



Announcements

MAY

5 Blue Mountain Region Soil Health Workshop, WWCC, Main Building Room 185, Walla Walla 8:30 a.m.— 12 p.m. Plant nutrients, soil pH management options, crop residue and cover crop water management will be discussed. \$10 at the door. Contact Wayne Thompson at 509-524-2685 or email at wayne.thompson@wsu.edu for more information.

2-8 Milton-Freewater Jr. Show, Milton- Freewater Posse Grounds. Support local 4-H & FFA members as they display their talents and efforts. www.mfjrshow.com



7 Master Gardeners Return to Downtown Farmers' Market, 4th and Main. Market is open through October on Saturdays and Sundays from 9am-1pm. Look for the Master Gardeners' booth on Saturdays to get weekly gardening tips and advice on plant problems.



21, 22 Tire Recycling Event, Walla Walla County's Gravel Lot on Tausick Way, Walla Walla 9 a.m.— 3 p.m. Open to Walla Walla County Residents ONLY, limit of 10 tires per residence (36" max. with no rims)— motorcycle, passenger car, light truck sizes only. Contact Nina Baston at 509-524-2610 for more information.

25 WSU Columbia County Conservation Tour, Dayton, 9 a.m. For more information, Contact Paul Carter at 509-382-4741 or [visit http://variety.wsu.edu](http://variety.wsu.edu).

JUNE

7 WSU Horse Heaven Hills Variety Tours, Horse Heaven, 8 a.m. For more information, contact Wayne Thompson at 509-524-2685 or <http://variety.wsu.edu>.

9 WSU Variety Tours, Connell, 5 p.m. For more information, contact Wayne Thompson at 509-524-2685 or <http://variety.wsu.edu>.

10-12 Waitsburg Jr. Show, Waitsburg. Come support local youth as they have the opportunity to compete and show their talents.



25 Field Day for Washington Forest Owners, Phillips Ranch, Colville, WA, 9 a.m.— 4:30 p.m. Designed prepare to landowners to plan and execute management activities that meet their personal objectives, reduce risks and protect their financial investment.



Registration by June 20th is \$20/ person or \$30/ family. Contact Andy Perleberg at 509-667-6540 or andyp@wsu.edu for more information.

28 WSU Walla Walla County Variety Tours (pea, lentil, chickpea), Walla Walla, 10 a.m. For more information, contact Wayne Thompson at 509-524-2685 or <http://variety.wsu.edu>.

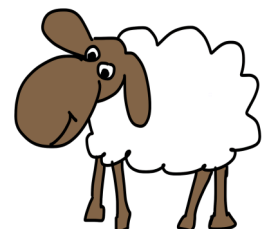
28 WSU Walla Walla County Variety Tours (Cereals), Walla Walla, 3:30 pm. For more information, contact Wayne Thompson at 509-524-2685 or <http://variety.wsu.edu>.



29 WSU Columbia County Variety Tours (cereals & legumes) Dayton, 8:00 a.m. For more information, contact Paul Carter at 509-382-4741 or visit <http://variety.wsu.edu>.

JULY

15-16 Northwest Junior Sheep Exposition, Moses Lake, WA, Grant County Fairgrounds. Participants learn how to select fast gaining lambs that are heavily muscled and will finish properly. **Entry deadline is May 1 for market lambs and June 15 for breeding and prospect lambs.** Premium books and entry forms available at: <http://www.animalag.wsu.edu/NWjuniorsheepexpo/2016/NWJsheepexpo2016.pdf>. For more information, contact Sarah M. Smith at 509-754-2011 or smithsm@wsu.edu.



Updates

STRIPE RUST UPDATE, April 13, 2016

Adapted from Xianming Chen

On April 7, I was checking wheat fields in Whitman, Garfield, Walla Walla, and Franklin counties of Washington and Umatilla County of Oregon. Winter wheat ranged from Feekes 4 to 8, and generally in good conditions. Stripe rust was found in several fields of Garfield, Franklin, and Walla Walla counties in low prevalence and severity.

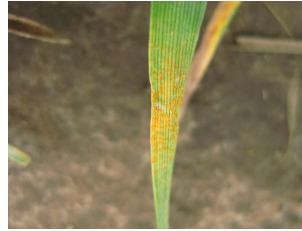
In our experimental field near Walla Walla, stripe rust had developed from early March to early April, which allowed taking an early note. The susceptible check (PS 279) had 100% prevalence and 15-30% severity. Among the commercially grown varieties in the Variety Trial Nursery, SY Clearstone CL2, AP 503 CL2, Finley, Esperia, Mandala, WB-Junction, SY 107, ARS-Crescent, Xerpha, ORCF-103, WB 528, and Rosalyn had susceptible reaction (IT 8) with severity of 2-20%.

No rust or resistant reaction (IT 2-3) was recorded for LCS Colonia, LCS Jet, WB-Arrowhead, HE 181/3, Bauermeister, Earl, Farnum, LCS-Azimut, NSA 10-2196, Norwest 553, WB-Rimrock, LCS Aymeric, LCS Evina, WB 4059, Rebaldi, LOR-092, LOR-913, WB 1604, LOR-334, Mary, ORCF-102, Legion, UI Castle CL+, UI Magic CL+, UI Palouse CL+, UI-WSU Huffman, Madsen, Curiosity CL+, Jasper, KXB-01, MelaCL+, Puma, WB 1843, Coda, Bruehl, Eltan, Masami, Otto, WB 523, Bobtail, LOR-833, Skiles, AP700 CL, SY Ovation, ARS-Selbu, and Cara.

Varieties with intermediate reaction (IT 5) included Keldin, Whetstone, WB 1529, LCS-Artdeco, and KWS 034. As these data are only from one location and in the early season, they should be used in combination with previous data for making decisions for applying fungicides in a field of a particular variety.

So far, stripe rust is widespread in the Pacific Northwest. Weather conditions will continue favoring stripe rust infection and development for next several weeks. The general recommendations are the same as those made in the previous stripe rust updates. Early fungicide application (at the herbicide application time) is necessary for fields planted with susceptible and moderately susceptible varieties. For resistant and moderately resistant varieties, fungicide application may not be needed unless active stripe rust is found in the fields. Second application of fungicides may be needed three to four weeks after the first

application when active stripe rust pustules starts appearing. For spring wheat, select resistant varieties to plant, if not planted yet; and check fields for stripe rust three weeks after planting. If active stripe rust pustules start appearing, consider using fungicides.



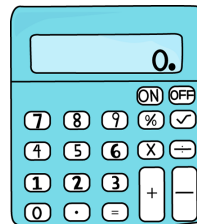
Stripe rust found in a commercial wheat field near Palouse, WA on April 12, 2016

AMMONIUM SULFATE AS A WATER CONDITIONER TO IMPROVE GLYPHOSATE EFFICACY

Drew Lyon, WSU Weed Specialist
Wayne Thompson, Regional Agronomist

Water is a universal solvent that serves as the primary carrier for pesticide applications. The quality of the water used as a carrier can have a large influence on the performance of herbicides such as glyphosate. Dissolved cations such as calcium, magnesium, zinc, iron, and manganese form complexes with glyphosate that reduce its efficacy.

Ammonium sulfate (AMS) conditions water by reacting with the dissolved cations to form insoluble sulfates that will not react with glyphosate. Spray grade AMS should be added to the spray tank and thoroughly mixed before adding glyphosate.



[Here is a handy calculator](#) that uses data from a standard water quality test to determine the amount of AMS to add to your spray tank, in pounds of AMS per 100 gallons of water.

The calculator uses an equation developed at North Dakota State

University (Nalewaja and Matysiak, 1993) to determine the required amount of AMS needed to neutralize the effects of cations in the water on glyphosate activity. Give it a try and see what you think. Questions may be directed to Wayne Thompson wayne.thompson@wsu.edu (509-524-2691) or to Drew Lyon drew.lyon@wsu.edu (509-335-2961).

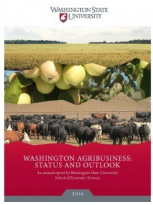
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NEW PUBLICATION HAS WASHINGTON AGRIBUSINESS FOCUS

Washington Agribusiness: Status and Outlook 2016



is the inaugural issue of a new annual publication. Produced by WSU economic sciences faculty, it examines the opportunities and challenges facing Washington agriculture. Each issue will come out in January and will provide an update on Washington's major sectors, including wheat and barley, specialty crops, tree fruit, beef, and dairy, as well as feature articles on specific issues unique each year.

A major focus this year is on the Trans Pacific Partnership trade agreement currently awaiting action by the U.S. Congress. In his article, "Status of Washington Agricultural International Exports," writer Andrew Cassey highlights the importance of trade to Washington agriculture and discusses potential impacts of the trade agreement. Writer Randy Fortenbery gives the small grains economic forecast in his piece "Situation and Outlook for Small Grains." In addition, there are two interesting articles that review the results of recently completed research projects that focus on the beef and hard cider sectors in Washington.

Executive editor Randy Fortenbery, who is also a professor in the School of Economic Sciences, intends *Washington Agribusiness: Status and Outlook 2016* to provide a concise summary of the issues facing Washington agribusiness. Timothy Nadreau, managing editor, welcomes suggestions for future content. He can be reached at timothy.nadreau@wsu.edu.

Farming & Livestock

LARKSPUR POISON CONCERNS CONTINUE FOR CATTLE PRODUCERS

Adapted from Sarah M. Smith, Extension Regional Specialist, Grant-Adams County

Tall larkspur, a common, poisonous plant that can kill cattle, may see significant blooms this year. Larkspur is one of the deadliest, most



commonly encountered poisonous plants for cattle on Western U.S. rangelands, usually occurring on foothill ranges in the spring, and in the mountains during summer.

With the increased soil moisture and larkspur levels in 2015, cattle producers could see significant larkspur blooms as weather warms this spring.

Low larkspur has a spurred blue flower that grows on the top third of a single and unbranched stem. It is found on grassy hillsides and in sagebrush areas, where it may reach a height of two feet. Leaves alternate and are divided into deep, narrow lobes, and the stem is hollow.

Low larkspur tends to grow at lower elevations—unlike tall larkspur, which grows in high elevations—where it matures and becomes dormant before soil moisture is depleted. Low larkspur begins growing in early spring, often before other forages begin growth.

Larkspur can cause heavy cattle losses in infested grazing areas when it is highly palatable to cattle, especially during the flower stage. Larkspur toxicity is highest at the vegetative/bud stage and decreases as it matures. However, the palatability of larkspur for cattle increases as the plant flowers and matures into pods. The toxic window for most cattle death is when the plant flowers and matures into pods, and palatability of the plant is increasing.



Adverse weather conditions, like the cold nights, can also greatly increase consumptions of larkspur. There is a great paragraph on page 5 of [Grazing Tall Larkspur Ranges: A Livestock Producer's Decision Making Handbook](#), that shows the toxic window and risk of toxicity relative to palatability and toxicity levels.

The lethal dose for cattle is about 0.5 percent of body weight, requiring only about 5.5 to 7.5 pounds of larkspur to kill a 1100-1500 pound cow. However, sheep can tolerate larkspur at high levels, not experiencing lethal dose until about 2.0 percent of body weight or about 3.5 pounds for a 180-pound ewe.

The toxic substances are a mixture of several alkaloids. These alkaloids and their relative toxicity and concentrations vary between individual plants, at different locations and between larkspur species. The method of toxicity has been identified as neuromuscular paralysis, leading to respiratory failure, bloat and often death. Signs of poisoning

include nervousness, weakness, staggering gait, repeated falling, rapid irregular pulse, straddled stance, mild tremors, salivation, diarrhea, bloat, vomiting, convulsions, and coma. Working cattle suspected of larkspur should be limited, because excitement and physical exercise intensifies all signs of poisoning. Death will usually occur within three to four hours of eating lethal amounts.

There is no proven treatment of larkspur poisoning. Conservative therapy, such as placing an affected animal on its brisket or chest with its head uphill to reduce bloating, is recommended. The most important thing is to avoid unduly exciting an affected animal until it can eliminate the toxins, because larkspur toxins cause paralysis of the neuromuscular system and limit an animal's ability to breathe.

If a larkspur range is treated with herbicide, do not graze it until fall. The most common herbicide treatments increase palatability and do not decrease toxicity, even though the treatment will kill the plant. Contact your local chemical company for recommendations on herbicide options.

For more information on larkspur poisoning, view the [handbook](#) listed above, or visit the [USDA Poisonous Plant Research web site](#).

VOLUNTARY STEWARDSHIP PROGRAM



The Voluntary Stewardship Program (VSP) is an alternative to the Growth Management Act (GMA) and its Critical Areas Ordinance requirements. The

critical difference between the two is that under VSP, priority is given to protecting both critical areas and the viability of agriculture. The five types of critical areas subject to VSP are wetlands, frequently flooded areas, aquifer recharge areas, geologically hazardous areas, and habitat. Only those lands that intersect with agriculture activities will be addressed under VSP.

The County opted into the VSP process in 2012, and now, 4 years later, the legislature has fully funded VSP for the entire state. The County elected to have the Walla Walla County Conservation District direct the program. The first step is designating a local watershed group that will guide the development of the county work plan. The group will have representatives from our agriculture community, including livestock and small non-commercial ag operations, watershed planning groups, and other stakeholders. The

county work plan will include, among other things, a list of the critical areas subject to VSP, an outreach plan, and benchmarks or goals for the county. The process is guided by the Washington Conservation Commission; more information on the VSP process can be found at their website: <http://scc.wa.gov/voluntary-stewardship-program/>. The Voluntary Stewardship Program is intended to give local land users a strong say in developing a plan that respects critical areas while maintaining the viability of agriculture in their community.

If you have an interest in participating on the watershed work group please contact the Walla Walla County Conservation District at 509-522-6340 ext. 5.

Family Living

CHRONIC STRESS LEADS TO HEALTH PROBLEMS

Adapted from Christeena Haynes, MS, RD, LD, University of Missouri Extension

Our lives can be very stressful and if we become accustomed to living with these feelings then we may not even realize how much it is affecting us. Our bodies are designed to respond to stressful situations in order to protect us from danger.

However, when this response is constantly turned on from continued stress, it can lead to health problems.

So what exactly goes on in the body under stress? Whenever you feel threatened, your hypothalamus, located at the base of your brain, triggers an alarm system in your body known as the "fight-or-flight reaction." This causes a sudden increase of hormones, including adrenaline and cortisol. Adrenaline speeds up your heart rate, raises your blood pressure and increases energy supplies. Cortisol, the main stress hormone, raises your blood sugar and causes your brain to use more glucose and prepares your body to repair tissues. These things are intended to help you during threatening situations.

Unfortunately, there are some negative effects related to cortisol as well. This hormone can suppress your immune system and prevent your digestive and reproductive systems from working appropriately. The release of hormones also



affects your mood, motivation and fear. Typically, once you no longer feel threatened, these responses will stop and your body will return to normal. However, when you are under a constant feeling of stress, this fight-or-flight response never shuts down, which can lead to a variety of problems including sleep disturbances, memory impairment, skin problems, depression, digestive troubles, obesity and even heart disease.

Because the daily stress in our lives can take its toll on our bodies, it is important to learn how to deal with stress in healthy ways. Here are a few tips:

- Make sure you have a good foundation by eating a healthy balanced diet, exercising and getting adequate sleep.
- Build healthy supportive relationships with family and friends.
- Use relaxation techniques and make time for yourself.
- And try to have a sense of humor about things!



Home & Garden

SUSTAINABLE GARDENING, Part 1

Walla Walla County WSU Extension Bulletin #206



A sustainable garden is one that thrives with minimal inputs of labor, water, fertilizer, and pesticides. It strives to maintain a balance between resources used and results gained. Consider

foregoing a “perfect” garden for one that is more in balance with the environment. Try to overlook a small amount of damage that is a “natural” occurrence in a healthy garden.

Sustainable gardening shares many of the techniques of organic gardening such as preventative pest management, rotations, soil fertility, and nurturing the natural enemies of the pests in your garden. Sustainable gardening promotes integrated pest management (IPM) that focuses first on preventing problems. Pest populations are monitored and if necessary, pests are identified and a combination of tactics are used to keep pest populations at an acceptable level. Tactics may include cultural, mechanical, biological, and chemical methods of pest management beginning with the least toxic methods.

A sustainable garden begins with soil that has the correct pH, good drainage, adequate fertility, and few weeds.

Completing an initial soil test can give you guidance on how to improve your soil. Choose plants that are adapted to your area and, if possible, select species that are disease- and insect-resistant. Composting yard waste and incorporating this composted material into the soil improves soil fertility and drainage and reduces the burden that garden waste adds to landfills. Mulching bare areas preserves soil moisture, suppresses weed growth, and reduces runoff. A mulch layer over landscape plants can minimize fluctuations in soil temperature and reduces root damage from temperature extremes. Organic mulches (i.e. bark chips and leaves) decompose and return nutrients to the soil to improve soil fertility.



Soil Sample Testing

SOIL PREPARATION

Good soil promotes healthy plants and healthy plants are far less susceptible to pests and disease. A soil test is a good place to start to determine what nutrients your garden may need. Adding organic matter is the best way to improve the environment for plants in nearly all soils. Organic matter improves the condition and structure of soil for better moisture retention. Compost applied to the soil surface helps control weeds, conserves water, and slowly releases nutrients.

Prepare the soil as deeply as possible. Do not add organic matter to the backfill of individual planting holes when planting. Add organic matter to an entire area, such as a landscape bed, and mix with the soil as deeply as possible.



Fertilizers supplement a soil's native nutrient supply. They are essential to good plant growth when the soil nutrient supply is inadequate. The key to applying fertilizers is to meet plant needs without creating excesses that can harm plants or the environment. When compared to processed fertilizers, organic fertilizers usually have a lower concentration of nutrients and release nutrients more slowly. Thus, larger amounts of organic fertilizers are needed, but their effects last longer. Since organic fertilizer and soil conditioning materials are slow working in general, they should be mixed into the soil at least three weeks ahead of planting and the soil thoroughly prepared for the seed or transplants.

Master Gardeners

PLANT CLINICS & FARMER'S MARKET



Visit the Walla Walla Extension office on Tuesdays and Thursdays from 9:00 to 11:00 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 beginning May 7. Visit with our Master Gardeners and pick up free tip sheets on a variety of gardening topics.

4-H

The annual 4-H Super Saturday was held on March 12th in Saint Patrick's Community Building. Many local volunteers presented workshops on a variety of topics.

April's presentation contest was a great success. Over ninety youth participated in the April 4-H contest. 4-H members will have the opportunity to return for a contest in May to improve their presentations.



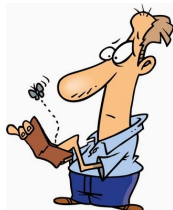
Come support the accomplishments of our 4-H youth! On May 2-8, 4-H members will be participating in the Milton Freewater Junior Show and on June 10-12 they will be exhibiting at the Waitsburg Junior Show.

Financial Fitness

JUMP-START YOUR SAVINGS

Story source: Brenda Procter, M.S., Associate Extension Professor, Personal Financial Planning, University of Missouri Extension; Written by: Debbie Johnson, Senior Writer, University of Missouri Cooperative Media Group

Money is so easy to spend; it slips through fingers like water. Even with the best intentions to put a little money aside every month, we often find there's nothing left when the month comes to a close.



But saving doesn't have to be hit-or-miss. There are simple tricks that can help you pay yourself first. A great place to start is with your annual income tax refund. You can use some or all of it to start on the road to a lifetime of saving. "A lot of people, especially low-income people, get a fairly sizable tax refund," said Brenda Procter, state consumer and family economics specialist for University of Missouri Extension. "That's the one time of year when they actually have some money to think about. So it's a perfect time to think about paying yourself first."



You can set aside some of your refund to build an emergency fund. "Research shows that a \$500 emergency fund is enough to keep most people out of trouble if something goes wrong," Procter said.

Another tip: When you pay off a loan, continue to make that payment, but pay yourself rather than the creditor.

When you do little tricks like that, you'll be amazed at how much you can put aside without really feeling it or without it having an effect on your family," Procter said.

There are so many ways in day-to-day life in which nickels, dimes and dollars slip away unnoticed. Sometimes dropping a habit can keep money from leaking out of your budget. Eating out is probably one of the biggest thieves of loose change and small bills.

"Let's say one person in the family is spending \$5 a day eating out. If you didn't do that for a year, you'd have almost \$2,000 by the end of the year," Procter said.

Little by little, it all adds up. Saving for an emergency, retirement or a financial goal is a worthwhile pursuit.

WASHINGTON STATE UNIVERSITY
WALLA WALLA COUNTY EXTENSION

Celebrating 100 Years of Extending Knowledge
and Changing Lives.

Debbie M. Williams

Debbie M. Williams
County Extension Director

Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Extension office.