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Central Oregon Agriculture

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"Celebrating the Watersheds"

Friday, September 19, 2008

11:30 a.m. to Evening

BBQ Lunch & Dinner Provided

"Celebrating the Watersheds" is a Field Day which will highlight the work and findings of the research that has been occurring on the Camp Creek Paired Watershed Study since 1993.

The Camp Creek Paired Watershed Study is located 60 miles southeast of Prineville (about 20 miles north of Brothers, OR). The Field Day will highlight the findings of the research and celebrate the partners that have helped to make this study possible.

Partners that will be honored include:

EPA (Environmental Protection Agency - the original funding source for the project), BLM/Prineville District, BLM Science Grant Program, OWEB, Hatfield High Desert Ranch, USFS/Ochoco National Forest, Crook County, Crook County Taylor Grazing Board, Secure Rural Schools Act of 2000/Title II, WY*East RC&D, NRCS, McCormack Ranch, OSU Extension, Crook County Soil and Water Conservation District, Central Oregon Intergovernmental Council, COCIB, and OSU Department of Rangeland Management and Ecology.

The Field Day will include a walk through the watersheds, a discussion of treatments and study findings and recognition of Project Partners.

Schedule of Events:

11:30 a.m. **BBQ lunch sponsored by Hatfield High Desert Ranch**
Lunch & Introductions (Jensen Watershed)

12:30 p.m. Begin walk of watersheds, project history, treatments and results will be discussed (this is approximately a 2 mile walk taking about 4 hours; terrain is rough with moderate slopes).

5:00 p.m. Recognition of Partners (McCormack Ranch)

6:00 p.m. **BBQ dinner sponsored by McCormack Ranches & Central Oregon Chapter of the Society for Range Management**

RSVP's are welcomed and encouraged. Maps to the site are available. Contact the OSU/Crook County Extension office at (541) 447-6228 or Pam at: pam.wiederholt@oregonstate.edu

Tim Deboodt

See GENERAL AG: Juniper Control Findings, Page 2

"Central Oregon Agriculture" is a monthly newsletter produced by the Central Oregon Extension offices and the Central Oregon Agricultural Research Center. 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 to your local County Extension office listed below (all area codes are 541).

Central Oregon County Extension Offices:

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 475-3808, 34 SE D St., Madras, OR 97741

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

Central Oregon Agricultural Research Centers:

Madras Site – Phone 475-7107, 850 Dogwood Lane, 97741

Powell Butte Site - Phone 447-5138, 8215 SW Hwy. 126, 97753

Central Oregon Agricultural Extension Staff:

Rich Affeldt - Mint, Seed Crops and Weed Control, 475-3808

Mylene Bohle - Forage, Pasture and Cereals, 447-6228

Marvin Butler- Mint and Seed Crops, 475-3808

Fara Currim - Ag. and Natural Resource, 553-1520

Tim Deboodt - Range Resources and Livestock, 447-6228

Amy Detweiler - Horticulture, 548-6088

Brian Duggan - Crop Physiology 475-7107

Steve Fitzgerald - Forestry, 548-6088

Steve James - Potatoes, 475-7107

Dana Martin - Small Acreage, 548-6088

Barbi Riggs - Livestock and Water Quality, 447-6228

Libby Rodgers - Ag. Program Assistant/Fire Prevention, 447-6228

Pam Wiederholt - Ag Newsletter Coordinator, 447-6228

The above individuals represent 8.50 full time equivalents devoted to extending agriculture information to producers. Many of the individuals, in addition to agriculture, have assignments in research, 4H/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, nor does it imply approval of the product to the exclusion of others.

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GENERAL AG -

Summary of Findings: Juniper Control has Positive Benefit to Water Availability

Western juniper (*Juniperus occidentalis*) encroachment has been associated with increased soil loss and reduced infiltration resulting in the loss of native herbaceous plant communities and the bird and animal species that rely on them. Hydrologically, however, change in water yield has been linked with the amount of annual precipitation a site received. Studies published in the 1970's and 1980's, suggest that a minimum 4500 mm (18 inches) of annual precipitation was necessary before an increase in water yield manifested itself following vegetation manipulation. In 1993, a paired watershed study was initiated in the Camp Creek drainage, a tributary of the Crooked River of central Oregon, to evaluate the impacts of cutting western juniper on the hydrologic function of those sites. The study involved a paired watershed approach using watersheds of approximately 110 hectares (270 acres) each to evaluate changes in a system's water budget following the reduction of western juniper. The 30 year average annual precipitation for the area is 3500 mm (13.75) and during the study period, annual precipitation ranged from 80 percent to 129 percent of average.

In 2005, following 12 years of pretreatment monitoring in the two watersheds (Mays and Jensen) all post-European aged juniper (juniper < 140 years of age) were cut from the treatment watershed (Mays). Analysis indicated that juniper reduction significantly increased late season spring flow by 225 percent ($\alpha > .05$), increased days of recorded ground water by an average of 41 days ($\alpha > .05$) and increased the relative availability of late season soil moisture at soil depths of .76 m (27 inches) ($\alpha > 0.1$).

Ephemeral channel flow did not show a predictable trend during 2 years of post treatment measurements. Channel flow is dependent on spring snow melt and severe summer thunderstorm activity. When winter soils were greater than 0 degrees Celsius (32 degrees F), the source of channel flow in Mays was observed to be seepage from the channel banks. Channel flow in Jensen appeared to be a result of rock forcing subsurface flows to the surface.

Vegetative responses showed significant increases in perennial forb canopy cover ($\alpha > .01$) and annual forb and annual grass basal cover ($\alpha > .05$). Increases were also found in reduction of percent bare ground and increase in shrub cover, but were not significant. A statistically insignificant decrease in perennial grass cover was noted in the treated watershed however a large amount of reproductive culms were noted in the treated watershed in 2007 compared to the control watershed.

Hill slope erosion and channel morphology showed no predictable trend following treatment. Inherent differences in channel morphology between the two watershed prior to treatment existed. This difference may be a product of the two channels being at different evolutionary or successional stages relative to each other and thus indicating that channel recovery would be different for each watershed.

The Camp Creek project illustrated that for this system, managing vegetation for water yield may be obtainable at a much lower precipitation threshold than what was previously reported in the literature.

Tim Deboodt

Vine Ventures Grape Growing Workshop

Saturday, September 6, 2008; 9:00 am to 3:30 pm

Cost: \$30 (includes lunch)

Deschutes County Fairgrounds, Middle Sister, East Lake Room

Registration deadline: September 3, 2008



Registration online: <http://extension.oregonstate.edu/deschutes/index.php>

Workshop Schedule

9:00am-1:30pm: Learn more about growing grapes and establishing vineyards in Central Oregon.

Dr. Patty Skinkis, OSU Viticulture Extension Specialist, and a panel of experts will cover such topics as plant selection (vinifera vs. hybrid), availability and laws regarding the grape growing industry.

2:00pm-3:30 pm: Field trip to a local vineyard.

Central Oregon Grape Growers and Vintners Association

Following the workshop, join the fun with members of the newly formed COGGVA for a short meeting and social hour. A \$5.00 fee will be collected.

Vine Ventures Grape Growing Workshop Registration

Name: _____

Address: _____ City _____ Zip _____

Email: _____ Phone: _____

Registration fee: _____ \$30 per person (includes lunch)

Sandwich Choice: _____ Turkey _____ Roast Beef _____ Ham _____

_____ Yes, I plan to attend the COGGVA event following the workshop.

Checks payable to: OSU Extension Service

Mail registration and payment to: OSU Extension Service/Deschutes
County Office

Attn: Grape Growing Workshop

3893 SW Airport Way

Redmond, OR 97756



For more information, contact: Dana Martin, 548-6088, ext 7957, or email dana.martin@oregonstate.edu

OSU Extension programs will provide reasonable accommodation to persons with physical or mental disabilities. Contact Dana Martin at (541) 548-6088 to request reasonable accommodation.

RENEWABLE ENERGY —

“The Future for Biofuels” — IV

This is the final installment of a series on biofuels. This month we will look at the future of biofuels.

The Food for Fuel Debate.

Two years ago there was a great deal of interest in producing biofuels from the conservation movement. Now however, that has slowed as people have begun to realize that if land is going to be dedicated to fuel production it will come at the expense of land dedicated to food production. As there is then less food available the price goes up. So, the interest has switched to producing biofuels so that no food production will be lost.

Algal Biodiesel

Algae are single celled plants that grow in water. Some species of algae produce a lot of oil and there has been interest in having ponds set up in non-agricultural areas (salt lakes, building rooftops etc) to grow algae that would then be harvested, the oil extracted and used to produce biodiesel. The remainder of the algae could then be either fed to cattle or fermented to produce ethanol. The main problem with biodiesel from algae is that it is difficult to extract the oil and when it is grown in large ponds it is difficult to keep viruses out. Potentially algae could produce 5,000 to 20,000 gallons of biodiesel per acre per year. Compare this to canola which might be able to produce between 200 and 250 gallons of biodiesel per acre per year.

Cellulosic Ethanol

Cellulosic ethanol has been getting the most attention as the ‘next generation’ of biofuels. It involves using dead plant material to produce ethanol. The idea is that crops such as corn or wheat could be produced and the grain used for human or animal consumption, and then the stubble be harvested and used to produce ethanol. Alternatively grass species like switch grass or miscanthus which produce large amounts of plant material could be grown exclusively for their cellulose. Cellulose is a long chain sugar that plants produce for structure and is found in stems and branches. Unfortunately for cellulosic ethanol, many of the other compounds like lignin are also produced and it is very difficult for yeast to break these down. As a result most of the cellulosic ethanol research is looking at how to removed or break down compounds like lignin so the cellulose can be digested. One of the other problems facing cellulosic ethanol is that some organic matter needs to be returned to the soil each year for soil health and removing all the organic matter will eventually lead to problems such as poor soil structure and erosion. One dry ton of cellulose should produce around 100 gallons of ethanol.

Conclusion

Biofuels have a long way to go before they compete against current fuels on a large scale.

With our high land prices, short growing season and need to irrigate in central Oregon it is quite possible that we simply may not be in a good position to produce biofuels. It is debatable whether it has yet happened but the more land that is dedicated to biofuel production at the expense of food production the more food prices will increase. That said you could hardly blame a farmer who can make more money growing a biofuel crop rather than a food crop from doing so. Some of the ‘next generation’ biofuels sound promising and it will be interesting to see how these technologies develop in the future.

**Brian Duggan at (541) 475-7107 or
brian.duggan@oregonstate.edu**

Workshops for Rural Landowners Thinking about Wind Power

Wind power is a key part of Oregon's push for renewable energy development. But the bedrock for the success of this energy strategy is not wind, it is informed landowners - farmers and rural property owners who understand wind energy development sufficiently to evaluate their options and make informed economic decisions about what if any involvement they wish to pursue.



Northwest Sustainable Energy for Economic Development (NWSEED) is conducting a series of workshops (cosponsored by USDA Rural Development) in eastern Oregon to help demystify the wind power opportunity for the layman.

If you are a rural landowner wondering how viable and desirable wind power is on your property, this workshop is for you. It will give you the chance to understand the complexities of wind power development and make better-informed decisions about whether wind is an option you want to pursue, and if you do, help you understand all the factors that you will need to weigh in deciding how to participate.

Daylong (8:30-4:30) workshops will be held at:

- ◆ Hood River - September 16, 2008
- ◆ Moro - October 21, 2008
- ◆ Pendleton - October 28, 2008
- ◆ Baker City - October 29, 2008

To register, and for details, go to:

<http://www.nwseed.org/communityenergy/resources/workshops/Wind%20Power%20for%20the%20Landowner%20-%20Fall%202008.asp>

Or contact NW SEED at 1 (866) 759-SEED

**Jeff Deiss, Business & Cooperative Program Director USDA
Rural Development/Oregon State Office
jeff.deiss@or.usda.gov or (503) 414-3367**

FORAGE —



Certified Weed-Free Hay and Straw in High Demand

Noxious weed infest millions of acres in Oregon and continue to spread into healthy agricultural, timber and rangeland, causing major economic impact. Noxious weeds also invade watersheds, negatively impacting wildlife and native plants. The first line of defense to protect both our economy and ecosystem from weed invasion is “prevention”. The use of weed-free hay and straw is one very important prevention strategy for protection of natural resources.

Many cooperators in Oregon request certified weed-free straw to be used in restoration projects and for all hay brought into federal lands. Cooperators include the U.S. Forest Service (USFS), Bureau of Land Management (BLM), and Oregon Department of Transportation (ODOT). The USFS suggest that certified hay be available to equestrians using the “back country” in an effort to prevent weed introductions via contaminated hay.

The USFS Invasive Plant Environmental Impact Statement (EIS) includes a major emphasis on prevention. As of January 1, 2007, all Region 6 USFS wilderness areas require exclusive use of weed-free forage and mulch for outfitter guide use, recreational use, and fire rehabilitation. Effective January 1, 2009, all Region 6 administered lands will require weed-free forage, mulch and rehabilitation products. To implement these initiatives, a certified products program needs to be available. Additionally, many counties and cities are requiring certified straw for ODOT roadside restoration projects.

Straw to be used as mulch for construction and fire re-habilitation is in the greatest demand. Wildfire potential is highest during periods of low rainfall and reduced snow pack, thereby increasing the demand for certified straw.

If you are a grower and interested in providing Weed Free Forage, contact:

www.oregon.gov/ODA/PLANT/WEEDS/weedfreeforageprogram.shtml

**Randy Black/Commodity Inspection Division/
rblack@oda.state.or.us or (503) 986-4620**

**Dan Sherwin/Vegetation Manager, Deschutes County
(541) 322-7135**

Central Oregon Hay Market

Central Oregon (and other areas) weekly hay price information is available on-line at <http://www.ams.usda.gov/lsmnpubs/hayW.htm>. The information is compiled during the week and published on Thursday of each week. You may also find the information in the Capital Press. You may participate in the reporting of buying and selling of hay (price per ton, class, quality and grade, and quantity) by calling the USDA Market News Service at Moses Lake, WA at (509) 765-3611; or you may email jack.getz@usda.gov.

The information is direct from the sellers and buyers (sometimes). The more hay sales information that is published each week from producers, the better and more accurate information everyone has in order to make a more informed decision to buy or sell a particular lot of hay based on other sales in the area (as well as other regions).

Mylon Bohle

Testing for Nematodes & Soil Fertility

August is an excellent month to test your soil for nematodes, if you are going to planting a crop that is susceptible to nematode damage. This is the best time to check on nematode species and populations, when the soil temperature is the hottest, and there is moisture. As soils dry out, the nematodes move deeper into the soil. It is best to soil and root samples to submit for testing. Nematodes affect legume, grass, cereal, mint, and other crops.

For soil fertility, the pH and other nutrients will be at their lowest levels at the end of the growing season (September is probably the best time, but when ever your last crop came off before planting another is a good time). Soil fertility tests need only be run every 2-3 years, as long as pH and all other nutrients are at adequate to high levels. If pH is low and/or one or more of the nutrients are low, then soil testing every year or every other year is advised to monitor your soil fertility. Pastures may only need to be tested every 3-5 years depending upon what your base line soil test reveals.

“Monitoring” your soil tests in a graph or table is highly advised to help maintain soil fertility levels. Keep track of fertilizer applications and yields. This way you can better follow your fertility management decisions over time—are the different soil fertility numbers going down, staying the same, or going up.

The OSU Extension offices have soil probes to check out; brochures that explain the how and why of soil tests, and an updated bulletin on laboratories available in the PNW. You can also contact your local fertilizer dealer and crop consultant to make arrangements for sampling.

Mylon Bohle

GENERAL AG —

Pond School 2008

Saturday, September 20, 2008

8:30 am—5:00 pm

Evening Presentation: 7:00 pm—9:00 pm

Sisters, Oregon

This workshop, being held at Five Pine Lodge & Conference Center in Sisters, Oregon, is intended for anyone interested in farm ponds, ornamental ponds, pond fishes and pond management.

For registration information (deadline Sept. 10, 2008), contact Pond School 2008 Workshop Coordinators:

Kathy Bridges/Oregon Aquaculture Association

kathybridges@aol.com or (503) 743-2931

Jim Bowman/Aqua Fish Collaborative Research Support Program (CRSP)

james.bowman@oregonstate.edu or (541) 737-6427



Farm Safety Tip – Skin Cancer

How Common is Skin Cancer?

Skin cancer is the most common form of cancer in the United States, with over 600,000 new cases and 9,000 deaths each year. The incidence among farmers is noticeably higher than in the general population, and it is increasing.

What Causes Skin Cancer?

Sunburns, though a contributing factor, are not the main cause of skin cancer. It is the total amount of sun a person receives over the years that is the major contributor. UV rays reach you on cloudy and hazy days any time of the year, not just on sunny summer days. UV rays will also reflect off any surface like water, cement, sand, and snow.

What are the Types of Skin Cancer?

There are three common types of skin cancer. Of the three, basal cell and squamous cell carcinomas are highly curable. The third, melanoma, is responsible for most of the deaths. But even melanoma is curable if detected and treated early enough.

Who is at Risk?

You are! Anyone exposed to sunlight is at risk; however people with the following characteristics have the highest risk:

- Family history of skin cancer
- Personal history of skin cancer (if you've already had it once, you're more likely to get it again)
- Fair skin
- Blond or red hair
- A history of sunburns early in life
- Blue or green eyes
- More than 100 moles on your body; 50 if you are under age 20

What Can I Do To Protect Myself Against Skin Cancer?

- #1 Wear long-sleeved shirts and pants, as well as a wide-brimmed hat that provides shade to the ears and back of the neck. Baseball caps provide almost no protection.
- #2 Use sunscreen with a sun protective factor (SPF) of 15 or higher, and both UVA and UVB protection. Apply it 30 minutes before going outside, and reapply every two hours. Apply more often if you are sweating.
- #3 Try to limit the amount of time spent in the sun from 10am to 4pm. Whenever possible, use machinery with cabs or shade that protect the operator.
- #4 Wear wrap around sunglasses that block 100% of both UVA and UVB rays.
- #5 Learn to recognize melanoma. See <http://www.cancerresearch.org/melanomabook.html> and <http://www.cancer.gov/cancertopics/wyntk/melanoma/page8> for a description of melanoma with photographs.

Where Can I Get More Information?

Here are some websites with more detailed information on skin cancer:

From the CDC: <http://www.cdc.gov/cancer/skin/chooseyourcover/qanda.htm>

From the National Cancer Institute: <http://www.cancer.gov/cancerinfo/wyntk/skin/> (make sure to click on "Next Section" link at the bottom of the introduction)

Here are two websites with photographs and descriptions of melanoma: <http://www.cancerresearch.org/melanomabook.html> and <http://www.cancer.gov/cancertopics/wyntk/melanoma/page8>

Tim Stock

OSU Safety and Pesticide Education Coordinator

GENERAL AG —

Ecologically-Based Invasive Weed Management Workshop October 6, 7, 8, 9, and 10, 2008 Burns, Oregon



Invasive and noxious weeds continue to spread in spite of major national, regional, state, and local weed control efforts. To be effective, rangeland weed managers must develop and implement comprehensive programs based on sound ecological principles and concepts.

This workshop is aimed at providing weed managers who are interested in leadership with the knowledge and ability to design, implement, and train others to use ecologically-based invasive plant management.

For more information, please call or email:

Brenda Smith/ (541) 573-4084 or brenda.smith@ars.usda.gov

IRRIGATION —

Hot Weather Irrigation Tips...Managing our Irrigation Water More Efficiently

- Producers may need to switch from 24 to 12, 12 to 8, or 8 to 6 hour-irrigation sets to get across the field more often and keep up with the water demands of the crops in July and August.
- Do not skip set irrigate across the field, straight set when irrigating your fields.
- Always roll back to the original starting position and start over.
- Use a swing tube and offset irrigate every other time across the field.
- Maintain your nozzle pressure between 50-60 pounds on sprinkler irrigation systems (unless you have a low pressure system).
- Make sure your sprinkler system is overlapping from nozzle to nozzle (It is impossible for sprinklers to over-lap properly (50% over-lap is desirable) on 50 to 60 foot main line riser lengths (reason for utilizing offset irrigation).
- Use water-mark sensors or tensiometers to measure water holding capacity of your soil at different soil depths at a couple of different locations in your fields. They will tell you when it is time to irrigate.
- Running pivots at 10 percent is the most efficient. Every time you run the pivot (or sprinkler) you probably lose around 0.1 inch of water to evaporation off of the leaves of the crop once achieving full canopy. You may have to run the pivot from 10-30 percent for other reasons depending upon the time of year, soil and crop.
- You will need to make a management decision to manage the field for the soil that has the lowest water holding-capacity, especially if there are large areas. Because when those areas in the field are short of water, you need to be back over that area when that happens, or yield and quality suffers. If 90-95 percent of the field is one soil type, you may choose to manage the water for the obvious majority. But if 20-40 percent of the field is sandy soil, then you will need to manage for the sandy soil and its inability to hold as much water.
- With electricity rates increasing, remember every leak you have in your system is putting water where you will not get optimum yield and quality. More than likely you are leaching nutrients in those areas, and your yield to power cost in those areas are in your favor. The more water you are pushing through the pump, it is a direct cost back to the pocketbook.
- Remember that most of our central Oregon soils do not hold much water. Some of our soils hold as little as 0.7 to 0.9 inches of water per foot of soil. Even if you have 3-foot deep soils (which is pretty generous for many producers), that gives you 2.1 to 2.7 inches of total water in 3 feet of soil. If you are growing alfalfa on that soil and the crop is using 0.40 inches per day, you have a total of 0.6 – 1.35 inches of usable water for the crop to use (50 to 60 percent of the water is available water for alfalfa). You have 1.5 to less than three days worth of useable water in the soil for the plants to use “efficiently”, before you have to be irrigating the same area again.
- Check your nozzle size with a drill bit set. Nozzles wear out over time. Do not use a nozzle smaller than a 9/64-inch size. Make sure your nozzle sizes on your pivot, makes sense – they should be in order, from small to large as they move away from the head of the pivot.
- Rotate your sets from night to day and vice versa. If you irrigated during the day on a set, next time, irrigate that set at night.
- If you are flood irrigating, try the surge method of irrigation.

Whether it is hot or not, many of these tips are good management methods to implement.

If you would like more information on irrigation scheduling, call Mylen at (541) 447-6228 or contact your local Extension office, SWCD, or NRCS office for more help.

Mylen Bohle

IRRIGATION —

Daily Crop Water Use

The crop water use example in the table below is for Madras . Powell Butte, Madras, Bend, and Christmas Valley are the local Agrimet weather station sites that producers can go on line and follow predicted crop water use for different crops. These ET numbers represent the amount of water that is transpired and evaporated from the crops on a per acre basis.

What these numbers do not take into account is the efficiency of the irrigation system. The web site is:

<http://www.usbr.gov/pn/agrimet>.

Table. Estimated crop water use or evapo-transpiration (ET) for various crops for August 4-7, 2008 based on the Agrimet weather station data located at Madras, Oregon.

Crop	8/4 ET (in.)	8/5 ET (in.)	8/6 ET (in.)	8/7 ET (in.)	Daily Forecast (in.)	Sum ET (in.)	7 Day Use (in.)	14 Day Use (in.)
ETr	0.33	0.37	0.23	0.22	0.27	35.0	2.2	4.3
Alfalfa Peak	0.33	0.37	0.23	0.22	0.27	31.4	2.2	4.3
Alfalfa Mean	0.28	0.32	0.19	0.19	0.23	27.1	1.8	3.7
Pasture	0.22	0.25	0.16	0.15	0.19	21.7	1.5	2.9
Grass Hay Peak	0.29	0.33	0.20	0.19	0.24	30.3	1.9	3.8
Grass Hay Mean	0.26	0.30	0.18	0.18	0.22	27.3	1.7	3.5
Lawn	0.26	0.30	0.18	0.18	0.22	25.9	1.7	3.5
Bluegrass Seed	0.00	0.00	0.00	0.00	0.00	15.4	0.0	0.0
Winter Grain	0.00	0.00	0.00	0.00	0.00	21.0	0.0	0.0
Spring Grain 4/01	0.00	0.00	0.00	0.00	0.00	23.9	0.0	1.0
Spring Grain 4/15	0.18	0.19	0.10	0.09	0.11	24.4	1.2	3.1
Spring Grain 5/01	0.26	0.26	0.16	0.14	0.17	22.6	1.7	3.8
Field Corn	0.32	0.37	0.23	0.22	0.27	12.2	2.1	4.0
Beet	0.33	0.37	0.23	0.22	0.27	17.8	2.2	4.3
Garlic	0.26	0.27	0.17	0.15	0.19	27.6	1.7	3.7
Potato	0.30	0.34	0.21	0.20	0.25	14.5	2.0	4.0
Carrot	0.10	0.10	0.06	0.05	0.07	8.3	0.6	1.3
Carrot 2	0.18	0.19	0.12	0.11	0.13	14.8	1.2	2.5
Peppermint	0.31	0.35	0.22	0.21	0.26	19.3	2.1	4.1
New Mint	0.31	0.34	0.22	0.21	0.26	17.0	2.1	4.1
Strawberry	0.21	0.22	0.14	0.13	0.16	26.5	1.4	2.9
Blueberry	0.31	0.34	0.22	0.20	0.25	28.2	2.0	4.0
Trailing Berry	0.27	0.00	0.00	0.00	0.00	22.9	1.1	2.9
Apple	0.33	0.37	0.23	0.22	0.27	20.2	2.2	4.3
Wine Grape	0.22	0.24	0.15	0.14	0.18	14.7	1.4	2.8
Concord Grape	0.28	0.32	0.19	0.19	0.23	15.3	1.8	3.7
Safflower	0.33	0.37	0.23	0.22	0.27	15.2	2.2	4.3
Poplar 1	0.18	0.20	0.12	0.12	0.15	10.6	1.1	2.3
Poplar 2	0.27	0.31	0.19	0.19	0.23	17.1	1.8	3.5
Poplar 3	0.33	0.37	0.23	0.22	0.27	22.3	2.2	4.3

FORAGE —

Second-to-Last Cutting Date Effect on Last Cutting Yield of Alfalfa

The following information was developed to approximate by what date, does the second to last cutting of alfalfa hay have to be harvested by, in order to still obtain a decent last cutting of alfalfa. The dates in the columns represent the previous cutting date prior to final harvest on October 7th.and 21st at Powell Butte and Madras. This non-replicated data was generated from the 5th production year of the two 1998 variety trials at Powell Butte and Madras. Decreasing day-length and cooler temperatures slow down alfalfa growth in the late Summer and Fall.

Table 1. Second to last cutting date effect on the 2003 last cutting (October 7th) yield of the 1998 alfalfa variety at the Central Oregon Ag Research Center, Powell Butte site.

Fall Dormancy (FD) Rating	# Varieties	July 25 Yield (t/ac)	August 6 Yield (t/ac)	August 18 Yield (t/ac)	August 29 Yield (t/ac)	Avg. Yield of Fall Dormancies (t/ac)
2	4	1.55	1.42	0.60	0.34	0.98
3	11	1.81	1.72	0.66	0.41	1.15
4	9	1.65	1.73	0.71	0.42	1.13
5	2	2.02	1.64	0.79	0.41	1.22
Avg. Yield	26	1.73	1.67	0.67	0.40	1.12

Table 2. Second to last cutting date effect on the 2003 last cutting (October 21st) yield of the 1998 alfalfa variety at the Central Oregon Ag Research Center, Madras site.

Fall Dormancy (FD) Rating	# Varieties	August 13 Clip Yield (t/ac)	August 22 Clip Yield (t/ac)	August 27 Clip Yield (t/ac)	Sept. 2 Clip Yield (t/ac)	Avg. Yield of Fall Dormancies (t/ac)
2	5	1.38	1.19	0.83	0.49	0.97
3	11	1.53	1.23	0.94	0.50	1.05
4	13	1.49	1.29	0.88	0.52	1.05
5	3	1.63	1.26	0.96	0.56	1.10
Avg. Yield	32	1.51	1.24	0.90	0.50	1.04

Both trials were planted in August of 1998.

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√ For a Listing of Bend, Madras, Prineville, Redmond and Sisters upcoming Farmers' Markets, go to: <http://www.oregonfarmersmarkets.org>

Central Oregon Agriculture Calendar

September

- 6 Vine Ventures Grape Growing Workshop (see article Page 3)
- 16 Rural Landowners Thinking About Wind Power/Hood River (see article Page 4)
- 19 "Celebrating the Watersheds" Field Day (see article Front Page)
- 20 Pond School 2008 (see article Page 6)

October

- 6,7,8,9, &10 Ecologically-Based Invasive Weed Management Workshop (see article Page 7)
- 21 Rural Landowners Thinking About Wind Power/Moro (see article Page 4)
- 28 Rural Landowners Thinking About Wind Power/Pendleton (see article Page 4)
- 29 Rural Landowners Thinking About Wind Power/Baker City (see article Page 4)

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 Centers, Madras & Powell Butte -

<http://oregonstate.edu/dept/coarc/index.php>



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