

Humboldt and Del Norte UC Cooperative Extension 2017 Year in Review

Published June 2018

*UCCE is dedicated to improving the **quality of life of Californians** by developing and delivering research-based information in agriculture and natural resources, and by supporting healthy families and communities.*



Prescribed Burn Association (page 2)



UCCE Associate Vice President Wendy Powers visits with Pete Bussman on a tour of the north coast

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Director's Report

Yes, that's dirt on my face. Our team has been busy helping bring prescribed fire back to the people! This important tool is being used in restoration of oak woodlands, control of invasive plants, rangeland and forest stand improvements, fuels reduction, and in community and volunteer fire department empowerment. Look for more stories of how you can add fire to your management tool box (page 2).



In this 2017 *Year in Review*, we offer highlights of how our programs touch families, communities, and local businesses. To accomplish our mission, we partner with both Humboldt and Del Norte counties to offer **practical** solutions to life's challenges, **connecting** the issue to the information resources of the University of California, and providing **trusted** research-based solutions.

All of us at Cooperative Extension feel so fortunate to work with you. If you are looking for an opportunity to give back to your community, consider becoming a 4-H leader or a Master Food Preserver (page 7), or Master Beekeeper (page 2). These community members are having a lot of fun sharing their skills.

2017 had many milestones for Cooperative Extension. The most significant was the retirement of Deborah Giraud in July. We are grateful for her 33 years of service to the north coast (photo right) and are thankful that she remains an active emeritus team member. Other milestones include bringing a Sources of Strength youth educational program to Hoopa High School (page 5) to prevent suicide, violence, bullying, and substance abuse; having opportunities to learn from the devastating October firestorms in Sonoma and Mendocino (page 3); completing several research projects in oak woodlands, rangelands, and in animal health (page 4-5); and hosting UC Cooperative Extension's Associate Vice President (photo left) on a tour of the north coast.

You are welcome to stop by, give us a call, or follow us on Facebook. We look forward to helping you!

Yana Valachovic, County Director and Forest Advisor



Master Food Preservers (page 2)



Beekeeping (page 2)



Deborah Giraud teaching pruning



Sources of Strength (page 5)

UCCE Partners with the Community through



Lenya Quinn-Davidson and Dean Hunt on a prescribed burn

FIRST PRESCRIBED BURN ASSOCIATION IN CALIFORNIA

In 2017, Lenya Quinn-Davidson and Jeff Stackhouse worked with local landowners and volunteer fire departments (VFDs) to lead the development of California's first modern-day prescribed burn association. The Humboldt County Prescribed Burn Association (HCPBA), which officially formed in March 2018, is a collective of landowners, VFDs, and other interested community members who will work together to provide training and accomplish prescribed burns for a wide range of objectives, including range improvement, invasive species control, conifer encroachment, fuels reduction, and more. Membership is open to all! If you are interested in getting involved, email Lenya at lquinndavidson@ucanr.edu.



Teachers learn how to measure tree height with a clinometer

FORESTRY INSTITUTE FOR TEACHERS

For the last 23 years, the Forestry Institute for Teachers (FIT) has provided K-12 teachers with knowledge, skills and tools to effectively teach their students about forest ecology and forest resource management practices. The week-long program, which takes place in the summer, brings together natural resource specialists and teachers from rural and urban settings, working side by side to gain a deeper understanding of the intricate relationships between forest ecosystems and human use of natural resources. FIT seeks to provide balanced, science-based education vital to the understanding of how decisions are made about management of forests and the natural resources upon which humans depend. Since 1994, ~1000 teachers have been through the Humboldt FIT program! A 2017 graduate said, "Thanks for organizing this amazing week. It has been a transformative experience. I can't wait to share all that I have learned with family, friends and, of course, my students." To learn more, visit forestryinstitute.org.



A honeybee pollinates a pomegranate flower

BEEKEEPERS TRAINING

Bernardo Nino from the UC Cooperative Extension Apiculture program presented to the Humboldt County Beekeepers Association as a part of an effort to support California beekeepers. He demonstrated how to make splits to prevent hives from swarming and taught how to breed new queens. Beekeepers report that one of the top causes of colony loss is queen failure. Since the queen is the only reproductive female in the colony, finding ways to support her reproductive health is of paramount importance. This UC apiculture program is currently researching biological factors that regulate honey bee queen reproduction. Better understanding these processes will help maintain queen health and longevity. This team has recently started a Master Beekeeper Program and more information can be learned at <https://cambp.ucdavis.edu/>. Two Humboldt County beekeepers are currently enrolled in the Master Beekeeper Program.

Educational Programs

EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM (EFNEP)

Serving both Humboldt and Del Norte Counties, Jessica Rebholtz and Dorina Espinoza provide impactful and quality nutrition education and healthy lifestyle classes to adults and youth in our communities. Now in our sixth year, the USDA-funded EFNEP (Expanded Food and Nutrition Education Program) works with adults and youth to improve their lives one meal at a time. "I am mindful to make healthier choices, finding interesting ways to incorporate vegetables, especially leafy greens, into our diets at home!" (2017 adult participant). The positive experiences of the program are not only personalized but also demonstrated through measured changes. In the adult program, 57% of adults improved in practices like meal planning, making healthy food choices, preparing food without adding salt, and/or reading nutrition labels, and 56% of adults improved in their ability to manage resources through comparing prices and using grocery lists. In the youth program, 70% of youth improved in their ability to eat within USDA recommendations, and 45% improved in handling food safely. Improved adult and youth eating habits, resource management, and food safety behavior positively impacts the health and wellness of our local community members and helps support healthier and more food secure Californians. All classes are taught in English or Spanish by Jessica Rebholtz.

FIRE PREPAREDNESS

Yana Valachovic worked with regional fire professionals to explore why so many homes and buildings were lost in the 2017 Wine Country Fires. She collected drone-based [videos](#) to record how the fires burned through the vegetation near and around the burned structures, providing additional evidence that many homes were burned from the inside out. The team concluded that embers were primarily responsible for the home ignitions as they entered homes via attic or soffit vents (critical to let moisture out of a building) or they ignited combustible materials close to buildings. She then developed new educational programming to help north coast communities learn more about fire preparedness, building design, construction, and maintenance. See <http://www.cafiresci.org/events-webinars-source/lessonslearned2017wildfires> for more information.

BEEF EDUCATION DAYS

The annual Winter Livestock Meeting was held in February at the Humboldt County Ag Center, where experts provided up-to-date information on protein supplementation, livestock economics, poisonous plants, weed control, and bovine reproduction at an all-day educational event. In April, Jeff Stackhouse and Dr. Meghan Mott co-taught a Beef Quality Assurance class where participants learned about drug management and application, new regulations, and livestock handling/facility considerations. Attendees of this class received certification by the California Cattlemen's Association.



Middle school youth during a food lesson

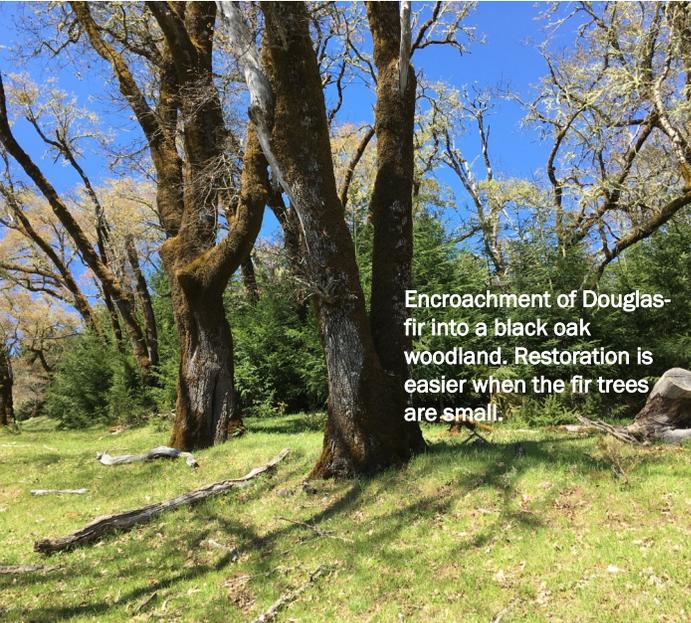


Remains of the Coffey Park subdivision in Santa Rosa following the October wildfires

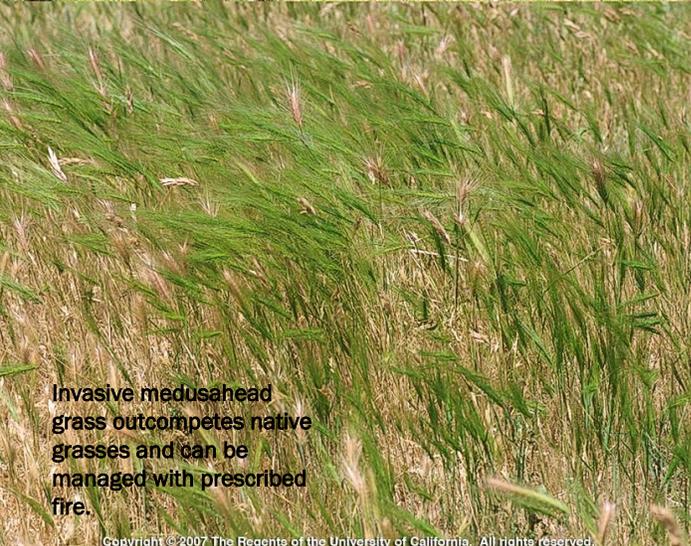


Humboldt's happy cows relax in the sunshine

UCCE Creates Knowledge through

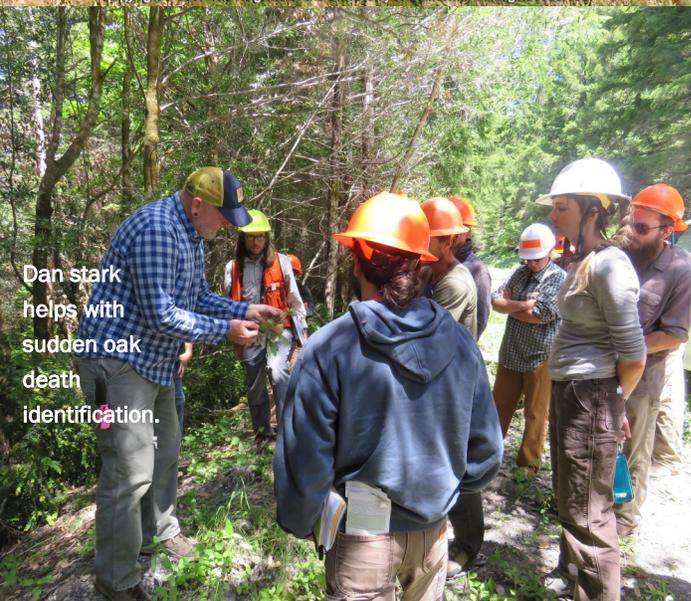


Encroachment of Douglas-fir into a black oak woodland. Restoration is easier when the fir trees are small.



Invasive medusahead grass outcompetes native grasses and can be managed with prescribed fire.

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Dan stark helps with sudden oak death identification.

OAK WOODLAND RESTORATION RESEARCH

The loss of deciduous oak woodlands to native conifer encroachment is a major conservation concern in Northern California, resulting in losses of wildlife habitat, traditional land uses, biodiversity, native biota, and other ecosystem services. Yana Valachovic, Jeff Stackhouse, and Lenya Quinn-Davidson have been evaluating the effectiveness of conifer removal treatments to provide data-driven guidance to agencies and landowners interested in oak restoration. The team collected data from 13 field sites in Humboldt and Trinity Counties assessing 1) oak tree responses to different oak release treatments; 2) mechanisms of oak decline in encroached stands; 3) treatment effects on tree regeneration, fuel loading, reestablishment of understory vegetation/forage, and wildlife habitat; and 4) treatments costs. This project will result in improved knowledge of the agency staff who are overseeing assistance programs that are funding this work (e.g., NRCS's EQIP program in California and the new \$2.7 million program directed by Lenya Quinn-Davidson for oak restoration), as well as technical assistance information to help guide landowners in their oak project development and implementation work.

RX FIRE TO CONTROL INVASIVES

UCCE's Lenya Quinn-Davidson and Jeff Stackhouse led several burns across Humboldt County last year to analyze long-term success of the use of prescribed fire to control invasive species. In June, they burned 20 acres of medusahead on the Hunt Ranch in Bridgeville. Medusahead is a non-native, invasive grass that is unpalatable for cattle and wildlife. Its seeds are covered with tiny barbs that attach to livestock, humans or vehicles that pass by. It is a late-season grass, so it can be treated in early summer after everything else has gone to seed and it is still green. In October, they burned 140 acres of coyote brush in Bear River, and in December, they treated another 20 acres of oak woodlands on Chalk Mountain Ranch in Bridgeville. On all three ranches, they installed plots to measure fire effectiveness, and they look forward to sharing research results this year. For more information, or to get involved in the Humboldt County Prescribed Burn Association, email Lenya at lquinndavidson@ucanr.edu.

CARBON AND FOREST HEALTH

UCCE's Brendan Twieg, Dan Stark, and several field assistants have been working to better understand how sudden oak death affects long-term carbon dynamics in north coast forests. The team's study area is in northeastern Humboldt. Through a series of adaptive management trials, they are testing whether forest thinning will assist in disease management, forest fuels reduction, and tanoak survival, along with predicted greenhouse gas emission and sequestration. An additional component of study is determining appropriate and cost-effective measures to clean equipment that have worked in SOD-infested forests This novel research is being funded by CAL FIRE's Greenhouse Gas Program in partnership with the Bureau of Land Management. Results will be available in 2019.

Research and Special Projects

BEEF MANGANESE RESEARCH

As part of a statewide assessment, Jeff Stackhouse worked with three Humboldt County ranches who volunteered their time and donated blood from livestock for an assessment of naturally occurring minerals. Manganese requirements and supplementation strategies are poorly understood, but the mineral is critical in bone development in livestock. The project revealed that Humboldt cattle, although low on the spectrum of acceptable levels, are much better off than cattle across most of California. This preliminary dataset suggests that manganese is not a great concern for north coast beef producers.

TRIBAL EXTENSION PROGRAM

The Federally Recognized Tribes Extension Program (FRTEP) is in its 7th year. This program is supported by a USDA grant to address a long-standing need among tribes for equal access to extension, with a focus on youth and production agriculture. Dorina Espinoza, Deborah Giraud, Erin Smith, and Nikki Mattz were actively involved in several projects with local Tribes in 2017. Staff helped with the Harvest Festival at the Hoopa Rodeo, including a demonstration on acorn processing and composting, provided fruit tree care workshops, and worked with youth in the school gardens of Klamath, Weitchpec and Pecwan, where students put their hands in the soil to learn about plant life cycles, seed propagation, transplanting, and more. Hoopa High School students completed a two-day training to serve as peer leaders of the Sources of Strength program. These students dedicate time and energy to work with staff on cultivating a school environment of gratitude and strength to highlight and mobilize the community to positively change one another. The work of these peer leaders complements the existing Trauma Informed Movement at the school. Through the power of strength, connection and hope, the youth and their adult partners help to prevent suicide, violence, bullying and substance abuse.

COYOTE BRUSH TRIALS

Jeff Stackhouse, in response to community interest, installed a research project to evaluate control methods for coyote brush using a variety of mechanical techniques. In the absence of periodic fires, coyote brush invades rangelands throughout the north coast, with implications for biodiversity, wildlife habitat, and range values. Of the equipment tested, the bulldozer was found to be comparatively more effective and less expensive in removing coyote brush than an excavator. The excavator was slightly (though not significantly) more effective at reducing the cover and frequency of coyote brush, likely because of its ability to target plants one by one and capacity to fully remove the root systems. Areas treated with chainsaws had far less soil disturbance; however, the forage benefits gained through topsoil retention were canceled out by the relatively rapid redevelopment of coyote brush, which was quick to resprout and regain cover in chainsaw-treated areas. Final results will be available soon.

HUMBOLDT-DEL NORTE STAFF LIST

Jacki Bennett, Office Manager — Del Norte County
jacbennett@ucanr.edu

Leslie Cannafax, Office Manager — Humboldt County
lacannafax@ucanr.edu

Dorina Espinoza, Youth, Families and
Communities Advisor, dmespinoza@ucanr.edu

Deborah Giraud, Farm and Community
Development Advisor (emeritus) ddgiraud@ucanr.edu

Lenya Quinn-Davidson, Area Fire Advisor
lquinndavidson@ucanr.edu

Jessica Rebholtz, EFNEP Nutrition Educator
jconde@ucanr.edu

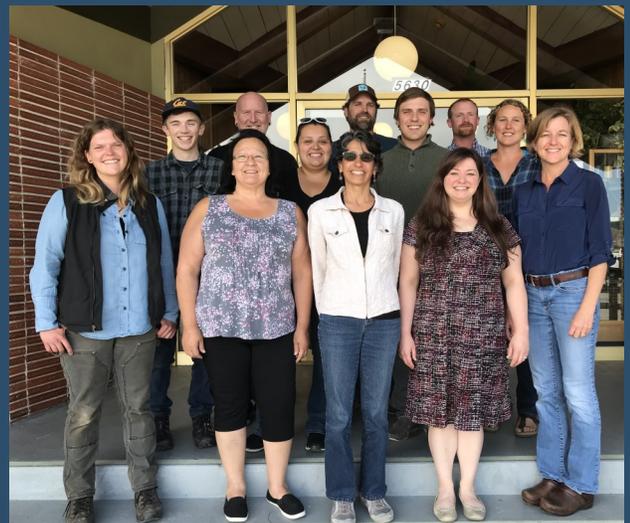
Jeff Stackhouse, Livestock and Natural Resources Advisor
jwstackhouse@ucanr.edu

Daniel Stark, Staff Research Associate — Forest Health
stark@ucanr.edu

Thomas Stratton, 4-H Program Representative
tjstratton@ucanr.edu

Brendan Twieg, Staff Research Associate — Forest Health
bdtwieg@ucanr.edu

Yana Valachovic, County Director and Forest Advisor
yvala@ucanr.edu



UCCE staff at the Humboldt County Agriculture Center

UCCE Partners with the Community and

COMMUNITY PARTNERS

UCCE contributes to the community through partnerships and collaborative activities with local groups, organizations, and agencies to achieve common goals. The following is a list of some of the partners with whom we collaborated this past year. We appreciate working with each of you. Thank you for your service to our community!

American Ag Credit	
Astronomers of Humboldt	Humboldt Co. Wool Growers Association
Buckeye Conservancy	
Bureau of Land Management	Humboldt/Del Norte Open Door Clinic
Bonnie and Lee Brown Residential Treatment Center	Humboldt Redwood Company
CAL FIRE	Humboldt State University
CA Beef Cattle Improvement Association	James Able Forestry
CA Center for Rural Policy	Karuk Tribe
CA Conservation Corps (Fortuna Center)	LatinoNet
CA Department of Fish and Wildlife	Mattole Restoration Council
CA Department of Parks and Recreation	McKinleyville Middle School
CA FarmLink	Natural Resources Conservation Service
CA Fire Science Consortium	
CA Oak Mortality Task Force	Northcoast Co-op
Coastal Connections	Northcoast Environmental Education Network
College of the Redwoods	Northcoast Gardening Collaborative
Decade of Difference	Northcoast Regional Land Trust
Del Norte Co. Dept. of Health and Human Services	Northern CA Prescribed Fire Council
Del Norte Farm Bureau	Northern CA Society of American Foresters
Environmental Protection & Information Center	Northwest California Resource, Conservation & Development Council
Fire Learning Network	Pregnancy Care Center
Fire Adapted Communities Learning Network	Redwood After School Network
Food for People	Redwood Coast Institute
Food Council of Del Norte Co. and Adjacent Tribal Lands	Redwood National and State Parks
Fortuna Family Resource Center	Redwood Region Logging Conference
Friday Night Live	Small Business Development Corporation
Green Diamond Resources Company	Society for Range Management
Hoopa Valley Tribe	South Fortuna Elementary
Humboldt and Del Norte Cattlemen's Association	Temporary Assistance for Needy Families (CA Tribal, Yurok)
Humboldt Area Foundation	USDA Forest Service
Humboldt Co. CattleWomen's Association	Watershed Research and Training Center
Humboldt Co. Department of Health and Human Services	Western United Dairymen
Humboldt Co. Farm Bureau	Wild Rivers Community Foundation
Humboldt Co. Fire Safe Council	Winship /Zane After School Program
Humboldt Co. Food Policy Council	Wiyot Tribe
Humboldt Co. Office of Education	Women in Timber
Humboldt Co. Resource Conservation District	Yager/Van Duzen Environmental Stewards
Humboldt Co. Weed Management Area	

4-H IN HUMBOLDT AND DEL NORTE

WHAT IS 4-H?

Hands-on active learning is what all youth ages 5-19 will experience in 4-H. Over 720 Humboldt and Del Norte County youth have the opportunity, with help of 250 adult volunteers, to discover and learn about animals, outdoor exploration, cooking, entomology, robotics, sewing, veterinary medicine, and more. We welcome all youth in our program and nurture a sense of belonging, skill mastery, independence, and generosity.

BELONGING

Volunteers share that 4-H impacts their lives through learning side-by-side with youth, sharing their knowledge, and connecting with youth. These contributions foster partnerships that help youth feel supported, respected and included. Our volunteers provide listening ears, follow through on commitments, help build teams, and help create a sense of connection and belonging to their communities.

MASTERY

Youth learn to meet challenges, experience success, and find their interests from a breadth and depth of topics that range from digital media to air rifle to bucket calf to engineering. Adult volunteers share their expertise and interests with youth through hands-on experiential learning. Volunteers receive training to equip them with the resources, support and tools to guide youth in tapping into their interests and curiosity.

INDEPENDENCE

Decision-making in 4-H is a shared experience between youth and adults. Youth develop leadership skills when they are guided by caring adults. In 4-H, youth may serve as an officer in a Club; or a co-chair of Summer Camp, the Lamb BBQ fundraiser, or Presentation Day (an event where youth demonstrate a learned skill). Older youth have the opportunity to represent their county by serving as a 4-H County Ambassador (a liaison between the county office, 4-H members and volunteers, and the public).

GENEROSITY

Youth are actively engaged in their communities and give back to their communities through service learning activities like donating food for our local food banks and sharing small animals for patients at Adult Day Care facilities. These experiences provide the foundation that help youth find purpose and meaning in their lives.

The 4-H program is coordinated by Thomas Stratton and Dorina Espinoza.

Extends Services through Volunteer Programs

MASTER FOOD PRESERVERS

Throughout Humboldt and Del Norte Counties, the Master Food Preservers were jamming it up with over 430 hours of public demonstrations teaching our community about safe food preservation practices; were tickled to talk of pickled foods, and other preserved foods, for 100 hours at Farmer's Markets and public events; and relished in the benefits of food preservation while judging canned foods for four hours at the Humboldt County Fair. To add to the mix, there were 11 new graduates of the MFP 4-week intensive training, all made possible through 356 volunteer hours of canning pressure, freezing lectures, drying presentations, and water-bath boiling hands-on labs. Our Master Food Preservers travel far and wide to share their knowledge and skills of safe food preservation practices and delicious food preservation recipes. If you would like a food preservation demonstration for a group of friends or neighbors, call Dorina Espinoza, the MFP Advisor, and she will match you up with a volunteer or two!



2017 Master Food Preserver graduates

MASTER GARDENERS

After completing their training, Master Gardeners (MGs) share their knowledge by volunteering with various projects throughout Del Norte and Humboldt counties. This has been a year of transition following Deborah Giraud's retirement from UCCE in June 2017. We are hopeful that we'll be able to replace her position soon. Highlights from 2017 include: 1) Tom Schrader providing excellent outreach and answering general questions that come to the UCCE office following Deborah's retirement; 2) Zeal Stefanoff teaching gardening at several Humboldt County schools; 3) MG's participating in the Humboldt County Fair and helping answer the public's garden questions; 4) Bill Peer, Melanie Kuhnel and Claire Perricelli supporting the beautiful Ryan House garden and growing ornamentals and food for the Jefferson neighborhood market. The interest in home gardening continues to thrive and the MG program is helping support local interest and garden education!



Master Gardeners at a community garden tour in Crescent City



4-H youth smile for the camera at a training.



Miranda Top Club members celebrate success!

**University of California
Cooperative Extension-Humboldt and Del Norte
5630 South Broadway
Eureka, CA 95503-6905**

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If you have special needs,
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Upcoming Workshops and Events

2018 Upcoming Events

Small Flock Egg Producers Workshop. June 26, 2018.
Eureka.

Water quantity measurements and reporting course.
June 29, 2018. Eureka.

**Forestry Institute for Teachers– K-12 teacher curriculum
enhancement program.** July 8-14, 2018. Humboldt
State University. Arcata.

Master Food Preserver Fruit Leather Demonstration. July
19, 2018. Eureka.

Master Food Preserver Tomato Canning Demonstration.
August 16, 2018. Eureka

Oak Woodland Restoration Workshop. Late summer.
Eureka.

Family Succession Planning. Fall 2018. Crescent City.

4-H Lamb BBQ. October 2018. Fortuna.

Live Fire Trainings. Winter 2018/19. Bridgeville.

Useful Resources

This collection of excellent informational resources can help you in the home, garden or with your agriculture or natural resource business.

- **Pest management** information for your home or garden ucipm.ucdavis.edu
- **Forestry resources**, publications and big ideas on how to steward California forest lands ucanr.org/sites/forestry
- Tips on how to grow a successful home **orchard** homeorchard.ucdavis.edu
- **Small and family farms** resources and information sfp.ucdavis.edu
- Research-based information on important issues facing the **horticulture industry** ohric.ucdavis.edu
- Downloadable **publications** regarding agriculture and natural resources anrcatalog.ucdavis.edu
- UC research-based information, accomplishments, and statewide extension activities in planting, growing, and harvesting **fruits and nuts** fruitsandnuts.ucdavis.edu
- Information relevant to California vegetable **consumers, growers and processors** vric.ucdavis.edu
- Research in **weed management** wric.ucdavis.edu
- Information related to **production, harvest & processing of foods** ucfoodsafety.ucdavis.edu