WASHINGTON STATE UNIVERSITY
WALLA WALLA COUNTY EXTENSION
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http://ext100.wsu.edu/wallawalla

Newsletter

July 2017

Announcements

JULY

15 Forest Owners Field Day "Every Faucet Leads to a Forest", 9 a.m. - 4:30 p.m. Athol, ID (15 miles north of Coeur d'Alene, ID). Classes and activities led by experts in forest health, wildlife habitat, soils, fire protection, and forest products. Presenters will be available to answer questions specific to your needs and situation. Visit http://idahoforestowners.org for more information.

26 Pressure Canning Class, 1:30 p.m. –4:30 p.m. Walla Walla County Extension Office. Learn the basic steps needed to safely preserve low acid foods. Please call the Extension office at 509 -524-2685 by Monday, July 24th to reserve a spot.

AUGUST

5 Walla Walla Fair Entries Due

2017 Fair entry forms are available at the Walla Walla Fairgrounds, WSU Extension office and online at http://www.wallawallafairgrounds.com/exhibits. The fair book is available for viewing on the fair's website as well.

5-6 Walla Walla YMCA Peach Basket Classic, downtown Walla Walla, Main Street. YMCA Peach Basket Classic 3-on-3 basketball tournament. For more information, call 525-8863 or visit www.peachbasketclassic.com.

24 Still-Life Exhibits Due, Walla Walla Frontier Days, 11 a.m.– 7 p.m.

24-26 Walla Walla Pre-Fair Events. Refer to page 5 in the 4-H section for a detailed listing.

30– September 3 Walla Walla Fair & Frontier Days

SEPTEMBER

9 Walla Walla Community Hospice Pond & Garden Tour, 9 a.m. -4 p.m. A self-guided tour of ten beautiful gardens in the area. Benefiting Walla Walla Community Hospice. For more information, visit www.wwhospice.org or call 509-525-5561.

Updates

STRIPE RUST UPDATE JUNE 16, 2017
Adapted from Xianming Chen

Wheat Stripe Rust: In the Pacific Northwest, winter wheat in most areas has passed the flowering stage. Thanks to planting of resistant varieties and wide use of fungicides in the early season with some fields sprayed twice, stripe rust in most fields of winter wheat is under control. Stripe rust has developed rapidly in spring wheat fields with severity on susceptible varieties ranging from 5% to 100% depending upon area and planting date.

With cooler weather and moisture in late June, stripe rust will likely develop. For fields of moderate susceptible and susceptible varieties (stripe rust ratings 5 - 9) of winter wheat, fungicide applications were needed if the crop had not passed Feekes 10.5 and fungicide was applied more than two weeks before. For spring wheat, fungicide was needed at the time of herbicide application for fields planted with moderately susceptible and susceptible varieties if not done so. For varieties previously reported to be resistant to moderately resistant (ratings 1-4), check fields and consider fungicide application if active rust pustules are seen and severity reaches 5%.

WSU EXTENSION LAUNCHES STATEWIDE ANIMAL AG WEBSITE

Animal agriculture has an important role in Washington's economy and communities. WSU Extension faculty and specialists involved in animal agriculture production from across Washington state have launched an updated version of the Washington State University Extension Animal Ag Website (http://extension.wsu.edu/animalag/). Information from the WSU Extension Central Animal Agriculture website (www.animalag.wsu.edu) will be included in the new site and the URL will direct you to the new statewide site.

RESIDUE YIELD CALCULATOR NOW AVAILABLE ONLINE

Crop residue is a valuable by-product in crop production. Leaving adequate amounts of residue on agriculture fields can effectively control soil erosion and improve soil health. Crop residue can also be used as a feedstock for biofuel, paper, or mushroom production and as feed and bedding for livestock.

Estimating how much crop residue your crop can produce is important for understanding how the residue can be used to add economic or ecological benefits to your farm's operation. Unlike estimating grain yield, which is typically measured directly through yield monitoring, residue production is generally estimated indirectly based on grain yield. To help farmers estimate crop residue biomass yield, Washington State University has developed a Residue Production Calculator.

Crop residue estimates are based on peer-reviewed equations that describe relationships between residue and grain yield for dryland cereal and legume crops grown in the inland Pacific Northwest (iPNW). Although iPNW-calibrated equations are unavailable for rye, triticale, and canola, the Residue Production Calculator estimates residue production based on typical harvest indices for these crops.

Access the Residue Yield Calculator. (https://residueproduction.cahnrs.wsu.edu/).

For questions or comments, contact Haiying Tao by email at haiying.tao@wsu.edu at the Department of Crop and Soil Sciences, Washington State University.

SEEDING RATE CONVERTER IS NOW ONLINE

Seeding rate is among the many factors that affect grain yield that can be controlled. The ability to control seeding rate allows farmers flexibility in their management practices. For example, when fall seeding is delayed the tillering period is shortened. To compensate for this reduction in fall tillers, farmers can increase seeding rates.

To some extent, wheat is inherently capable of compensating for factors that influence yield. However, optimum seeding rates are required to optimize the plant population, which in turn is important for maximizing grain yield and quality and controlling weeds.

Seeding rates are typically expressed as seeds per acre or pounds per acre. Determining seeding rates using pounds per acre is problematic because seed size and weight can differ considerably among plant varieties. Seeding different varieties at the same pounds per acre can result in significantly different plant populations. Therefore, to maximize yield seeding rate recommendations in pounds per acre should be converted to seeds per acre.

Sometimes recommendations for good wheat stands are based on seedlings per foot of row. To use this recommendation, a farmer must decide the optimal number of seeds per foot of row at time of planting. This number can be estimated by identifying the target seedling number per foot of row and adjusting that number for seed germination and mortality rates. This adjusted target number of seedlings equals the number of seeds that should be planted per foot of row. The final seeding rate can then be calculated as pounds per acre.

Calculating seeding rates and converting among the different units of measure -seeds per acre, pounds per acre, or seedlings per foot of row -can be tedious and time-consuming. Washington State University has developed a user-friendly, online seeding rate converter (https://seedingrate.cahnrs.wsu.edu/) that is now available for your convenience.

For questions or comments, contact Haiying Tao (haiying.tao@wsu.edu) at the Department of Crop and Soil Sciences, Washington State University.

Farming & Livestock

CONTROLLED GRAZING: A PROVEN MANAGEMENT TOOL

WSU Extension Walla Walla County Bulletin #145

Efforts to increase efficiency, lower costs, and gain more profit from existing resources and ecologically maintain those resources have led many progressive ranchers to controlled grazing. Since its introduction to North America in the 1970's controlled grazing has proven itself a sound management practice.

Controlled grazing is the management of forage with grazing animals. It limits access to grazing by subdividing pastures with permanent and temporary fences. When compared to controlled grazing practices, traditional grazing methods prove inefficient in terms of energy, production, and operation.

Controlled grazing results in: increased amounts of forage harvested by animals; improved forage quality; extended grazing seasons; reduced fertilizer and herbicide applications; reduced labor and feed costs; fewer weeds; and environmentally responsible grazing areas.

Fencing plays a critical role in the success of controlled grazing. New fencing options and technology simplify controlled grazing more than ever, and help improve results such as forage quality, production, and environmental impact.

Controlled Grazing Basics

Select an area to start. Keep it close to home and small, 20-30 acres, and no more than 200 acres. Choose an area that is uniform in terms of soil, forage, and terrain. Hay pastures make ideal controlled grazing areas.

Plan perimeter and interior fencing. Fencing for controlled grazing is simple to plan, install, and maintain. Strong, permanent perimeter fences should be erected. Interior paddocks are then created with temporary fences. Move portable fences as cattle need to be moved. If possible, provide water in each paddock.

Put enough livestock into a paddock. Enough livestock should be concentrated into an area, so that the forage is grazed to the desired height before the grazed plants begin to regrow. Forage usage should be monitored daily. The smaller the paddock and the higher the number of livestock, the more uniformly the paddock will be grazed. When the forage in the paddock is grazed to half its original height, move livestock to a paddock that is ready to be grazed. Once animals are accustomed to controlled grazing, moving to new paddocks should only require a few minutes.

Monitor forage in the grazed paddocks. The ideal forage height to begin and end grazing is dependent on the species and the climate conditions. Forage plants should be grazed before they get too mature, but not so soon or so low that the crowns would be damaged. When forage has recovered, move livestock back into the paddock. Growth rates vary widely during the grazing season. Available moisture is the key to the length of time for the forage to recover. The rule of thumb is “fast growth, fast moves; slow growth, slow moves.”

Have backup pasture available. Avoid grazing paddocks that have not recovered sufficiently. Be prepared to cut hay in paddocks that grow too rapidly between grazing periods. Do not try to follow a set rotation; move livestock to a paddock that is ready to graze.

Relax and be flexible. Severe grazing (grazing very short) can be offset by a longer recovery period. Let it rest longer than the others. Monitor forage and make adjustments as needed. Controlled grazing is as much art as science.

Rest Periods and Stock Density.

Forage recovery time is the most important aspect of controlled grazing management. Grazing plants too soon will use up root reserves and weaken them. Waiting too long to graze plants will reduce forage quality and affect animal performance.

Stock density must be managed effectively, too. Low stock density causes uneven harvesting of forage. Some plants are grazed too short and are weakened, while some plants are not grazed at all and lose quality. Low stock density also reduces beneficial hoof action, and can result in trails from livestock who wander around looking for better forage.

High stock density causes animals to graze quickly and then rest, resulting in better performance and less damage to plants. French farmers have a saying: “Cows eat with five mouths-one on their head and four on their feet.” The less animals walk, the more they eat.

Proper stock density, like rest periods, varies greatly depending on the forage resource and the season. In the spring, stock densities should be higher to allow livestock to keep ahead of grass. During summer months, when grass quality declines, stock densities should be increased to force animals to harvest more forage. In late summer, stock densities should be reduced to allow grass to build up reserves for fall. In the fall, depending on type of grass, stock densities can be increased to increase forage utilization.

<u>Undergrazing Pitfalls</u>

- Shades our low-growing forage species
- Produces stems of low quality
- Reduces forage production with soil capping
- Wolfy, over-mature impalatable plants

<u>Overgrazing Pitfalls</u>

- Lowers carrying capacity
- Slows root growth
- Reduces drought tolerance
- Weeds increase

Successful controlled grazing management depends on the right fencing system. Dependable, controlled grazing fence systems combine strong, durable perimeter fencing with easily adjusted interior fencing.

Calculating for Controlled Grazing

- Stock density = number of head divided by size of paddock.
- Stocking rate = number of head divided by size of grazing area.
- Rest period = (number of paddocks times grazing period) minus one grazing period.
- Carrying capacity = amount of forage available divided by number of head.
- Residual dry matter = amount of forage minus amount of forage harvested.
- Profit per acre = [(sale weight x price) minus costs] divided by number of acres.
- The Difference Between Stock Density and Stocking Rate.

Adapted from: *Small Farm Today*; August 1999. Compiled by John Fouts. For bulletin in entirety or for more information, contact WSU Extension Walla Walla County at (509) 524-2685.

Master Gardeners

PLANT CLINICS & FARMER'S MARKET

Visit the Walla Walla Extension office on Tuesdays and Thursdays from 9:00 to11:00 a.m. and 2:00 to 4:00 p.m. Bring in your home garden or lawn questions or problems and speak to a Master Gardener. Problem plant samples may be left at any time during office hours and a Master Gardener will look at the specimen during clinic hours and contact the home owner with recommendations.

Master Gardeners will also have a booth at the Downtown Farmer's Market on Saturdays through September. Visit with our Master Gardeners and pick up free tip sheets on a variety of gardening topics.

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4-H

Challenger Horse Camp was a success this year with 13 participants and numerous volunteers. Youth with disabilities were able to ride horses in various patterns for two nights and the third night were treated with miniature horse cart rides and a petting zoo.

Schedule of Pre-Fair Events:

August 24th

- 5 p.m. 4-H/FFA Pre-Fair Horse Fitting and Showmanship (Rodeo Arena)
- 6:30 p.m. 4-H/FFA Pre-Fair Horse Western Games (Rodeo Arena)

August 25th

- 3 p.m. 4-H/FFA Pre-Fair Colt Training Demonstration
- 4 p.m. 4-H/FFA Pre-Fair Colt Fitting and Showmanship
- 5 p.m. 4-H and Open Cat Show

August 26th

- 9 a.m. 4-H Dog Agility Trial Classes

- 7:30 p.m. 4-H Public Fashion Revue

Home & Garden

LAWN WATERING

A healthy lawn requires about one inch of water per week – enough to moisten the soil to 6-8 inches deep. Apply the water all at once to promote deep rooting. Use a spade to check and see how far the water penetrates into the soil. Frequent, light waterings favor shallow roots and results in plants unable to tolerate dry periods.

Many factors affect the total amount of water needed:

✓ **Soil texture and depth**

Sandy soils with little organic matter will require more water than heavy clay soils. Sloping lawns are normally drier than level, low-lying ones.

✓ **Weather**

If it just rained 1/4 inch, you probably only need to apply 3/4 inch with the sprinkler. Postpone watering if the forecast calls for rain in the next few days.

✓ **Exposure**

On hot, dry, sunny days, lawns may consume more than ¼ inch of water. Lawns in shady areas, especially during cool weather, will need less water.

✓ **Time of Day**

Water early in the morning to decrease water loss due to evaporation and to minimize disease problems such as mildew. Newly cut grass blades lose water quickly so don't mow during the heat of day during the summer.

✓ **Lawn Maintenance**

Proper fertilizing promotes deep roots and drought tolerance. Thatch and aerate your lawn as needed to improve water penetration and to reduce runoff.

✓ **Mowing Height**

Mow grass no shorter than two inches (up to three inches during hot weather) to promote deep rooting resulting in a lawn that can tolerate dry conditions. Taller grass shades the soil surface, thus reducing evaporation and sprouting of weed seeds.

✓ **Weed Control**

Control weeds to reduce competition for soil moisture.

✓ **Sprinklers**

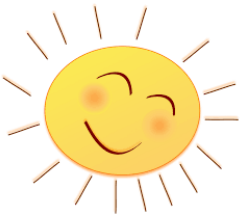
Consider a timed sprinkler, which automatically shuts off after a desired rate of application. Use a sprinkling can or hand-held hose to specifically target small areas where use of a sprinkler is wasteful.

Family Living

AG WORKERS AT HIGH RISK OF HEAT ILLNESSES

Adapted from Linda Geist & Karen Funkenbusch, University of Missouri Extension

Agriculture workers are 20 times more likely than other workers to die from heat. Heat deaths are 100 percent preventable with water, rest and shade, says University of Missouri Extension health and safety specialist Karen Funkenbusch. That is why she encourages everyone to support the "Summer 2017 Beat the Heat" campaign from the U.S. Agricultural Safety and Health Centers and the National Institute for Occupational Safety and Health (NIOSH).



Workers in farming, fishing and forestry are at high risk of heat illness because heat builds in the body during hard work. Heat illness occurs when the body can no longer cope and physical and mental functions start to break down. Farmers should be aware that heat stroke occurs when temperatures may not seem abnormally high.

Heat stroke doesn't only affect you on those 105-degree days. You can be in danger when temperatures are over 80 degrees and humidity is over 75 percent. Acclimate yourself to blistering temperatures and be especially cautious if you work in direct sunlight. Many heat illnesses are misdiagnosed. By the time workers reach an emergency room, symptoms may resemble those of a heart attack.

Under federal law, employers are responsible for providing workplaces free of known safety risks, including extreme heat. Signs of heat exhaustion include dizziness, headache, sweaty skin, weakness, cramps, nausea, vomiting and a fast heartbeat. Symptoms of heat stroke include red, hot, dry skin, high temperature, confusion, convulsions and fainting.

NIOSH offers a free app to track the heat index. Download it at cdc.gov/niosh/topics/heatstress.

The following suggestions to avoid heat illness:

- Drink water every 15 minutes. Do not wait until you are thirsty. By then, it is too late.

- Rest in the shade to cool down.
- Wear a hat and light-colored clothing.
- Keep an eye on fellow workers and family members. Ask them to watch for you.
- Start working in the heat gradually. Acclimate yourself to the heat.

Find more resources at www.osha.gov/heat.

Food Safety

CHOOSE A PRESSURE CANNER TO SAFELY PRESERVE

Adapted from Janet Hackert, University of Missouri Extension

With each year's growing season, there seems to be another round of "new and improved" kitchen gadgets to make preserving the harvest easier and better. Some can be a great help; others, like the electric multi-cooker appliances, may not result in the safe canned product one might be expecting.

University of Georgia Cooperative Extension's National Center for Home Food Preservation(NCHFP) released comments warning against the use of electric multi-cookers for canning. They warn, "We do not support the use of the USDA canning processes in the electric, multi-cooker appliances now containing 'canning' or 'steam canning' buttons on their front panels."

The NCHFP, which has conducted testing and made the canning recommendations the USDA endorses, explains their cautious reception of these appliances. The purpose of canning is to first destroy any microorganisms that may be present in food, which can cause foodborne illness, and then seal the jar to preserve the food's safety and make it shelf-stable. Testing involves measuring the temperature inside and throughout the jar of food during processing to make sure all food will reach required temperatures for the necessary length of time to render it fully safe.

For low acid foods, like vegetables and meats, the USDA's recommendations for pressure canning must be followed. Because of their low acid content, temperatures higher than the boiling point of water must be reached and this is only possible by processing under pressure. But the environment in the pressure canner is also critical to safely can. For example, the USDA guidelines say to vent the pressure canner for ten minutes. This evacuates the interior of air which, if left in the canner, can lower the actual pressure (AND temperature) inside the canner. Likewise, elevation affects the pressure inside the canner and so tested recommendations include appropriate altitude adjustments. According to NCHFP, "The position of jars in the canner and flow of steam around them also impacts the temperature in the jars."

It is unknown if the new appliances have been adequately tested with thermal process canning work. So although they may have a button that indicates canning, the resulting safety of the food is not certain. Also, these appliances are usually smaller than what is required to follow the USDA recommendations. The USDA recommends "using only pressure cookers/canners that hold four or more quart-size jars."

For more information, visit the National Center for Home Food Preservation website and search for electric multi-cookers. For a fact sheet on this topic, see Burning Issue: Canning in Electric Multi-Cookers. To watch a short video explaining what to look for in a safe canner and showing what is approved for both pressure canning and boiling water canning, go to http://nchfp.uga.edu/video/pressure_canners.html.

HAVE YOUR PRESSURE GAUGE CHECKED ANNUALLY

A pressure canner is essential for canning low-acid vegetables, meats, fish, and poultry. Two basic types are available. One has a dial gauge to indicate the pressure inside the canner; the other has a metal weighted gauge. Dial gauges must be tested for accuracy before each canning season.

The Extension Office offers free testing of your canning pressure gauge. Bring your gauge into our office at 328 W Poplar during office hours for your free test. If you have a new gauge, it is recommended to have it tested as well for accuracy.

Check the rubber gasket if your canner has one; it should be flexible and soft, not brittle, sticky or cracked. Also make sure any small pipes or ventports with openings are clean and open all the way through.

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Celebrating 100 Years of Extending Knowledge and Changing Lives.

Debbie M. Williams
County Extension Director