



Oregon State University Extension Service

# Central Oregon Agriculture

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## Central Oregon Ag Newsletter Change

You may or may not have noticed that there was not an April issue of the Central Oregon Ag Newsletter. With the concern about budget reductions and our attempt to enter the 20<sup>th</sup> century (yes, we know it is really the 21<sup>st</sup> century) we are trying some new things. First, we are trying to be more cost conscious. We will be publishing the newsletter every other month. Publication dates will now be January, March, May, July, September and November. We will now be offering to deliver the newsletter either through mailed, printed versions or electronically via email. If you would like to start receiving the newsletter by email, please share your email address with any of the central Oregon Extension offices.

In addition to the newsletter, we are going to make greater use of our web sites. Newsletters, meeting notices and full length articles will be posted on our web sites. You will also be able to find a calendar of events. Our websites address is: <http://extension.oregonstate.edu/locations.php>. Click on the county you want. We recognize that the way in which many of you get information is changing. We hope our changes will help you a little bit more.

*Mylon Bohle and Tim Deboodt*

## Reduce Irrigation Energy Costs

Want to reduce your irrigation energy costs? Get cash back incentives for irrigation systems upgrades! Energy prices continue to rise; but a farm can reduce electricity costs for pumping by 35% with a variable frequency drive pumps alone. Improvements like converting to drip irrigation or a linear / pivot systems can save water and energy.

To make improvements easy and affordable, the Energy Trust of Oregon offers cash-back and custom incentives. There are numerous ways, large and small, to improve linear and pivot systems, and wheel and hand-line systems. The project must be approved before purchasing to receive an Energy Trust incentive. Check with your electrical company provider to see if you are eligible to participate, or contact Energy Trust of Oregon at (503) 928-3154, or go to [www.energyturst.org/pe/agriculture.html](http://www.energyturst.org/pe/agriculture.html).

*Mylon Bohle*

**"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 Center:

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

Powell Butte Site - Phone 447-5138, 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 Centers, Madras & Powell

Butte: <http://oregonstate.edu/dept/coarcl/index.php>

#### Central Oregon Agricultural Extension Service Staff:

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

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Steve Fitzgerald - Forestry, 548-6088

Steve James - Potatoes, 475-7107

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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 7.75 full time equivalents devoted to extending agricultural 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 —

### Wolves in Oregon

With the recent confirmation of wolf depredation that has occurred in Oregon it is time to make sure that ranchers and other livestock producers understand what they can legally do, what they cannot do and what procedures they may need to follow if they encounter a wolf in or around their operation.

#### Wolf Status

The wolf is listed as endangered under the federal Endangered Species Act (ESA). It is also listed as Endangered under the Oregon ESA. The U.S. Fish and Wildlife Service has proposed that they be removed from the federal ESA listing and has published that rule in the federal register. That delisting will occur on May 4, 2009 barring any court action that would delay or suspend it. There has been several notices of intent to file a lawsuit to stop the delisting, however, at this writing it has not occurred.

Following a delisting from the federal ESA, wolves in the eastern portion of Oregon will continue to be listed endangered under the Oregon ESA. This delisting will affect all wolves in that portion of Oregon that lies east of Hwy 395 from the Washington line to Burns, then south along Hwy 78 to Burns Junction, and south along Hwy 95 to the Nevada border. For those producers west of the above described boundary, wolves will still be listed as endangered under the federal Endangered Species Act.

#### Actions While Federally Listed

*Actions producers can take while wolves are listed under both federal and state ESA: (this includes producers east of above described line through May 4, 2009 and the rest of producers west of line until future delisting occurs)*

Livestock producers may scare a wolf off (by making loud noises for example) but may not harm a wolf in any way, even one seen in the act of attacking livestock. Producers need to report any wolf **sightings or incidents** to:

U.S Fish and Wildlife Service (USFWS) John Stephenson  
(541) 962-8584 or (541) 786-3282.

OR Department of Fish & Wildlife (ODFW) Russ Morgan  
(541) 963-2138 or (541) 786-5126.

If you believe a wolf has killed your livestock (depredation): Do not move or disturb the carcass or the area surrounding it that might offer clues to cause. Preserve tracks, hair or scat by covering it with plywood, cans or buckets or anything that will not destroy the evidence. Cover the carcass or any remains with a tarp or other material that you might have. Weight it down so wind or other disturbances such as predators will not have access.

See GENERAL AG: Wolves in Oregon, Page 3

# GENERAL AG: Wolves in Oregon

## Continued from page 2

When you have **depredation** contact the following:

- USFWS John Stephenson (541) 962-8584 or (541) 786-3282.
- Wildlife Services (WS) Mike Slater (541) 963-7947 or (541) 805-9492, Dave Williams (503) 326-2346.
- ODFW Russ Morgan (541) 963-2138 or (541) 786-5126.

### Actions while listed only under Oregon ESA

*After federal delisting occurs in the eastern part of the state, since wolves in this portion of Oregon will not be listed under the federal ESA, but are still listed under the Oregon Endangered Species Act, the Oregon Wolf Plan rules apply. The Oregon Wolf Plan establishes rules by Phases. Phase I rules apply until four breeding pair of wolves produce pups for a minimum of three years. At that time wolves will be delisted in Oregon and a new set of rules will apply during Phase II.*

*The rules regulating the actions a livestock producer can use when encountering a wolf around his operation are as follows during Phase I:*

#### No permit required

If a livestock producer sees a wolf testing or chasing livestock or in close proximity, they may scare a wolf off by firing shots in the air, making loud noises or otherwise confronting the wolf provided no bodily harm is done to the wolf. Such incidents must be reported to ODFW (541 ) 963-2138) within 48 hours and the rancher cannot be intentionally looking for a wolf.

#### ODFW permit required

If persistent wolf activity around livestock occurs, producers may engage in additional harassment by permit:

Harassment of wolves in ways that may cause bodily harm but not death (e.g., rubber bullets or bean bag projectiles)

Intentional pursuit of problem wolves would be allowed under this permit to keep wolves away from livestock.

If a wolf is captured, ODFW may relocate it to the nearest wilderness area.

(Before a permit is issued, ODFW will consider the location of den sites and any attractants that may be luring wolves to the area. Wolf harassment under the permit must be reported to ODFW within 48 hours.)

#### Permits for lethal control

Permits for lethal control will be issued if non-lethal methods are deemed ineffective. This permit allows a livestock producer to kill a wolf “caught in the act” of attacking (but not testing or scavenging) livestock.

#### Lethal control for chronic damage situations

ODFW and authorized agents may also conduct lethal removal of wolves after chronic depredations and ineffective non-lethal efforts.

Livestock producers can work with their local wildlife biologist on these issues or they may want to work with Russ Morgan, ODFW wolf coordinator (541) 963-2138.

Remember to keep from attracting wolves to your operation bury or remove dead animals immediately.

Prepared by: John Williams, OSU Extension Service, Wallowa County in cooperation with OCA wolf task force. Significant information was taken from *the Federal/State Coordination Strategy for Implementation of Oregon’s Wolf Plan, April 2007* and ODFW’s document titled: *How to Respond to Wolf Depredation under the State’s Management Plan.*

**Tim Deboodt**

## Mites in C.O. Pastures and Hay Fields

Winter grain mites are active at night and on cloudy days, and tend to be in the base of the crown near the soil. 50-60 degrees F is the ideal temperature for these mites. They are active in the Fall, peaking in December, and also in late winter with activity, peaking in February and March, usually. They produce 2 generations each year. Grasses (and cereals) turn silver or dull gray and tips die. There are insecticide options for control.

Clover mites begin to increase in late September from over-summered eggs and then continue feeding through the winter. They generate multiple generations through May. This mite tends to be much more difficult to control. The damage to plants leaves a more “yellowish” chlorotic look and if bad enough, can cause what looks like fertilizer burns in the field. It has the same general life history as the winter grain mite. These mites, though, tend to come up on the tips of the leaves to feed on warm days. They tend to be deeper in the crown on cool mornings or windy cold days. Burning may be our only option for control, but burning can damage grass crowns; do not “recreationally” burn if you do not have to. The cooler the fire, the easier it is on the grass stand. We still do not have a “miticide” to control clover mites. Methyl Parathion is labeled; but it appears that it’s efficacy is not that great. There are no other effective insecticides that are labeled.

Serious consideration should be given to controlling mites by flaming or burning the field(s) if a legal application of a product to kill your pest is not available or does not fit into your management plan.

See GENERAL AG: Mites, Page 9

## GENERAL AG — Tractor Safety Training & ATV Certification June 15-17, 2009

Are you looking for summer employment? Be aware that farmers and ranchers who employ minors less than 18 years of age are required to hire those who have completed and passed a tractor safety training program.

A three day Central Oregon Farm and Tractor Safety Training and Certification Course, sponsored by the OSU Extension Service, will be offered June 15-17 at the Deschutes County Fairgrounds and Expo Center in Redmond, Oregon. Training will include classroom work as well as hands-on experience with a variety of tractors and implements. Safety on All-Terrain Vehicles (ATV) will also be covered.

This class is open to those who will be 14 to 17 years of age during the upcoming agricultural season. Registration fee for tractor safety training is \$50. For an additional \$20, youth can also be ATV certified to ride on Public Lands. Those wanting ATV certification must bring an "appropriately sized" ATV. Registration deadline is June 1 and class size is limited to 40 students.

For more information or to register, contact the OSU Extension Service in Deschutes County, (541) 548-6088 or email: [dana.martin@oregonstate.edu](mailto:dana.martin@oregonstate.edu) or [candi.bothum@oregonstate.edu](mailto:candi.bothum@oregonstate.edu).

Registration forms are available at this website: <http://extension.oregonstate.edu/deschutes/>

*Dana Martin*

## Range Field Day June 24, 2009

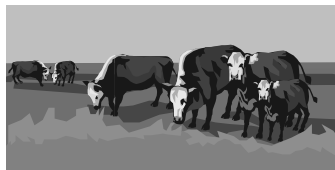
Oregon State University's Range Field Day is a

cooperative effort between the OSU Department of Rangeland Resources and the Eastern Oregon Agricultural Research Center (EOARC).

This year's Range Field Day will feature presentations and field demonstrations by OSU, ARS, and USFS scientists.

The morning session begins at 9:00 am at the Northern Great Basin Experimental Range. Featured presentations include interactions between cattle and wolves, interactions between deer, elk and cattle, riparian grazing, pre and post fire cattle distribution, and cattle temperament and production.

The afternoon session will include demonstration of cattle temperament assessment techniques using the facilities at the NGBER.



The afternoon will also include a tour and discussion of post fire grazing behavior and vegetation recovery.

### Agenda:

Morning Session: Northern Great Basin Experimental Range Meeting Room

- 9:00 – 9:15 Introductions and Program Updates  
*Dr. Tony Svejcar, USDA-Agric. Research Service – Burns, OR, and David Bohnert, OSU Eastern Oregon Agric. Research Center.*
- 9:15 – 9:45 “Cattle and Wolf Interactions”  
*Dr. Pat Clark, USDA-Agric. Research Service – Boise, ID.*
- 9:45 – 10:15 “Cattle, Deer, and Elk Interactions”  
*Dr. Marty Vavra, USDA- Forest Service, PNW Research Station.*
- 10:15 – 10:30 Break
- 10:30 – 11:00 “Riparian Grazing”  
*Dr. Doug Johnson,, OSU Dept. Rangeland Resources.*
- 11:00 – 11:30 “Pre and Post Burn Cattle Distribution”  
*Dr. Dave Ganskopp, USDA-Agric. Research Service – Burns, OR..*
- 11:30 – 12:00 “Cattle Temperament and Performance”  
*Dr. Reinaldo Cooke, OSU Extension Service – Burns, OR..*
- 12:00 – 1:00 Lunch (free of charge)

Afternoon Session: Northern Great Basin Experimental Range Working Facilities & Pastures

- 1:00 – 2:00 “Demonstration of Cattle Temperament Assessment Techniques”  
*Dr. Reinaldo Cooke, OSU Extension Service – Burns, OR..*
- 2:00 – 3:00 “Post-fire Cattle Distribution and Vegetation Recovery: Tour and Discussion”  
*Dr. Dave Ganskopp, USDA-Agric. Research Service – Burns, OR., and Dr. Jon Bates, USDA-Agric. Research Service – Burns, OR..*

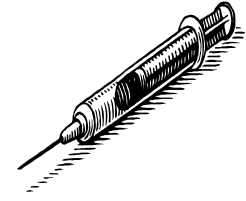
**Directions:** From Burns, proceed west on Highway 20 approximately 35 miles. Turn left onto Placidea Butte Road and travel about 4 miles to the Northern Great Basin Experimental Range Headquarters.

**Contacts:** For further information, please contact the Eastern Oregon Agricultural Research Center office staff: (541) 573-8900.

**Tim Deboodt**

## LIVESTOCK —

# Pre-Breeding Vaccination with MLV Provides Greatest Protection



Bovine Viral Diarrhea (BVD) is a disease that starts on the ranch but significantly affects all segments of the industry. Of major concern is the impacts this disease can have on feedlot cattle, particularly in starter lots. A Kansas starter lot designed to accept high-risk calves evaluated the impact of exposure to a persistently infected calf with BVD ( BVD PI). High risk calves in this lot refers to the fact that cattle received into this lot were light weight calves (525 lbs) purchased from sale barns in the South and Southeastern U.S. The study looked at 15,348 head of calves in a typical feed yard setting. These calves were received into the lot over a course of 5 months, but data was only analyzed for the first 66 days on feed, a time-frame in which most morbidity and mortality occurs. Calves were sorted into pens of 80-100 hd and were defined as either being exposed to a BVD PI calf (PI calf either in the pen or have a PI in an adjoining pen) or not being exposed to a BVD PI calf (no PI in pen nor in adjoining pen). Of importance was that exposure to BVD PI calf cost around \$41.84/hd, of which \$36.48/hd was attributed to performance loss and \$5.26/hd due to fatality. Performance loss was a reflection of a lower rate of feed efficiency and feed conversion of calves exposed to a BVD PI calf. In fact, pens in which calves were NOT exposed, feed conversion was 55% better than those calves that were exposed to BVD PI calf. Keep in mind that when these 15,348 calves were received in to the feed yard, they were sent to pens in the typical routine manner (not assigned a study group). Once calves were in their pen, the calves were tested for BVD PI. This resulted in 167 lots and 170 pens of cattle. The prevalence of BVD PI was 0.5% or 38 hd (this is a bit higher than national figures reported at 0.13-0.2%). Interestingly, 62% of all the calves were exposed to a BVD PI calf. Taken at face value, this lot could have earned \$642, 160.00 more if PI calves never arrived at the feed yard in the first place. This is a pretty impressive figure, but, probably inflated. Keep in mind that these calves were high risk to begin with and the analysis was for the first 66 days on feed. F:G ratios could have changed as calves that experienced morbidity or performance suppression cleared the virus and experienced compensatory gain. None-the-less, this points to the fact that BVD PI is a serious problem in the feed yard!

### Susceptibility of BVD depends on:

- strain of BVD (Type I has greater mortality rate than Type II)
- susceptibility of cattle (vaccination protocol used; see following tables)
- population density
- exposure rates
- stressors (weight of calves, climate, trucking, source of cattle).

**Risk management** is a buzz word we have been hearing in regards to our economic climate and investment portfolios for blue collar workers. Well, your cow herd is your investment portfolio. Risk of disease and related financial losses are managed through biosecurity planning, including proper vaccination protocols. The follow charge summarizes the amount of risk you accept by choosing a certain vaccination protocol. With each different protocol, management considerations such as timing, labor and costs vary. You will need to decide when the risk of introducing and controlling BVD matches your management considerations.

**Pre-Breeding Vaccination with Modified-Live** vaccine that contains both BVD Type 1 and II provides the best protection. There are some important considerations that you will need to be aware of before you decide the best protocol to implement, particularly if you have never vaccinated your herd before or you are synchronizing your cows. Please do not hesitate to phone your veterinarian or me for further information.

**Oregon Biosecurity/BVD Control Program** is up and running. We can provide assistance with establishing biosecurity measures to reduce the risk of introducing disease to your operation. We can also provide assistance to test your herd for PI animals. For more information visit <http://ans.oregonstate.edu/byd> or phone Barbi Riggs at (541) 447-6228.

# LIVESTOCK: Pre-Breeding Vaccinations

Continued from page 5

Reliability of Vaccination Protocols for Bovine Viral Diarrhea on Calves, Bulls and Cows.

ADAPTED FROM: "Simple Targeted BVD Control" by Dan Givens, D.V.M. PhD, Auburn University

Vaccination of calves:		
Not Effective:	1	Vaccination <b>prior to four months</b> of age with a <b>single dose</b> of <b>killed virus</b> administered to healthy calves that nursed adequate colostrum.
	2	Vaccination <b>after four months</b> of age with a <b>single dose</b> of <b>killed virus immediately before</b> weaning, transport, and commingling.
Least Reliable ↑ ↓ Most Reliable	3	Vaccination <b>prior to four months</b> of age with a <b>single dose</b> of <b>modified-live virus</b> administered to healthy calves that nursed adequate colostrum.
	4	Vaccination <b>after four months</b> of age with <b>two doses</b> of <b>killed virus</b> two to four weeks apart on the farm of origin <b>immediately before</b> weaning, transport, and commingling.
	5	Vaccination <b>after four months</b> of age with a <b>single dose</b> of <b>modified-live virus immediately before</b> weaning, transport, and commingling.
	6	Vaccination <b>after four months</b> of age with <b>two doses</b> of <b>killed virus</b> four weeks apart on the farm of origin <b>at least 2 weeks before</b> weaning, transport, and commingling.
	7	Vaccination <b>after four months</b> of age with a <b>single dose</b> of <b>modified-live virus</b> at least <b>two weeks before</b> weaning, transport, and commingling.
	8	Vaccination <b>after four months</b> of age with a <b>single dose</b> of <b>modified-live virus</b> four weeks apart on the farm of origin <b>immediately before</b> weaning, transport, and commingling.
	9	Vaccination <b>after four months</b> of age with <b>two doses</b> of <b>modified-live virus</b> at least <b>two weeks before</b> weaning, transport, and commingling.
Vaccination of heifers and cows:		
Not Effective:	1	Vaccination of heifers and cows each year <b>prior to breeding</b> with a <b>single dose</b> of <b>killed virus</b> .
Least Reliable ↑ ↓ Most Reliable	2	Vaccination of heifers with a <b>single dose</b> of <b>killed virus</b> at least 30 days before initial breeding without annual revaccination.
	3	Vaccination of heifers with a <b>single dose</b> of <b>modified-live virus</b> at least 30 days before initial breeding without annual revaccination.
	4	Vaccination of heifers with <b>two doses</b> of <b>modified-live virus</b> at least 30 days before initial breeding without annual revaccination.
	5	Vaccination of heifers with <b>two doses</b> of <b>killed virus</b> at least 30 days before initial breeding, and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>killed virus</b> at <b>branding or weaning</b> .
	6	Vaccination of heifers with <b>two doses</b> of <b>killed virus</b> at least 30 days before initial breeding, and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>killed virus</b> <b>prior to breeding</b> .
	7	Vaccination of heifers with a <b>single dose</b> of <b>modified-live virus</b> at least 30 days before initial breeding, and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>killed virus</b> at <b>branding or weaning</b> .
	8	Vaccination of heifers with a <b>single dose</b> of <b>modified-live virus</b> at least 30 days before initial breeding, and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>modified-live virus</b> at <b>branding or weaning</b> .
	9	Vaccination of heifers with a <b>single dose</b> of <b>modified-live virus</b> at least 30 days before initial breeding, and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>modified-live virus</b> <b>prior to breeding</b> .
	10	Vaccination of heifers with <b>two doses</b> of <b>modified-live virus</b> at least 30 days before initial breeding and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>killed virus</b> at <b>branding or weaning</b> .
	11	Vaccination of heifers with <b>two doses</b> of <b>modified-live virus</b> at least 30 days before initial breeding and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>modified-live virus</b> at <b>branding or weaning</b> .
	12	Vaccination of heifers with <b>two doses</b> of <b>modified-live virus</b> at least 30 days before initial breeding and annual <b>revaccination</b> of cows with a <b>single dose</b> of <b>modified-live virus</b> <b>prior to breeding</b> .

*\*\*All Vaccines should be used according to label directions. Please note that the least reliable vaccination protocols do not follow label directions. These inappropriate protocols provide no significant protection against disease.*

Barbi Riggs

## FORAGE —

### Growing Degrees Update

The T-Sum (temperature summing) is calculated by summing the daily average between the daily maximum and minimum temperature in degrees F, and then subtract 32 degrees (base temperature for T-Sum). If the average is less than 0, discard the number, if the number is positive, it is accumulated, from January 1<sup>st</sup> as a growing degree-day (gdd). One web site address you can track the thermal time is at: <http://pnwpest.org/wea>. 2008 was a very cool spring. 2009 seems very cool too, but we are ahead of last year. This T-Sum system for calculating gdd's is only to be used for timing nitrogen fertilizer applications on grass pasture and hay fields. If you want earlier pasture production then when 360 gdd's is accumulated, that is the best time to apply 50-60 lb/ac N. If you are applying 100-150 lb/ac of nitrogen to grass hay fields than around 720-775 gdd's is the best time to apply.

Table 1. T-Sum dates for the present year (s) for 180, 360, 540, 720, and 900 accumulated T-Sum growing-degree days (GDD's) from January 1<sup>st</sup> for selected Oregon locations. (Fertilize at 360 gdd's for pasture, if you want earlier forage, and around 720 gdd's for grass hay) (GDD's using 32 degrees base temperature as of April 30, 2009)

Location/ Elevation	Year	180 GDD's	360 GDD's Fertilize Pasture	540 GDD's	720 GDD's Fertilize Grass Hay	900 GDD's
Madras (2440')	2008	Feb 16	Mar 10	Apr 6	Apr 25	May 6
	2009	Feb 6	Mar 20	Apr 8	Apr 20	May 2?
Prineville 4 NW (2840')	2008	Feb 23	Mar 14	Apr 14	May 3	May 14
	2009	Feb 3	Mar 15	Apr 7	Apr 20	May 3?
Redmond (3077')	2008	Feb 24	Mar 18	Apr 22	May 5	May 16
	2009	Feb 4	Mar 20	Apr 10	Apr 25	May 6?
Powell Butte (3180')	2008	Feb 20	Mar 10	Apr 13	May 2	May 14
	2009	Feb 3	Mar 15	Apr 7	Apr 21	May 4?
Bend (Agrimet) (3650')	2008	Feb 24	Mar 18	Apr 14	May 3	May 14
	2009	Feb 4	Mar 19	Apr 9	Apr 21	May 5?
Paulina (3688')	2008	Mar 18	Apr 22	May 6	May 16	May 24
	2009	Feb 25	Mar 31	Apr 23	May 2?	
Christmas Valley (4360')	2008	Mar 12	Apr 24	May 8	May 17	May 27
	2009	Mar 1	Apr 8	Apr 23		
Fort Rock (raws) (4430')	2008	Mar 13	Apr 24	May 8	May 17	May 26
	2009	Feb 25	Apr 5	Apr 21		
Seneca (4665')	2008	Apr 30	May 7	May 17	May 27	Jun 11
	2009	Apr 10	May 1?			

**Mylene Bohle**

# IRRIGATION —

## Crop Water Use Program

The following table summarizes the crop water use or evapo-transpiration (ET) to date (April 29, 2009) for some of the irrigated crops grown in Central Oregon. For much more detailed information, one can log on to the Agrimet weather site at: <http://www.usbr.gov/pn/agrimet/>. There is general information about the program, weather data, crop water use information, graphs, maps, news, relevant links, and other information. You can follow the crop water use for these sites and other locations. The green up date or emergence date, canopy closing date, daily water use (ET), 7 day predicted use, and 14 day predicted use, are just some of the information you will find. Start-up dates may be different for each site for each crop, but this year in particular they are very similar for some of these sites (one is obviously not...). Start-up dates for some of the crops still need to be designated and added as the crop emerge or green up, and some may be changed.

Table. Accumulation summary of Crop Water Use or evapo-transpiration (ET) to date (April 29, 2009) for Madras, Powell Butte, Christmas Valley, and Bend, Oregon Agrimet weather stations.

Crop	2009 Madras 2440 ft. (in)	2009 Powell Butte 3180 ft. (in)	2009 Bend Agrimet 3650' (in)	2009 Christmas Valley 4360 ft. (in)
ETr	5.8	5.6	5.0	2.9
Alfalfa Peak	2.9	3.2	2.5	0.3
Alfalfa Mean	2.9	3.1	2.5	0.3
Pasture	2.8	2.9	2.4	0.8
Grass Hay Mean	4.6	4.8	4.0	2.1
Grass Hay Peak	4.6	4.8	4.0	2.1
Lawn	3.2	3.8	2.8	0.8
Winter Grain	4.2	4.0	3.6	1.3
Spring Grain (early plant)	Check	later	this	week

*Mylon Bohle*

## Irrigation 101

The following are a few quick tips on increasing water use efficiency and profitability.

- ✓ Straight-set irrigate, Do Not skip-set irrigate (if possible and makes sense for your field).
- ✓ Off-set irrigate every other time.
- ✓ Maintain proper pressure at the nozzle (50-60 lb psi, 55 psi best?).
- ✓ Own or purchase a soil probe to check soil moisture, and pick up an oil filled pressure gauge and pitot tube to check pressure at the nozzles.
- ✓ Nozzle size enlarges from use and wear over time (check your nozzle sizes with same size drill bit)..
- ✓ Repair any leaks as soon as possible.
- ✓ Monitor soil moisture in your field by using the feel test method with soil probe, gypsum blocks, water mark sensors, tensiometers, etc.
- ✓ Utilize the Agrimet water use program.
- ✓ Know how much water you are applying (tenths of inch per hour) (you need to know spacing, pressure, nozzle size, hours of set and own a pressure gauge).

See IRRIGATION: 101, Page 9

## IRRIGATION: 101

### Continued from page 8

- ✓ Know how much water your soil can hold (inches per foot) – determine water holding capacity of soil.
- ✓ Know the maximum allowable depletion for your crop.
- ✓ Alternate day-time and night-time irrigation sets if possible.
- ✓ Know the wetting diameter of your nozzle being used.
- ✓ Know that every time you irrigate, about 0.10 inch of moisture gets trapped in the plant canopy, once there is substantial foliage, and never touches the soil, and therefore is lost to evaporation.
- ✓ Run pivots as close to 10% speed as possible (see sentence above why), although there may be reasons to run in the 20-30% range.
- ✓ Every extra gallon of water you pump, through leaks or by over-irrigating more than the crop can use, is a direct cost to you at the electric meter.
- ✓ If you are flood irrigating, try some form of “surge”-irrigation to improve efficiency and reduce infiltration and leaching.
- ✓ Make sure all nozzles are the same size on the line.
- ✓ If your system is set up for it, try the new Nelson Wind Fighter heads (they are supposed to be as efficient in a 10 mph wind than a Rainbird type head is with no wind, but they do have a lesser wetting diameter).
- ✓ Many soils in central Oregon will be over irrigated, if you irrigate longer than 8 hours per set. (depends on application rate and soil depth and texture; water holding capacity) A few will not.
- ✓ Irrigation systems were designed to have and work best with 50% overlap.
- ✓ Use flow-control nozzles when the pressure variation between the first and last nozzle exceeds 20 percent.
- ✓ Use closer spacing boom mounted nozzles and/or rotating-type nozzles for center pivot systems.
- ✓ Drop the nozzles on pivot systems as close to the crop as possible (switch over from over head mounted nozzles).
- ✓ The uniformity of irrigation is dramatically reduced when wind is greater than 10-15 mph (wind greater than 10 mph drops your efficiency by 10 percent, or much more with much higher wind speeds).
- ✓ Use self leveling nozzles: Nozzles on hand lines or wheel lines need to stand straight up or efficiency of water application will be reduced.
- ✓ Rubber gaskets crack with age, replace them as needed (keep extras in water so they do not dry out).

- ✓ Pump impellers tend to wear out occasionally, so need to be checked annually.
- ✓ Make sure you have a good screen for your intake pipe to minimize plugged sprinkler heads.
- ✓ Install an oil filled pressure gauge on your pump (if you do not already have one) and always check the pressure.
- ✓ Make sure pressure relief valves are working properly.

If you would like more information on any of these ideas, please contact your local OSU County Extension Service office or contact Mylen at (541) 447-6228.

**Mylen Bohle**

## GENERAL AG: Mites

### Continued from page 3

In a field sampled in the Tumalo area a number of years ago, winter grain mite numbers were dramatically reduced by the burning treatment: the burned treatment had 42 live mites per crown, while the non-burned treatment had 270 live mites per crown (average of 3 orchardgrass crowns sampled per treatment).

One should take care so the fire is not too hot to damage the grass crowns, as well as burn during the proper time, to do the most damage to the mite population (mites are most vulnerable and active on warm (50-60 degrees) cloudy days).

Unconfirmed: the Brown wheat mite has been found in an old orchardgrass field in the Terrebonne area and seems to be doing considerable stunting to the field. We will try and update on this mite in the next newsletter.

You may also start having problems with the Banks Grass Mite in the summer. It is the only mite on grasses that produces webbing; it feeds on warm days and multiplies throughout late spring and summer. We have identified it in Central Oregon in 2007 on the Deschutes and Jefferson county line area.

*An update on the clover mites: we have a trial going in the Lower Bridge area with 6 different treatments. One treatment seems to be working! Now if we can get it labeled for next year.*

**Mylen Bohle and Glenn Fisher**

## Irrigation System Check Available

Deschutes County Soil and Water Conservation District has grant money available for producers to have some one come out and perform an irrigation audit. These irrigation audits can be very enlightening. If interested call Conservation Technician, Spring Olson, Conservation Technician, (541) 923-4358, Ext. 113 or (541) 647-9604.

**Mylen Bohle**

# Central Oregon Agriculture Calendar

## May

*Note:* The Oregon Wheat League will NOT hold a Wheat Marketing Meeting in May. Meetings will resume in the Fall. Contact Mylen Bohle at (541) 447-6228 for more information.

20 Water Rights Seminar, Burns, Oregon. For more information call (503) 375-6003 or Email: Helen.moore@waterforlife.net.

27 Central Oregon Wind Energy Workshop, 6:00 p.m., 4-H Clover Club Building, 502 SE Lynn Blvd., Prineville, Oregon (next to the Crook County Extension office). For more information contact Libby Rodgers at (541) 447-6228. The workshop is co-sponsored by OSU/Crook County Extension and Society For Range Management/Central Oregon Chapter.

## June

15-17 Tractor Safety Training & ATV Certification (see article page 4).

21 First Day of Summer

24 Range Field Day (see article page 4).

## July

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**Central Oregon Agriculture**

