptoms. Plants could be deficient in one or more nutrients due to the following conditions:

- Unfavorable soil conditions make it difficult for plants to uptake nutrients from it. Soil pH significantly impacts nutrient availability, such as high soil pH (>7.5) limiting the solubility of Zn, Cu, Mn, and Fe.
- Soil temperature, water availability, aeration, and the existence of a hard pan can limit plant/tree root growth and impact nutrient uptake.
- An absolute deficiency of an element in the soil is rare but may occur in highly sandy soils, and it can only be rectified by adding fertilizers.

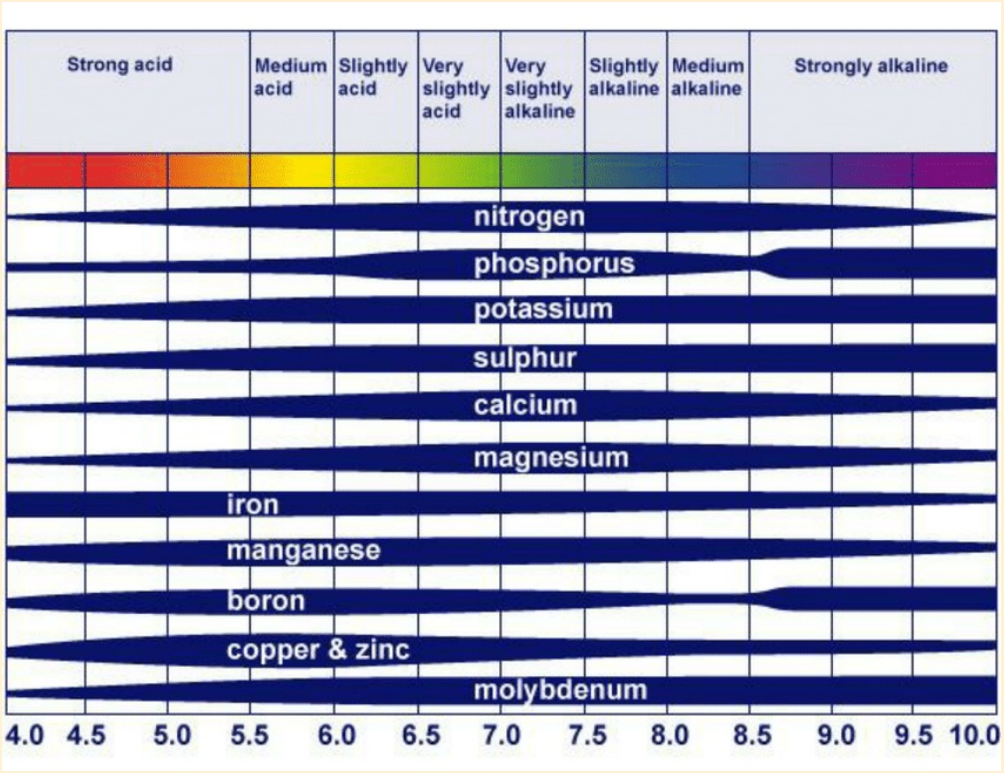

Figure 1. Effect of soil pH on the availability of nutrients. The width of the blue colored areas indicates the relative nutrient availability to the plant/tree roots at the corresponding pH value.

Particularly for Zn, Fe, Cu, and Mn, soil nutrient tests predicting their concentrations may not be helpful because, in most conditions, they are available in the soil but, due to the unfavorable conditions discussed above, they may or may not be readily available to the tree/plant for uptake. Under such conditions, supplementing nutrients with fertilizers may not correct the deficiency symptoms. Upon the development of deficiency symptoms, soil availability tests depicting the values of Zn, Fe, and Cu may not be valuable (Soluble Z, soluble Fe, DTPA Extract) in general, and correcting the primary soil conditions mentioned above could be most likely to help improve the symptoms. Additional information obtained from soil sampling, such as the availability of macronutrients, assessment of favorable or adverse soil conditions, and pH, can help distinguish whether the deficiency is caused by a complete absence of the element or due to soil conditions. For example, Zn is immobile and unavailable for plant uptake under high pH and soil organic matter conditions, resulting in a deficiency. Similarly in California soils, neutral to alkaline soil pH limit the availability of Zn, Mn, Cu, and Fe and may result in deficiencies. Therefore, understanding pH is essential.

Soil analysis can provide helpful information, but it is essential to consider the limitations of soil sampling, such as obtaining a representative soil sample from where roots take up the nutrients. This is extremely difficult, especially in trees, as they have extensive root systems, and variability in that large soil volume is much higher. In many cases, the soil has enough nutrients, but they either are unavailable or under unfavorable soil conditions, leading to deficiency symptoms.

Management of nutrients requires consideration of both mobility in the soil and plant and history of deficiency symptoms. When the tree/plant absorbs a nutrient, it is translocated to the shoots, roots, and

fruits. Some of the nutrients, such as N, P, K, S, Cl, and B, can move within the plant's xylem and phloem and are called mobile nutrients, whereas the others, such as Fe, Mn, Cu, and Ca, are immobile and can only move within the xylem along with water through transpiration stream. Deficiency symptoms of immobile nutrients appear on the young leaves first as they cannot be translocated from the older leaves where there are enough of them, whereas for the mobile nutrients within the plant, the deficiency symptoms first appear on older leaves as the nutrients get translocated to the younger leaves when there is need for the new growth. Therefore, patterns of deficiency symptoms exhibited by tree/plant could also help detect the deficiency of nutrients.

Soil analysis is helpful once the deficiency or excess is identified through foliar symptom development or tissue testing to understand the conditions better. History of deficiency symptoms, tissue testing, soil pH, and experience of soil conditions are equally crucial for understanding soil nutrient availability and estimating fertilizer needs.

California Forest Stewardship Workshop

Zoom sessions will be held Wednesday evenings, October 9 through December 11. The workshop includes an optional in-person field trip in Humboldt County on Saturday, November 2. The series is geared towards private forest landowners interested in developing a Forest Management Plan. Topics include management objectives, forest health, fire ecology, wildlife, mapping, permitting, and more. Registration for the workshop is $60. Participants who complete the workshop are eligible for a free site visit with a California Registered Professional Forester.

Register Now

For more information contact Kim Ingram or view the workshop flyer.

Innovative wood products contribute to healthier forests and carbon-beneficial forest management in California

Forests are natural carbon sinks and help maintain ecosystem balance by providing habitat to many plants and animals. However, California's forests have become more homogenous over the past one hundred years, making them more vulnerable to disturbances such as wildfires, drought, and insects. The state has established goals to treat one million acres of forest lands amid the increase in high-severity wildfires, however, traditional forest fuel reduction method that aims to remove small trees and harvest residues have some drawbacks related to costs and the lack of market for these materials. It has become critical to investigate the role of developing a robust forest products market in reaching forest treatment goals.

This 2021 research paper evaluated the impacts of three different case scenarios on forest treatment and carbon balance. The scenarios included:

1. Baseline Scenario (1): Business as Usual with Limited Management (Low BAU)
2. Baseline Scenarios (2): Business as Usual with Expanded Management Scenario (High BAU)
3. Innovative Wood Products (IWP) Scenario

Under the Low BAU Scenario, the assumption was that no thinning occurs in public and family-owned forests, and that thinning was only modeled on the 2 million acres of corporate-owned forests. The Low BAU scenario was characterized by high fire hazard and high carbon storage. The High BAU scenario maximized the impact of management without subsidy and revenue from forest residues. The IWP scenario analyzed the role of innovative biomass-derived products in improving forest management and carbon storage. Several products, including oriented strand board (OSB), were taken into consideration and a forest residue delivery price of up to $100 per oven-dried ton (ODT). Under this price, an average of 7.3 million ODT of residues and 14.8 million m3 of sawtimber could be produced annually over the next 40 years, representing nearly eight times the current forest residue supply and fourfold increase in sawtimber production.

There are several takeaways from this study:

- While the High BAU scenario reduces wildfire risks on larger acreage of land compared to the Low BAU scenario, it would significantly increase the cost if no subsidy is provided., making this management scenario difficult to achieve.
- IWP would increase forest management scale and carbon benefits.
- Biopower with carbon capture and storage (CCS) has more carbon benefit than biopower without CCS.
- Technologies with a larger fraction of carbon storage, including OSB and glue-laminated timber, have the greatest carbon benefit.
- Under the IWP scenario, because of the revenue generated through forest products, 12.1 million acres of forest lands can be managed over the next 40 years without subsidy.
- Other innovative wood products such as cross-laminated timber (CLT) could post greater benefits through replacing energy-intensive building materials such as concrete and steel, but more studies are needed to explore the economic and environmental feasibility of utilizing small-diameter trees in California forests for these products.

Summary by Cindy X Chen, UCCE Central Sierra Woody Biomass & Forestry Products Advisor

FREE Online Class

Riparian Forest Habitat and Vegetation Management

Thursday, September 26 | 6:00-7:30pm

Join professionals in the field, John Meriwether, Wildlife Biologist Kern National Wildlife Refuge; Mary Mayeda, FPAC NRCS; and Rob York UC ANR Forestry Extension Specialist to learn more about these dynamic ecosystems, including:

- Riparian habitat ecology & management practices
- Research, restoration & mitigation strategies
- Current rules & regulations
- Assistance for landowners

Register Now

Legislators hear about UC ANR research, outreach to improve California

UC ANR held its annual advocacy day on April 10, meeting with state legislators to build awareness of how Californians are benefiting from its work across the state. The group, led by Vice President Glenda Humiston and Associate Vice President...

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View Policy Brief

From left, Cindy Chen, Glenda Humiston, Assembly Agriculture Committee Chair Esmeralda Soria, Gabe Youtsey and Victor Francovich, chief consultant for the Assembly Agriculture Committee.

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- Agriculture & Livestock
- Community Health & Nutrition
- Forestry & Natural Resources
- Master Food Preservers
- Master Gardeners
- Employment Opportunities

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The University of California working in cooperation with County Government and the United States Department of Agriculture.

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