

# Central Oregon Agriculture

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## Pasture and Grazing Management Field Days

Deschutes County SWCD, NRCS, and OSU Extension Service continues their Pasture and Grazing Field Days (see schedule below). The pasture field day will start at 6:00 p.m. and conclude at dusk. The pasture will be our laboratory and our focus will be all things related to pasture and grazing management. Tammy Harty and Jan Roofner, Deschutes County SWCD, Mylen Bohle & Scott Duggan, OSU Extension Service, and Tom Bennett, Nicholle Kovach, and Karlie Wyman, NRCS, will be participating, as their schedules allow.

### Agenda and Discussion Highlights:

Introductions, Producer goals for the Pasture, Demonstration of Pasture Stick, Results of simulated grazing trial at Madras, Dig Plants & Look at Roots, Identify Pasture Plants (grass, legume, and forb species), How do the Animals Graze, Soil Testing and Pasture Fertility, Soil Survey, Grazing Management and Plant Heights, Irrigation Management, SWCD & NRCS Programs, Pasture / Grazing Inventory Score Sheet Exercise, And Any Other Questions...

### Field Day Schedule and Sites

- July 20 Burk Dairy, 1149 NE Yucca Av., Redmond, OR (Focus on Grazing Holstein Cow Dairy)
- Aug 22 Cuyla Dudley Ranch, 5680 SW Quarry Road, Redmond, OR (Focus on a new renovated pasture)
- Sept 20 Pitchfork-T Ranch, 71275 Holmes Road, Sisters, (Registered Red Angus Cow/Calf)
- Oct ?? COARC, 850 NW Dogwood, Madras. (Focus will be on Orchardgrass Clip Height Trial)

Please RSVP to Tammy Harty, Deschutes Soil and Water Conservation Service, at Ph: (541) 815-0203 or email: [tammyharty@msn.com](mailto:tammyharty@msn.com).

Mylen Bohle, Tammy Harty, and Scott Duggan

## Carrot Seed Pollination and Bee Health Workshop

Friday July 15, 2016, 8.30 AM to noon, Central Oregon Community College (Room: MDR 117), Madras, OR

### 8:30-9:00 am Registration

**9:00-9:05 am Introduction:** Dr. Ramesh Sagili, Dept. of Horticulture, Oregon State University

### 9:05-9:20 am Test Your Knowledge

Dr. Sujaya Rao, Dept. of Crop Science will test your knowledge of key concepts regarding pollinators. This will be an interactive portion of the workshop.

### 9.20-10:00 am Bee Cause: Protecting Honey Bee Health and Current Challenges Facing Honey Bees

Dr. Ramesh Sagili, Department of Horticulture, Oregon State University

During this session participants will learn about current threats to pollinator health. Dr. Sagili will present information on key factors in honey bee declines and ways to promote bee health.

### 10:00-10:40 am Bumble Bees 101

Dr. Sujaya Rao, Dept. of Crop Science Oregon State University  
During this session participants will learn about local bumble bee species, their ecology and behavior. Factors that affect the health of bumble bees will be presented.

### 10:40-11:00 am Break

### 11:00-11:40 am Understanding and minimizing pesticide exposure to bee pollinators

Dr. Louisa Hooven, Dept. of Horticulture, Oregon State University

This session will focus on ways to minimize exposure of pesticides to bees.

**11:40-12:00 Test Your Knowledge, Wrap-up and conclusion** Dr. Sujaya Rao, Let's see how much you learned during this workshop. This will be an interactive portion of the workshop.

Sponsored by ODA Specialty Crop Block Grant Program.

Katie Ralls

**Central Oregon Agriculture** is a bi-monthly newsletter produced by the Central Oregon Extension offices and the Central Oregon Agricultural Research Center (COARC). The intent of this newsletter is to extend agricultural research-based information, to solve problems, develop leadership and manage resources wisely. Please direct comments and changes to the mailing list of your local County office.

- ◆ Mylen Bohle, Editor, (541) 447-6228
- ◆ Kim Herber, Ag Newsletter Coordinator, (541) 447-6228

#### Central Oregon County Extension Offices

(all area codes are 541)

**Crook County** Extension Service - Phone 447-6228,  
498 SE Lynn Blvd., Prineville, OR 97754

**Deschutes County** Extension Service - Phone 548-6088,  
3893 SW Airport Way, Redmond, OR 97756

**Jefferson County** Extension Service - Phone 475-7107,  
850 Dogwood Lane., Madras, OR 97741

**Warm Springs** Indian Reservation - Phone 553-3238,  
1110 Wasco St., PO Box 430, Warm Springs, OR 97761

#### Central Oregon Agricultural Research Center

- ◆ Carol Tollefson, Director, 475-7107
- Madras Site - Phone 475-7107, 850 Dogwood Lane, 97741
- Powell Butte Site - 8215 SW Hwy. 126, 97753

#### Extension Service & Experiment Station Web Sites

Crook County: <http://extension.oregonstate.edu/crook>

Deschutes County: <http://extension.oregonstate.edu/deschutes>

Jefferson County: <http://extension.oregonstate.edu/jefferson>

Central Oregon Agricultural Research Center:  
<http://oregonstate.edu/dept/coarc/index.php>

#### Central Oregon Agricultural Extension Service Staff

- ◆ Dana Martin, Regional Administrator, 548-6088
- ◆ Mylen Bohle, Crops, Cereals, Hay, Pasture and Irrigation, 447-6228
- ◆ Marvin Butler, Research
- ◆ Tim Deboodt, Range Resources and Livestock, 447-6228
- ◆ Amy Jo Detweiler, Horticulture, 548-6088
- ◆ Scott Duggan, Livestock, 553-3238
- ◆ Jeremiah Dung, Plant Pathology, 475-7107
- ◆ Tracy Wilson, Soil Health and Plant Nutrition, 475-7107
- ◆ Toni Stephan, Horticulture and Small Farms Instructor, 548-6088
- ◆ Nicole Strong, Forestry, 548-6088
- ◆ Carol Tollefson, 475-7107

The above individuals are devoted to extending agricultural information to producers. Many of the individuals, in addition to agriculture, have assignments in research, 4-H Youth, administration and community resource education. Often it is appropriate to mention brand names of some commercial products; however, they are used only for the purpose of information. Extension does not guarantee or warrant the standard of the product, or does it imply approval of the product to the exclusion of others.

## Willow Creek and Trout Creek Watershed

The Willow Creek and Trout Creek Watershed Councils were formed as separate watershed councils in the 1990s. Each council engaged watershed landowners, agencies, and other organizations in studies to understand the factors contributing to declining fish populations, degraded stream and upland habitats, and poor water quality.

In 2015 the Willow Creek and the Trout Creek Watershed Councils officially joined to create the Middle Deschutes Watershed Council (MDWC). We partner with local, state, and federal agencies and non-governmental organizations to promote watershed health, education and outreach. Our partners are composed of funding organizations, collaborative partners, and organizations that assist the Council achieve its mission. The Council is organized and governed by watershed landowners, residents, government agencies and other stakeholders. It strives to convene a broad representation of the watershed's community and interests through its board membership and partnerships.

Watershed Councils are an important vehicle for communities to address watershed issues. Bringing together local stakeholders from private, local, state, and federal interests in a partnership, councils plan watershed protection and restoration strategies in a holistic way--from ridge top to ridge top, and from headwaters to mouth. Through this watershed partnership, council members collaborate to identify issues, promote cooperative solutions, focus resources, agree on goals for watershed protection and enhancement, and foster communication among all watershed interests.

The council meets on the fourth Tuesday of every other month and welcomes members of the public to attend. Please refer to our the calendar on our website, [www.middledeschuteswatershedcouncil.org](http://www.middledeschuteswatershedcouncil.org), for additional information.

John Speece, MDWC Coordinator

## Crop Enterprise Budgets

Enterprise budgets for alfalfa and grass hay production, along with wheat budgets were updated, locally in the Spring of 2015. While they are still in draft form or are preliminary; they are available. Zach Flegel did an OSU senior class internship with Crook County Extension Spring quarter and did the background work for us to put together these budgets. Anybody that is interested can contact Mylen at the Crook County Extension Office. We would also be interested in your feedback on the budgets as well.

Mylen Bohle

## Eastern Oregon Liming Guide

As we continue to add more years of farming to our soils, soil pH has been declining and becoming more acidic. At some point, depending upon the crop to be grown, the soil pH needs to be raised to allow beneficial and economic growth of the crop. The cost of doing so is always a major capital outlay. There is an "Eastern Oregon Liming Guide", EM 9060, published by OSU Extension Service and should be of great interest to all producers. It is available online at <http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/38532/em9060.pdf>.

In May, 2015, OSU Extension and COARC initiated a tilled and non-tilled lime rate (0-8,000 lb/ac) trial with mixed grass species hay at Tumalo. This research will at the very least confirm and or perhaps develop better lime rate recommendations based on the results of this trial.

Mylen Bohle and Tracy Wilson

## Western Juniper Industry Fund

Western Juniper is a native tree known for its durability, is impervious to rot and disease, and is a great alternative to cedar and redwood use in buildings. More than 100 years of fire suppression and past rangeland activity has allowed the Juniper to overtake upwards of 9 million acres of rangelands, using up water and destroying habitat for wildlife.

In 2013, the [Western Juniper Alliance](#) (WJA) began implementation of an initiative working toward a sustainable way to manage the spread of invasive Western Juniper and grow the market as a way to support and create new business opportunities. Removing the invasive juniper improves the ecosystem and creates much-needed jobs in rural communities.

In the 2015 Legislative Session, the Oregon Legislature approved \$500,000 to establish the Western Juniper Industry Fund managed by Business Oregon. The fund's purpose is to provide economic development assistance to Oregon businesses engaged in harvesting or manufacturing products from Western Juniper.

**Loans** for Capital Investment and Permanent Working Capital are available to assist with Oregon Western Juniper businesses' expansion projects.

### Capital Investment

- \$20,000 minimum loan amount
- \$100,000, or 75% of project cost, whichever is less, maximum loan available
- applicant must provide minimum 10% of project cost in cash

The loan may not be used to retire an existing debt, in whole or in part.

### Permanent Working Capital

- \$20,000 minimum loan amount
- \$50,000, or 90% of working capital budget, whichever is less, maximum loan available
- applicant must provide minimum 10% of working capital budget in cash

No more than 10% of the fund will be available to businesses whose primary product is firewood.

### Business Eligibility

A complete list of requirements is included in the Program Guidelines.

Applications will be accepted on an ongoing basis, as long as funding remains available.

[Download the application](#)  PDF and [Program Guidelines](#)  PDF ; complete the application and submit it to Business Oregon according to the steps and instructions outlined in the Program Guidelines. Business Oregon's juniper website: <http://www.oregon4biz.com/How-We-Can-Help/Finance-Programs/Western-Juniper/>

Submitted by Tim Deboodt

## Irrigation Systems

The following acronyms are considered to be some of the Best Management Practices for pivots and linear's presently. Following are the definitions of the acronym and water use efficiency (WUE) of the system for new to poor condition.

Acronym	Definition	Water Use Efficiency (%)		
		New Condition	Fair Condition	Poor Condition
MESA	Mid elevation spray application	80	85	70
LEPA	Low energy precision application	90	85	75
LESA	Low elevation spray application	90	85	75
LPIC	Low pressure in-canopy	95	90	80
SDI	Subsurface drip irrigation	100		

From Low pressure center pivot sprinkler irrigation systems. TWDB report 362 (2004).

I have heard of some systems approaching 98% WUE with bubblers dragging on the soil in row crops. There are a few experimental systems (1-3 spans for comparison) in the Central Oregon area. Everyone that is trying them seems to be very pleased with their operation. For those who can make the switch to these new systems, there is great water and energy savings potential to be captured. Check with your local irrigation equipment dealer and / or power company to see what it would cost to convert. Energy Trust and Wy'East work with the power companies and have different cost share programs. Make sure you check with them before purchasing any hardware. (More information on Central Oregon Energy Efficiency Programs can be found at:

<https://newcoic.files.wordpress.com/2012/08/energy-efficiency-programs-in-central-oregon.pdf> )

Mylen Bohle

## Forest Health Update: Pandora Moth

Have you noticed defoliation of your or any nearby pines this summer? This defoliation is caused by the Pandora moth, *Colaradia pandora* (Lepidoptera: Saturniidae), which is a native defoliator of pine forests in the western United States.

Outbreak levels of Pandora moth occur intermittently. The first recorded outbreak in central Oregon was in the 1890s on the Klamath Indian Reservation, and many other outbreaks have been documented here since that time. Outbreaks tend to occur in areas with loose, granular volcanic soils, which are needed for these insects to complete their life cycle. Tree ring analyses of old growth ponderosa pine suggest that up to 22 Pandora moth outbreaks have occurred here over the past 600 years.

Larvae feed on the foliage of several species of pines, with the primary hosts in central Oregon being ponderosa and lodgepole pines. Outbreaks are typically observed in mature stands although light defoliation has also been reported in understory trees. Outbreaks can cause extensive defoliation, often leading to growth loss and some tree mortality. When tree mortality occurs, it is often associated with subsequent attacks from bark beetles or when prolonged drought conditions occur.

### What is the life cycle of Pandora moth?

During outbreaks in a given area, pine defoliation occurs every other year because Pandora moth requires two years to complete one generation. In central Oregon, larvae and defoliation are observed during even-numbered years and adult moths are seen during odd-numbered years. Adults are usually observed in late July to early August and during outbreaks, large numbers can be seen on trees or resting on homes or other structures nearby, especially near outdoor lights. The females lay eggs in the fall, which hatch into larvae that feed in small colonies on the current year’s foliage. The larvae overwinter at the base of needles and resume feeding the following spring; this is when the heaviest defoliation occurs. Larval feeding is usually completed by late June and larvae crawl down from the trees and burrow into the soil where they transform into pupae. This is when they are most often observed, especially along roads and trails within outbreak areas. Adult moths then emerge the following summer.

### What can we expect from Pandora moth in the near future?

This appears to be the second year of a Pandora moth outbreak in central Oregon, with large number of adult moths observed in 2015 and larvae and defoliation seen over small areas during the spring of 2016. Outbreaks typically last 3 to 4 generations (6-8 years), so we expect to again see large numbers of adult moths in the summer of 2017 and increased numbers of larvae and defoliation during the spring of 2018. The Pandora moth’s two-year life cycle, with defoliation occurring every other year during outbreaks, usually allows for tree recovery. The areas with heavy defoliation this spring have already began to recover as new needles are now emerging. These trees will have the chance to grow unaffected by Pandora moth until larvae are again present in the spring of 2018.

### What should I do to manage the Pandora moth outbreak?

Pandora moth outbreaks are usually allowed to subside naturally. A large number of natural enemies generally keep populations at low levels or contribute to the collapse of outbreaks. One of the most important is a disease caused by a virus, which rapidly infects larvae. Small mammals also feed on pupae in the soil and have been reported as an important natural control. Several birds are also predators, feeding on eggs and larvae, as well as parasitic wasps which also attack eggs and larvae. Periodic management of pine stands, including thinning, prescribed burning, or other treatments focused on maintaining the appropriate species and densities for the site are an important factor in allowing affected trees to withstand the effects of defoliation and to recover after it occurs.

#### Learn More:

Ciesla, W.M., A. Eglitis, and R. Hanavan. 2010. Pandora Moth. Forest Insect and Disease Leaflet #114. USDA Forest Service, 8 pp. [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fsbdev2\\_043666.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev2_043666.pdf)

Robbie W. Flowers, PhD, Forest Entomologist, Forest Service, Forest Health Protection

## Crop Water Use

Agrimet crop water use program—a program to help you manage your irrigation schedule.....

Predicted daily crop water use (inches/day of evaporation and transpiration = evapo-transpiration) of selected crops for July 4-7, 2016 at Madras, Powell Butte, Bend, and Christmas Valley, Oregon

	Madras	Powell Butte	Bend	Christmas Valley
Alfalfa Peak	0.22-0.34	0.21-0.28	0.19-0.23	0.26-0.32
Grass Hay Peak	0.20-0.31	0.19-0.26	0.17-0.21	0.24-0.30
Pasture	0.15-0.23	0.14-0.19	0.13-0.16	0.18-0.22
Winter Wheat	0.08-0.14	0.07-0.12	0.07-0.10	0.22-0.30
Spring Grain	0.22-0.34	0.21-0.28	0.19-0.23	0.26-0.32
Field Corn	0.12-0.24	0.12-0.20	0.11-0.16	--
Soybean Grain (M 3-4)	0.21-0.31	0.20-0.26	0.18-0.21	--

More field and horticultural crops are listed at Agrimet: <http://www.usbr.gov/pn/agrimet/h2ouse.html>.

BOR is still trying to work up a better grain and forage type soybean water use curve. So numbers may change.



## LOG SPECIFICATIONS FOR WESTERN JUNIPER LOGS PRODUCED FROM RESTORATION PROJECTS

There is a demand for juniper logs from those processing them into useable products. Below you will find information provided by the Western Juniper Alliance regarding log specifications. Contact Sustainable NW for pricing and finding juniper millers.

When Western Juniper harvest and restoration projects produce logs to be made available to juniper millers, the following specifications should be followed to ensure removal and maximize value.

### 1. LOCATION

- a. Logs ultimately need to be available for loading by a log truck.
- b. Preferably, logs will be decked along a road.
- c. Alternatively, logs may be located on a landscape where they can be moved by a skidder or forwarder to a location accessible by a log truck.

### 2. SIZE

Juniper logs should have the following specifications:

- i. Minimum top size for saw logs for milling cants, squares, and/or lumber needs to be at least 8".  
This top size may be less if a miller is contacted and has the ability to utilize a smaller saw log.
- ii. Minimum top size for round applications such as posts & poles needs to be at least 4".
- iii. Logs shall be cut to standard sawlog lengths (cut lengths to include a 6" trim per log). 17', 25', 33' preferred lengths. 8'6", 10'6", and 21' are alternate lengths.
- iv. Logs may include both round stock sizes and sawlog sizes as part of the same log. i.e., a log may have a 6" top at 21' and a 8-10" diameter at 8'6" from the large end.

### 3. QUALITY

- a. Logs must be de-limbed with no "pig ears" (short limb stubs).
- b. Logs should minimize sweep and crook.
- c. It is recognized that knots are prevalent in Juniper. However, knot size >5" and frequency on log segments may reduce value to a miller or limit value entirely.
- d. Logs must have minimal to no brown or white rot.
- e. Manufacturing defects (pulled knots, butt shatter, etc) must be limited.
- f. Logs must be cut to millers standards for length, top diameter, and trim.

### 4. VALUE

Juniper millers are generally willing to pay between \$1,000 and \$1,500 per log truck load of logs delivered to their mill location. Actual price will be dependent upon:

- i. Size of load
- ii. Quality of logs
- iii. Percentage of load that is sawlogs (higher value), vs. round stock material.

Millers may also be willing to pick up logs from a site themselves. Compensation may vary depending upon road access, distance from milling site, and log quality. For questions concerning specifications, value, or other issues, please contact:

**WJA Supply Contractors, King Inc. WJA Coordinator, Sustainable Northwest**

King or Zach Williams Dylan Kruse

(541) 575-0597 or (541) 620-4138 (503) 221-6911 x115

## What is Hay Worth?

Wondering what the price of hay is whether you are buying or selling? Especially if you are raising and selling hay, you may want to get in on the weekly call from USDA Market News Service, Portland, Oregon. The C.O. hay market report can be freely accessed at the home page: [http://www.ams.usda.gov/mnreports/ml\\_gr313.txt](http://www.ams.usda.gov/mnreports/ml_gr313.txt), or if you want to go directly to the page to check on all of the different state markets, go to this web site: [http://www.ams.usda.gov/AMSV1.0/ams\\_fetchTemplateData.do?](http://www.ams.usda.gov/AMSV1.0/ams_fetchTemplateData.do?)

Once you are signed up to participate in the hay market report if you would like to contribute to the report, someone from the office will call (or you can call) and inquire if you have sold hay, number of tons, for what price, what the quality is, etc. This information is then compiled weekly and put up on the Internet report and also published in the Capital Press. The idea is if both seller and buyer know the market, then a true, free, and fair market exists for all concerned. It also works if you want to buy hay and you are wondering where the market is at, when looking for hay to purchase.

Contact Information: USDA Market News Service, Portland, OR, [Portland.LGMN@ams.usda.gov](mailto:Portland.LGMN@ams.usda.gov) 24 hour grain price information 503-326-2022, [www.ams.usda.gov/mnreports/ML\\_GR313.txt](http://www.ams.usda.gov/mnreports/ML_GR313.txt) [www.ams.usda.gov/lsmarketnews](http://www.ams.usda.gov/lsmarketnews) Phone number is 503-326-2237

# Calendar

## July

- 16 Crooked River Open Pastures Tour/Dancing Cow Farm [www.hdfffa.org](http://www.hdfffa.org)
- 20 Pasture and Grazing Management Field Day/Burk Dairy (see article)
- 27-30 Jefferson County Fair

## August

- 3-7 Deschutes County Fair
- 6 Crooked River Open Pastures Tour/Brasada Ranch [www.hdfffa.org](http://www.hdfffa.org)
- 10-13 Crook County Fair
- 13 High Desert Ed Ag Tour/Field Crops <http://hdffa.org/events>
- 20 Crooked River Open Pastures Tour/Prineville Community Garden
- 22 Pasture and Grazing Management Field Day/Cuyla Dudley Ranch (see article)

## September

- 17 Crooked River Open Pastures Tour/Bluestone Gardens [www.hdfffa.org](http://www.hdfffa.org)
- 20 Pasture and Grazing Management Field Day/Pitchfork T Ranch (see article)

## October

- ?? Pasture and Grazing Management Field Day/COARC (see article)

## November

- 18 OHFA Forage Seminar. Madras
- 19 Oregon Hay King Contest. AgWest Supply. Madras
- 29-Dec 1 California Alfalfa & Forage Symposium, Reno, NV [www.calhay.org/symposium/](http://www.calhay.org/symposium/)

## Time to Treat Scotch Thistle



Scotch thistle is an invasive biennial plant that can produce 40,000 seeds per plant. This class “A” noxious weed is easily controlled when treated in a timely fashion. Now is the time to treat! The Crooked River Weed Management Area can help with assistance; including plant identification, treatment options, herbicide, and loaning of backpack sprayers. For more information contact Debbie Wood at (541)447-9971 or email at [debbie.wood@oregonstate.edu](mailto:debbie.wood@oregonstate.edu)

We are sending out a 1 page Ag e-Newsletter (updated calendar & pertinent short articles) every two weeks to those clientele with email addresses. Please contact your local county Extension office with your email address. If you would like to get all newsletters by email, please contact your Extension office.

CENTRAL OREGON AGRICULTURE  
OSU/DESCHUTES COUNTY EXTENSION SERVICE  
3893 SW AIRPORT WAY  
REDMOND, OR 97756