

AG NOTES

Cooperative Extension



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Intermountain Research & Extension Center Field Day

Come join us for the 2009 Intermountain Research and Extension Center Annual Field Day on July 30, 2009. Starting at 8:00am we'll have refreshments and registration for Continuing Education hours. The tour will begin around 8:30 and take you to visit our field trials. This year's topics include:

- White Rot control in onions
- Weed control in peppermint
- Management of two-spotted mites in peppermint
- Herbicide chemigation strategies for onion weed control
- Update on alfalfa variety trials and Roundup Ready Alfalfa

- Potential for switchgrass production in the Intermountain Region
- Effects of deficit irrigation on pasture grass yield and stand persistence
- Update on potato variety trials and cultural management of chip potatoes
- Update on small grain forage and grain trials at IREC

You don't want to miss this year's tour or meeting the new Center Director/Farm Advisor, and, of course, lunch! The staff is again preparing a feast with homemade ice cream for dessert. Mark your calendars and come join us!

New Director/Farm Advisor

Rob Wilson is the new Director/Farm Advisor at the Intermountain Research and Extension Center. He replaced Harry Carlson who retired earlier this year. Rob's position will focus on providing guidance and leadership in the development of research and extension programs in Tulelake and oversight of IREC operations. Rob's Farm Advisor program will concentrate on management of crops grown in the Lower Klamath Basin. His specialty is weed management and he looks forward to working with farmers, ranchers, and land managers in the Klamath Basin.

Rob Wilson grew up in Scottsbluff, NE, a small rural community in western Nebraska. He earned his B.S. and M.S. degree from Colorado State University. His master's degree was in Bioagricultural Sciences and Pest Management.



Rob Wilson, Center Director/Farm Advisor

From 2001 to 2009, Rob was a Farm Advisor in Lassen County, CA. In Lassen County, his program focused on weed management in alfalfa, small grains, grass hay, and rangeland. In Tulelake, Rob plans to expand his program from Lassen County to include work with crops grown in Basin including potatoes, onions, and mint.

Crop Water Use

By Brooke Kliewer, Staff Research Associate

A good irrigation scheduling tool is available on the IREC website to growers in the Tulelake area <http://groups.ucanr.org/intermountain>. The link can be found on the IREC home page on the left hand side titled "Crop Water Use". The link opens a table showing crop water use for most crops grown in the Basin with different planting times available. See table below.

Monitoring crop water use (ET) is critical to maximize yield, quality, and profits. Crop ET takes into account the effects of weather and crop growth stage on crop transpiration and evaporation, so irrigators can accurately estimate "how often to irrigate" and "how much water to apply per irrigation". At IREC, monitoring ET in combination with periodically measuring soil moisture has worked well to accurately schedule irrigation for crops grown on the center. Many times, looking at crop ET totals and/or soil moisture readings will provide an early clue when our irrigation schedule is over-watering or under-

watering the crop. In most cases, we can then change our irrigation set time or irrigation frequency and get back on track to meet crop water use.

All crop water use estimates are based off data from the Tulelake CIMIS station. Since 1989, IREC has had a CIMIS weather station (operated by California Department of Water Resources) located on research grounds to monitor hourly weather conditions. The weather station monitors 14 measurements including evapotranspiration, precipitation, solar radiation, air and soil temperature, relative humidity, dew point, and wind speed/direction. For the IREC crop water use table, daily CIMIS precipitation and evapotranspiration (ET_o) data is entered into a formula to estimate crop water use for crops grown in the Basin. IREC staff update the tables each morning for grower availability. For further information on the website or crop water use, feel free to call the office.

ESTIMATED CROP WATER USE IN THE KLAMATH BASIN (acre inches)								
Weather based estimates of crop water use. Irrigation amounts should be adjusted for rainfall and irrigation system efficiencies*.								
CROP	START DATE	6/28	6/29	6/30	7/1	DAILY FORECAST	PAST 7 DAYS	SEASON TOTAL TO DATE
ALFALFA	4/1	0.29	0.28	0.28	0.24	0.25	1.90	16.94
CEREAL GRAIN (fall planted)	4/1	0.29	0.28	0.28	0.24	0.27	1.92	13.81
CEREAL GRAIN (early planted)	4/10	0.29	0.28	0.28	0.24	0.27	1.92	12.06
CEREAL GRAIN (late planted)	4/25	0.29	0.28	0.28	0.24	0.27	1.92	8.83
PASTURE GRASS	4/1	0.23	0.23	0.23	0.20	0.21	1.56	15.04
PEPPERMINT (established)	5/1	0.21	0.21	0.21	0.19	0.21	1.41	4.93
POTATO (early planted)	4/25	0.29	0.28	0.28	0.25	0.28	1.95	6.43
POTATO	5/9	0.22	0.22	0.23	0.21	0.23	1.45	3.53
POTATO (late planted)	5/23	0.14	0.14	0.15	0.14	0.16	0.94	1.89
ONIONS (early planted)	4/10	0.22	0.21	0.22	0.19	0.22	1.45	6.33
ONIONS (late planted)	4/25	0.19	0.19	0.19	0.18	0.19	1.28	4.40

*Contact your University Cooperative Extension Office for further information on utilizing these estimates to schedule irrigations.

Perennial Pepperweed (Tall Whitetop) and Canada Thistle

By Rob Wilson

Perennial pepperweed and Canada thistle are problem weeds throughout the Klamath Basin. If left uncontrolled, both weed species spread very quickly and become a persistent problem for many years. Over the last seven years, I've conducted numerous herbicide trials comparing herbicides' efficacy at different rates and application timings for controlling weeds. For most weed species, treating them with herbicides when they are small gives the best control. But, for controlling perennial pepperweed and Canada thistle, delaying herbicide application until the flower-bud or flowering stage works best. In most of the Klamath Basin, flowering of both weed species occurs between late-June and early-August.



Perennial Pepperweed

The reason delaying herbicide application until flowering works well for controlling Canada thistle and perennial pepperweed is related to their biology. Both weeds spread by creeping roots, and studies show herbicide applications at flowering maximize herbicide translocation down to the roots. If these weeds are found in pastures or mowed areas where they are cut before flowering, treat the re-growth with herbicide in late summer or fall.

For perennial pepperweed control, chlorosulfuron (Telar), high rates of 2,4-D, and high rates of glyphosate (Roundup) gave the best control in University trials and reduced populations by at

least 70% one year after treatment. For Canada thistle control, aminopyralid (Milestone) or clopyralid (Transline) gave the best control reducing populations by at least 85% one year after treatment.



Canada Thistle

Below is additional information and tips for controlling these weeds in rangeland, pasture, crops, and noncropland.

- Disking, burning, mowing, and grazing can temporarily suppress perennial pepperweed and Canada thistle but these methods do not kill established plants.
- Hand-pulling roots can control a couple plants, but patches with more than 50 stems are nearly impossible to control with hand-pulling.
- Herbicides are required to control established patches.
- Both species are deep-rooted perennials that require repeat herbicide applications to kill the plant! Make sure to monitor sites every year and re-treat areas if plants recover the year after treatment.
- Removing old growth and litter from heavily infested areas makes it easier to apply herbicides and promotes perennial grass recovery. Late fall or early spring burning, mowing, or intensive grazing can be used to remove old growth.
- Re-seeding and promoting vegetation recovery after herbicide control increases long term suppression and improves land productivity.

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