Prescribed Burning and Risk Management Workshop

Join us at the Crook County Extension office on Tuesday, May 13, 2008, from 9:00 a.m. to 1:00 p.m. as we present: Fire History, Fire as a Management Tool, Planning, Execution, Fire Behavior, and How to Make it Happen. Presenters for the workshop will be from the Oregon Department of Forestry, OSU Crook County Extension office and Century Insurance. A field visit at Pilot Butte Hereford Ranch will follow the workshop presentation. For more information call Libby Rodgers at (541) 447-6228.

Libby Rodgers

Organic Hay Production Field Day

Monday, May 19, 2008, the Central Oregon Agricultural Research Center (COARC) in Madras (850 Dogwood Lane) will be holding an Organic Hay Production Field Day starting at 1:00 p.m.

Organic milk production is increasing rapidly in the Pacific Northwest. But organic dairy cows have to eat organic hay and currently there is not a lot produced in Oregon. Brian Duggan, COARC Crop Physiologist, Mike Gamroth, OSU Extension Dairy Specialist, and Mylen Bohle, OSU Extension Agronomist, will discuss what research is being done to look at ways to produce organic hay in central Oregon organic weed control on an annual and perennial forage production system is the focus of our current research. A berseem clover and spring oat rotation is the annual system; orchardgrass and alfalfa is the perennial system. For more information call Brian Duggan at (541) 475-7107.

Brian Duggan

Tractor Safety Training for Youth

Farmers and ranchers who plan on hiring minors under 18 years of age to operate power-driven farm machinery should be aware that minors are required to complete and pass a tractor safety training program.

To assist farmers, ranchers and minors affected by these rules, the Oregon State University Extension Service is taking reservations for its Central Oregon Farm and Tractor Safety Training and Certification Course, to be conducted in Madras at the Madras High School Vo/Ag Classroom on June 16, 17, and 18, 2008, from 8:00 a.m. to 5:00 p.m. Class size is limited to 20 students and only for minors who will be 14 to 17 years of age during the coming agricultural season. Students need to be registered and paid up by June 13th. Cost is $50.00.

For further information, to make reservations, and to pick up the course outline and textbook, contact the Jefferson County Extension office, 34 SE D Street, Madras, OR., 97741, or call (541) 475-3808.
Livestock —
Marketing Tidbits

Necessary Breakeven Purchase Price of 750 lb Feeder Steer as Corn and Fed Cattle Prices Fluctuate

<table>
<thead>
<tr>
<th>Fed Price($)</th>
<th>Corn Price, $/bu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.50</td>
</tr>
<tr>
<td>88.00</td>
<td>98.96</td>
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<tr>
<td>90.00</td>
<td>102.42</td>
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<tr>
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<tr>
<td>96.00</td>
<td>112.80</td>
</tr>
<tr>
<td>98.00</td>
<td>116.26</td>
</tr>
</tbody>
</table>

Assumptions: 3.4 lb. ave. daily gain, 9.7% interest, 1% death loss (SOURCE: Cattle-Fax Update).

Profitability Finishing of Calf-fed vs. Long-Yearlings as Corn Prices Fluctuate

<table>
<thead>
<tr>
<th>Production System</th>
<th>Calf-fed</th>
<th>Long-yearling</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Final live value, $/head</td>
<td>1154.45</td>
<td>1228.09</td>
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<tr>
<td>$2.50/bu Corn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breakeven, $/cwt</td>
<td>90.15</td>
<td>87.54</td>
</tr>
<tr>
<td>Profit, $/head</td>
<td>0.00</td>
<td>34.56</td>
</tr>
<tr>
<td>$3.50/bu Corn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breakeven, $/cwt</td>
<td>90.04</td>
<td>87.16</td>
</tr>
<tr>
<td>Profit, $/hd</td>
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<td>38.41</td>
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<tr>
<td>$4.50/bu Corn</td>
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<tr>
<td>Breakeven, $/cwt</td>
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<td>86.88</td>
</tr>
<tr>
<td>Profit, $/hd</td>
<td>0.00</td>
<td>42.28</td>
</tr>
</tbody>
</table>

*Final live value is based on a live price of $90/cwt for all corn prices (Griffin et al. 2008. Univ. of Nebraska Beef Cattle Report).

See LIVESTOCK: Marketing Tidbits, Page 2
Corn prices are the driving force in today’s cattle market. Where are our prices going in the future? Well, many of us are guessing and comparing one economic analysis to another. I am not sure any of us are confident in where the markets are going, but, we are certain that the market is volatile, particularly for the feeder! Last year we were running analysis on $4.50 corn, today, corn is over $5.50 (http://lmic.info/quick/quickgrain.html). The two charts above illustrate that as corn continues to climb, the price feedlots can pay for calves declines. Let’s hope that fat cattle demand stays strong to alleviate some of the pressure our feeders are feeling.

This market volatility is probably giving you plenty to think about at night. One option we keep hearing about is to run long yearlings and market these cattle at heavier weights. As illustrated above, these long yearlings are giving the feeder more profit than calf-feds as the price of corn continues to climb. Plan your grazing rotations appropriately to accommodate this strategy.

Barbi Riggs

Add Value to Your Calves

We need to be thinking about adapting our operations to embrace new marketing tools and technologies to add value to our calves. Two emerging marketing labels are Bovine Viral Diarrhea persistently infected (BVD PI) free and Age and Source Verified (ASV). These two options can be cost effective and really do not change most of our management of calves other than calves will need to be individually identified.

Barbi Riggs

BVD PI Research Project

Oregon State University will begin recruiting producers interested in BVD PI testing this summer to participate in a BVD control and biosecurity program. The project will be managed by Barbi Riggs, Central Oregon Livestock Agent. Dr. Charles Estill, V.M.D. Extension Veterinarian; Chad Mueller, E.O.A.R.C.-Union and Randy Mills of Umatilla Extension are cooperating research members. Please contact us if you are interested in participation. Financial assistance for testing supplies will be available as research funds allow.

Barbi Riggs

Age and Source Verification Program

Oregon State University will be holding an educational program at the Mid-Year Oregon Cattlemen's Association meeting June 19th, 2008, Madras Oregon. Age and Source Verification (ASV) is a phrase we hear frequently. As foreign markets continue to reopen, there has been an increasing demand for ASV cattle. Learn how these cattle play an important role for US beef exports and how they may play a role as Country of Origin Labeling (COOL) is implemented. This program will address the premiums offered to cow-calf operators and the basic requirements of ASV to help you decide if ASV is right for your ranch. The program is presented by Oregon State University. Breakfast is at 6:30 a.m., with the program to begin at 7:00 a.m. You can register at http://orcattle.com/ or contact Barbi Riggs at (541) 447-6228 (barbi.riggs@oregonstate.edu).

Barbi Riggs

General Ag —

Low Interest Farm Loans Available Through FSA

Farm Service Agency (FSA) has a variety of loan programs to help farmers and ranchers. Sharilyn Millette, Farm Loan Manager of USDA’s FSA in Salem, Oregon (covering Crook, Deschutes, Jefferson, Marion and Polk Counties) would like to remind producers that FSA may be able to assist your farming operation with an operating or ownership loan. The rate for operating loans approved in April is 3.25 percent.

FSA’s loan programs are designed to help family farmers who are temporarily unable to obtain private or commercial credit. FSA also provides credit to beginning farmers, which must do not have sufficient net worth to qualify for commercial credit. In other cases, they are farmers who have suffered financial setbacks from natural and economic disasters, or who have limited resources with which to establish and maintain profitable farming operations.

For more information on FSA loan programs, please contact Sharilyn Millette at (503) 399-5741, ext. #115 or Kathey Naegeli, Farm Loan Officer at ext #113.

Sharilyn Millette, FSA
Biofuels —

Fact vs. Fallacy, Food vs. Fuel

There has been a lot of talk in recent years about biofuels. Much of the talk originally dealt with resolving some of our issues with petroleum based fuels (dependence on foreign oil, the cost of fuel, and reducing greenhouse gas emissions) although it has now largely moved on to whether or not growing crops for biofuels is the cause of the price increase in agricultural commodities as acreage is converted from growing food to growing fuel. In this newsletter we will talk about biodiesel, in the next we’ll talk about ethanol and in the third we’ll talk about what the future holds.

Biodiesel

Comparison with Petro­Diesel

Rudolf Diesel, the inventor of the diesel engine, first used peanut oil to fuel his engines, although it wasn’t until 1937 that vegetable oils were modified to produce what is known as biodiesel. Put simply, biodiesel is produced following the transesterification of vegetable or animal fats to produce short chain alkyl esters. This differs from petro­diesel, which is produced from the fractionation of crude oil. Biodiesel varies in its composition depending on the oil used in its production while petro­diesel is a more consistent product with each molecule 10 to 15 carbon atoms long. Biodiesel has an energy equivalent of around 120,000 BTU’s/gallon, which is considerably less than petro­diesel at around 141,000 BTU’s/gallon (gasoline has around 126,000). It is also more corrosive to natural rubber although it is not reactive to most synthetic rubbers. One of biodiesel’s great features is that it breaks down deposits left in the fuel lines of vehicles that have been using petro­diesel.

How is it made?

The process of making biodiesel is relatively simple. The vegetable oil is mixed with an alcohol­like methanol or ethanol at a ratio of around 10:1, along with a catalyst (potassium hydroxide) to produce the biodiesel and glycerol. Glycerol has some industrial uses but there is currently an over supply given the interest in biodiesel. Typically 1 gallon of oil will produce 1 gallon of biodiesel.

Quality Considerations

Not all biodiesels are the same! Depending on the type of oil used, different biodiesels have different properties. One of the most important is the gelling point. This is the temperature at which the biodiesel starts to solidify and starts to have difficulty acting like a liquid. Biodiesel from canola oil starts to gel at 14°F while biodiesel from tallow gels at around 68°F. Most vegetable oil based biodiesel fall somewhere in between these two temperatures.

Blending the biodiesel with petro­diesel can lower the gelling points and there are also commercial additives that can be used too.

Energy In vs Energy Out

Much of the biofuel debate has shifted now to how much energy to produce a biofuel compared to how much is produced in the end, taking into account the energy used to create the fertilizers, sow, manage and harvest the crop, and then take the crop and turn it into a biofuel. For biodiesel it appears as though there is 10 times the amount of energy produced for every unit of energy put in, which is considerably more favorable than the production of ethanol from grain.

Next month’s article: What crops could be grown in central Oregon for biodiesel, why they can’t, should, or shouldn’t be grown, and what is the future for biodiesel?

For more information contact Libby Rodgers at (541) 447­6228, libby.rodgers@oregonstate.edu or Brian Duggan at (541) 475­7107 or brian.duggan@oregonstate.edu.

Cereals —

Long Term Experiment Field Day

Tuesday, May 13, 2008, Sherman County Experiment Station, 66365 Lonerock Rd., Moro, OR, 8:30 am to 12 Noon

Productivity of Direct Seeding and Cropping Systems in Eastern Oregon, Dr Stephen Machado, OSU/CBARC

Profitability of Direct Seeding Cropping Systems in Eastern Oregon, Dr Steve Petrie, OSU/CBARC

RUSLE II and CSP Impacts of Sherman LTE’s, Kristie Coelsch, USDA/ Sherman District Conservationist NRCS

Benefits and Pitfalls of Direct Seeding in Eastern Oregon, Dr Don Wysocki, OSU/CBARC

Relationship Between Crop Management and Root Health (fungal & parasitic nematodes), Dr Dick Smiley, OSU/ CBARC

Influences of Different Crop Rotation Treatments on Long­Term Weed Population Changes, Dr Dan Ball, OSU/CBARC

Tillage Effects on Water Infiltration, Earthworm Populations and Soil Aggregation, Dr Stewart Wuest, ARS/CBARC & Dr Hero Gallony, OSU

At noon, speakers will retire the Café Moro for lunch. You are welcomed to join them for informal visits with each. For more information contact Sandy at (541) 565­3230.
Small Farm News in Central Oregon — Local Workshop Opportunities

Cost for classes #1, 2, and 3 are $20.00 per class or if you sign up for 2 or more classes it is $15.00 per class. Cost for class #4, Fruit is $25.00 per person.

Registration forms available at:
http://extension.oregonstate.edu/deschutes/index.php

1 - Irrigation Management
Tuesday, May 20; 6-9 pm; Deschutes County Fairgrounds, Redmond, North Sister Building, Registration deadline: May 16, 2008

Want some tips on making “you” a better irrigator? Flood, hand line and wheel line sprinkler systems will be covered. Learn about tools and strategies for improving irrigation practices on your farm.

Mylen Bohle, Area Agronomist for the OSU Extension Service, will answer all your questions.

2 - Optimize Pasture and Grazing Management
Thursday, May 22; 6-9 pm, Deschutes County Fairgrounds, Redmond, North Sister Building, Registration deadline: May 16, 2008

Are you a livestock producer or a grass farmer? Learn how to “properly” manage your pasture or establish a new pasture, and use proper grazing management. Bring your questions. Mylen Bohle, Area Agronomist for the OSU Extension Service, will answer all your questions.

3 - Hay Production: Producing and Putting Up Quality Hay
Tuesday, May 27; 6-9 pm, Deschutes County Fairgrounds, Redmond, North Sister Building, Registration deadline: May 16, 2008

Learn how to Grow and produce hay… Learn the art and understand the science of “putting up” hay and its effect on quality. Bring your questions about producing, conserving, and storing hay properly. Mylen Bohle, Area Agronomist for the OSU Extension Service, will answer all your questions.

4 - Fruit Trees in Central Oregon
Friday, July 25; 6-9pm, Deschutes County Fairgrounds, Redmond, North Sister Building, Registration deadline: July 11, 2008 - $25.00 per person.

Dr. Clive Kaiser will return to present a 3 hour session where you will learn how to be successful with growing fruit in Central Oregon. Varieties, pruning techniques and other hints will be shared to make your experience a good one.

Dana Martin

Small Farm Producers Networking Opportunity

Are you interested in sharing your ideas or learning from others? Would you be interested in joining a Small Farm cooperative? Do you want to be part of a Small Farm community?

An OSU Mailing List “Central Oregon Local Foods” has been created and people are sharing some great ideas via email. If you would like to have your name added to this list, please contact Dana, (541) 548-6088 x 7957 or dana.martin@oregonstate.edu.

Dana Martin

Pest & Pesticides — New Registrations for Bluegrass Grown for Seed and Garlic

Callisto is a new herbicide from Syngenta that is now registered for use in bluegrass grown for seed. Callisto can be applied as a preemergence application to bare soil (new seeding) or as a post emergence application to an emerged crop, but not both. According to the label Callisto controls a wide spectrum of broadleaf weeds. From our research in central Oregon with Callisto, we have observed excellent crop safety on Kentucky and rough bluegrass. In a trial conducted at COARC in Madras, preemergence applications of Callisto controlled 100% of common groundsel, henbit, flaxweed, tumble mustard, prickly lettuce, and annual polemonium, also called Jacob’s ladder.

Chateau is an herbicide from Valent that is now registered for use in garlic. You may be familiar with Chateau from the registration it has for use on mint. Callisto can be applied to garlic at 6 oz/acre prior to garlic emergence. Application should be made within 3 days after planting garlic. The use rate for garlic is higher than the 4 oz/acre that is called for on mint. In garlic I would expect Chateau to do a better job of controlling winter annual mustards (Jim Hill, Tumble, Tansy, and Flixweed) than Prowl, particularly at this rate.

Rich Affeldt
Pest & Pesticides — Cold Temperatures and ALS Herbicide Injury

You may see unexpected crop injury this spring from a popular group of herbicides that are used in wheat, hay, and grass seed crops. This group of herbicides inhibits the production of the acetolactate synthase (ALS) enzyme in susceptible plants. The list of ALS inhibitor herbicide products includes Affinity, Ally, Amber, Beacon, Beyond, Everest, Express, Finesse, Glean, Harmony Extra, Harmony GT, Matrix, Olympus, Olympus Flex, Osprey, Pursuit, and Raptor. The reason specific ALS herbicides kill weeds and not the crops in which they are used is because the crop is able to more quickly metabolize the herbicide than the weeds. For example, Everest is a herbicide registered for use in winter wheat that controls wild oat. When a field is treated with Everest, winter wheat is able to metabolize the herbicide into an inactive form more quickly than wild oat. Therefore, because the herbicide remains in an active form longer in wild oat, the wild oat dies…hopefully, under ideal conditions.

Crops which are growing in stressful conditions, like the cold nights we’ve experienced in central Oregon this spring, may not be able to metabolize ALS herbicides normally. This poor metabolism can result in crop injury from a herbicide that would not normally cause crop injury. Fortunately early season crop injury does not always result in yield loss; unfortunately it often can.

In the past, I have observed this injury phenomenon with an ALS herbicide in a research trial on winter wheat, which I’ll refer to as XWH (experimental Wheat Herbicide). In that situation the wheat looked yellow for about 3 weeks after a spring application of XWH. However, the wheat recovered and yielded much better than the weedy check. From a yield standpoint, it was better to have controlled the weeds with XWH than to have let the weeds compete with the crop. The question remains whether or not a different herbicide would have controlled the weeds without injuring the crop.

Sometimes the herbicide label offers guidance about potential crop injury. If you are concerned about potential crop injury situations that can result from herbicides and cold weather take another look at the label.

Rich Affeldt

Irrigation — 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). You need to own a pressure gauge.
+ 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.
+ Know the wetting diameter of your nozzle being used.
+ Know that every time you irrigate, about 0.1 inch of moisture gets trapped in the plant canopy 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)).
+ 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.
Irrigation —

Crop Water Use Program

The following table summarizes the crop water use or evapo-transpiration (ET) to date (April 30, 2008) 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.

Table. Accumulation summary of Crop Water Use or evapo-transpiration (ET) to date (April 30, 2008) for Madras, Powell Butte, Christmas Valley, and Bend, OR Agrimet weather stations.

<table>
<thead>
<tr>
<th>Crop</th>
<th>2008 Madras 2440 ft. (in)</th>
<th>2008 Powell Butte 3180 ft. (in)</th>
<th>2008 Bend Agrimet 3650' (in)</th>
<th>2008 Christmas Valley 4360 ft. (in)</th>
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<tbody>
<tr>
<td>ETr</td>
<td>8.1</td>
<td>7.4</td>
<td>6.3</td>
<td>No Water Use?</td>
</tr>
<tr>
<td>Alfalfa Peak</td>
<td>4.6</td>
<td>4.2</td>
<td>3.3</td>
<td>&amp;</td>
</tr>
<tr>
<td>Alfalfa Mean</td>
<td>4.3</td>
<td>4.0</td>
<td>3.2</td>
<td>Not On-line Yet.</td>
</tr>
<tr>
<td>Pasture</td>
<td>3.5</td>
<td>3.3</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Grass Hay Mean</td>
<td>5.6</td>
<td>5.2</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Grass Hay Peak</td>
<td>5.6</td>
<td>5.2</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Lawn</td>
<td>4.4</td>
<td>4.1</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Winter Grain</td>
<td>6.9</td>
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<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Spring Grain (early plant)</td>
<td>1.5</td>
<td>1.6</td>
<td>1.3</td>
<td></td>
</tr>
</tbody>
</table>

Mylen Bohle

Daily Crop Water Use

The crop water use example in the table below is for Powell Butte this time. 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 evapotranspiration (ET) numbers represent the predicted 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. Other crops will be added later.

Table. Estimated daily crop water use or evapo-transpiration (ET) for April 27-30, 2008 based on the Agrimet weather station data located at COARC, Powell Butte, OR

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<thead>
<tr>
<th></th>
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<td>0.22</td>
<td>0.14</td>
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<td>Alfalfa Peak</td>
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<td>0.14</td>
<td>0.16</td>
<td>0.17</td>
<td>4.2</td>
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<td>2.1</td>
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<tr>
<td>Alfalfa Mean</td>
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<tr>
<td>Grass Hay Peak</td>
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<td>5.2</td>
<td>1.1</td>
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<td>Grass Hay Mean</td>
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<td>0.21</td>
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<tr>
<td>Lawn</td>
<td>0.15</td>
<td>0.18</td>
<td>0.11</td>
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<td>0.14</td>
<td>4.1</td>
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<td>1.7</td>
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<td>2.1</td>
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<td>0.8</td>
<td>1.2</td>
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<tr>
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<td>0.06</td>
<td>0.04</td>
<td>0.05</td>
<td>0.05</td>
<td>0.5</td>
<td>0.3</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Mylen Bohle
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 subtract 32 degrees (base temperature for T-Sum gdd’s for grass fertilization). If the average is less than 0, discard the number, if the number is positive, it is accumulated, from January 1st as a growing degree-day (GDD). Table 1 shows the dates of selected T-Sum’s for numerous sites around central Oregon, which represent sites with varying elevation differences. One web site address you can track the thermal time is at: [http://pnwpest.org/wea](http://pnwpest.org/wea).

Table 1. T-Sum dates for the present year(s) for 180, 360, 540, 720, and 900 accumulated T-Sum growing-degree days (T-Sum gdd’s) from January 1st for selected Oregon locations. (Fertilize at 360 for pasture and 725-775 for hay. (gdd’s using 32 degrees base temperature as of April 30, 2008)

<table>
<thead>
<tr>
<th>Location/ Elevation</th>
<th>Year</th>
<th>180 GDD’s</th>
<th>360 GDD’s Fertilize Pasture</th>
<th>540 GDD’s</th>
<th>720 GDD’s Fertilize Grass Hay</th>
<th>900 GDD’s</th>
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<tr>
<td>Madras</td>
<td>2007</td>
<td>Feb 15</td>
<td>Mar 9</td>
<td>Mar 19</td>
<td>Apr 5</td>
<td>Apr 19</td>
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<td>Apr 25</td>
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<td>Mar 9</td>
<td>Mar 20</td>
<td>Apr 6</td>
<td>Apr 22</td>
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<tr>
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<td>Feb 23</td>
<td>Mar 14</td>
<td>Apr 14</td>
<td>May 2?</td>
<td></td>
</tr>
<tr>
<td>John Day</td>
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<td>Feb 16</td>
<td>Mar 11</td>
<td>Mar 22</td>
<td>Apr 5</td>
<td>Apr 20</td>
</tr>
<tr>
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<td>Mar 25</td>
<td>Apr 17</td>
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<tr>
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<tr>
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<td>May 6</td>
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<td>Fort Rock (raws)</td>
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<td>(4430’)</td>
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<td>(4770’)</td>
<td>2008</td>
<td>Apr 18</td>
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</tbody>
</table>

*Mylen Bohle*
Cereals —
Cereal Leaf Beetle Biocontrol Project

Natural Enemies are Established in Oregon

The cereal leaf beetle is again expected to be causing damage in Oregon grain fields. June is the time when damage caused by cereal leaf beetle larva becomes most evident in grain fields. When threshold levels are reached, growers spray to control damage. An alternative, which has proven effective in other areas of the US, is the use of biological control. USDA, APHIS in cooperation with Oregon Department of Agriculture and Oregon State University have been releasing natural enemies of the grain destroying beetles since it was first found in Oregon in 1999. These natural enemies are now established in several counties in both eastern and western Oregon.

The cereal leaf beetle is a serious pest of grain crops, particularly spring plantings of oats, wheat, and barley. In Oregon, we have also seen severe damage to newly seeded grass seed fields, especially tall fescue and perennial ryegrass. A project study found that over 50,000 acres were sprayed to control cereal leaf beetle in 2005 at an estimated cost of over $602,000. This was a slight decrease in the acres affected and cost of treatment which has increased dramatically every year prior. With the establishment of the biocontrol insects an alternative to insecticides is now available to Oregon grain growers. The Cooperative Program is looking for growers interested in facilitating cereal leaf beetle biocontrol.

The cereal leaf beetle has one generation per year. It over-winters as an adult in vegetation around and near grain fields. As the weather warms in spring, adults move first into winter grains. As spring grains emerge, the adult beetles abandon the winter grains for the spring cereal fields, where most of their eggs are laid, hence the more severe damage to spring grain crops. The adults do feed on the cereal plants, but the real damage is done later by the larva, which consume the upper layer of chlorophyll containing cells from the cereal leaf, leaving a frosted appearance on heavily infested fields. Treating adults is ineffective as they are mobile and will re-infest treated areas. As larvae are noted in a field, a grower needs to watch threshold levels carefully, especially as the grain nears the flag leaf stage.

Cereal leaf beetle has been established in the Eastern and Midwestern US since 1962.

It has been successfully controlled there since the mid 1970’s, by imported egg and larval parasites. A cooperative biological control program, involving ODA, OSU, and USDA, was started in Oregon, immediately after the initial find in 1999. Parasitic wasps were brought in from eastern states, where the introduced wasp populations now exist naturally and keep cereal leaf beetle populations in check without using insecticides. The cooperative program initiated field insectaries for the purpose of raising the parasitic wasps in Oregon. Field insectaries for growing the larval parasitoid, Tetrastichus Julis, have been set up at the Union, Madras, and Hyslop OSU Experiment Stations. Insectaries for rearing the egg parasitoid, Anaphes flavipes, are established on private land in Washington County, and the OSU Ag Experiment Station in Union County.

In 2003, we recovered T. julis from the Union insectaria field. In 2004 it was also found in nearby private grain fields in Union county as well as near release sites in Malheur and Multnomah Counties. The egg parasite was confirmed established in the insectaria field in Washington County in 2004. The objective now will be to allow the parasitic wasps to prosper, by encouraging growers to provide unsprayed buffers in beetle infested fields, in areas where the parasites are known to be present. In addition, when parasite populations reach high enough levels, the Program will draw from Oregon sources for redistribution. The first, within-state redistributions of the larval parasite were made from a grower’s field in Union County in 2005. We expect to find higher larval parasite levels in Union, Baker, Multnomah, Linn, and Washington counties. The Cooperative Program will monitor the natural increase and spread of the parasitic wasps. The success of this program will become apparent over time as the parasite population reaches levels where cereal leaf beetle damage is reduced below economic levels without the use of insecticides.

We encourage growers in these areas to watch the thresholds levels carefully and use insecticides only when warranted. Also, when using insecticides, leaving un-sprayed buffer areas within or around the edge of sprayed fields will allow the parasitic wasps a chance to survive and prosper. We need to get the parasitic wasp established in Central Oregon. We have been making releases into a CLB cereal insectaria at COARC, Madras.

Any grain grower wishing to participate in this biocontrol project which will release CLB larvae parasitized with the parasitic wasp into their fields, is encouraged to contact USDA, APHIS, (503) 326-2814, or ODA (503) 986-4636, or contact Mylen Bohle at (541) 447-6228. (Or if you would like a copy of the 2007 progress report)

Gary Brown, Marc Peters, Darrin Walenta and Mylen Bohle
Central Oregon Agriculture Calendar

May —

8    Wheat Marketing Meeting, 7:00 a.m., Central Oregon Ag Research Center, Madras, Oregon.
13   Long Term Experiment (LTE) Field Day (see article Page 4)
            Prescribed Burning and Risk Management Workshop (see article front Page).
15   Central Oregon Hay Growers' Association Board Meeting, Crook County Extension Office, 7:00 p.m., 498 SE Lynn Blvd., Prineville, OR.
16   Crooked River Basin Workshop on Anadromous Fish, 8:30 a.m.—5:00 p.m., Prineville, OR.  Contact Max Nielsen-Pincus at (541) 447-3548.
19   Organic Hay Production Field Day (see article front Page).
20   Irrigation Management (see article Page 5).
22   Optimize Pasture and Grazing Management (see article Page 5).
24   Crook County Landfill Special Event.  Call (541) 447-2398.
27   Hay Production: Producing and Putting Up Quality Hay (see article Page 5).
28   Hyslop Farm Field Day, Corvallis, OR.  Contact Mylen Bohle at (541) 447-6228.

June —

3    Crook County Weed Awareness Workshop & Field Tour.  Contact Berta Youtie at (541) 447-6228.
5    Malheur Experiment Station 2008 Treasure Valley Weed Tour.  Contact Janet Jones at (541) 889-2174.
7    Crook County Weed Awareness Workshop & Field Tour.  Contact Berta Youtie at (541) 447-6228.
10   CBARC Field Day, Pendleton, OR. Call (541) 278-4186.
11   CBARC Field Day, Moro, OR.  Call (541) 278-4186.
16-18 Central Oregon Tractor Safety Training (see article front Page).
19   Age and Source Verification Program (see article Page 3).

JULY —

9    Malheur Experiment Station Annual Field Day. Contact Janet Jones at (541) 889-2174.

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

Warm Springs -
http://extension.warmsprings.edu/index.php

Central Oregon Agricultural Research Centers,
Madras and Powell Butte -
http://oregonstate.edu/dept/coarc/index.php