WASHINGTON STATE UNIVERSITY
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Newsletter

March 2017

Announcements

MARCH

11 4-H & FFA Youth Beef Field Day, Lewiston Livestock Market, 8:00 a.m. – 3:00 p.m. This interactive youth field day provides the latest information on raising beef projects for youth, parents and leaders. Forms are available at: http://extension.wsu.edu/asotin/wp-content/uploads/sites/17/2014/02/2017-Beef-Flyer.pdf . $7/person includes lunch. For information contact Mark Heitstuman at heitstuman@wsu.edu or 509-243-2009.

18 Super Saturday, Walla Walla, St. Patrick's Community Bldg., 408 West Poplar, 9:00 a.m. – 2:15 p.m. Youth in grades 1-12 are welcome. You do not have to be in 4-H to attend. Pre-registration required. See *4-H* section for details.

25 4-H & FFA Youth Sheep & Goat Field Day, Asotin County Fairgrounds, 8:00 a.m. – 3:00 p.m. Health care, feeding & nutrition, selection, fitting & showing and more. $7/ person includes lunch. **Pre-registration due by March 18,** forms available at: **http://extension.wsu.edu/asotin/wp-content/uploads/sites/17/2014/02/2017-Sheep-Goat-Flyer.pdf**. For more information, contact Mark Heitstuman at heitstuman@wsu.edu or 509-243-2009.

APRIL

22, 23 April Fools Boer Goat Weekend, Southwest Washington Fairgrounds, Chehalis, WA. 12:00 p.m. **Prospect Wether Jackpot classes** for youth, two sanctioned **ABGA shows**, special Youth Showmanship Class, and ABGA-registered goat inspection by ABGA judges. Educational seminars & raffle. For more information, http://www.cascadebga.org.

Updates

During winter's coldest months, snow can protect winter wheat like a blanket on a bed. But if it hangs around too long it can cause problems.

Eastern Washington and Oregon are at nearly 100 days of snow. And that's the mark when dreaded snow mold starts winning against the wheat. Snow mold are fungi that come in deadly pink or speckled grey. And they form a spidery web under the snow -- eating any green in sight.

Tim Murray is with Washington State University. He's been studying snow mold off and on for 40 years.

"It takes about 100 days or so before they're able to grow enough to cause damage to the wheat plant," Murray said. "The longer the snow cover stays beyond 100 days the greater the damage potential is."

Murray said that if the snow melts off pretty quickly now, the snow mold might only be a problem in spots. But if the snow stays for several more weeks, he expects more trouble for farmers.

Many farmers are starting to plant new wheat varieties that are resistant to snow mold.

ATTENTION EASTERN WASHINGTON PESTICIDE APPLICATORS: The Washington State Department of Agriculture Pesticide Management Division has renewed a permit for applicators in Eastern Washington for **2017**. This permit allows for spray equipment to exceed the 25 psi nozzle pressure restrictions when applying Use Restricted Herbicides such as phenoxy hormone – type herbicides (e.g. 2,4 -D, 2,4-DB, 2,4-DP, MCPA, MCPB, MCPP, and dicamba) that are in rule WAC 16-230-655 and WAC 16-230-670. The purpose of this permit is to allow use of newer technology and equipment to achieve rule intent of mitigating herbicide drift. Please read the permit, which is posted on the WDSA website,

carefully to see if it applies to your spray equipment.

Feel free to contact ***R. Scott Nielsen,*** WSDA, Pesticide Compliance Division, N 222 Havana St., Suite 203, Spokane, WA 99202. Phone (509) 533-2687, or email snielsen@agr.wa.gov.

FIRST STRIPE RUST UPDATE OF THE 2017 SEASON – JANUARY 2017

As many of you know, the 2016 crop season was very favorable for stripe rust due to the mild winter and early spring with temperature and moisture conditions that were favorable for rust development. In some cases, this resulted in severe rust in fields planted to susceptible varieties and/or multiple fungicide applications to limit rust damage.

Following harvest, early rains resulted in good seeding conditions through much of our area and the fall wheat crop emerged and was infected by stripe rust spores from late-maturing fields. Consequently, stripe rust was well-established in many winter wheat fields heading into winter of 2016-2017.

Overwintering stripe rust infections are nothing new; stripe rust potential in spring depends on how well the rust survives over winter, with mild winter temperatures resulting in greater survival than cold temperatures. Dr. Chen, USDA-ARS Research Plant Pathologist in Pullman, uses models based on average temperatures from November to February to predict rust severity and just released his first stripe rust forecast of the 2017 season last week. The current forecast is positive with stripe rust predicted to be in the low range, i.e. 6% yield loss on susceptible varieties. Although this is good news, it needs to be tempered by the fact that Dr. Chen's models don't account for snow cover, which insulates the rust from cold temperatures. Many areas of eastern Washington have had protective snow cover since the middle of December. Rust potential going forward depends on how long the snow cover persists and temperatures through February. As a result, we won't really know how well the rust survived and the potential for rust until winter has broken.

Stay tuned for more rust updates as conditions change. In the meantime, you can find additional information on stripe rust, including photos showing rust percentage, under the Foliar Fungal Diseases in the Disease Resources section of the WSU Wheat and Small Grains website.

Contact Tim Murray for questions/comments at tim.murray@wsu.edu or 509-335-7515.

Biosecurity

Your backyard flock can spread germs and illness. Salmonella germs may be on their bodies or in their poop, so wash your hands after touching or cleaning their coop! Tips to protect yourself from germs.

Chicks, Ducklings, and Germs Young poultry may have *Salmonella* bacteria on their bodies, even when they are healthy and look clean. The germs also get on cages and other things the birds touch. *Salmonella* bacteria on your hands can spread to other people, surfaces, or infect you – if you don't wash up.

You Can Get Sick Anyone can get a *Salmonella* infection, which can cause serious illness. Children are especially at risk of illness because they are less likely to wash their hands and have more frequent hand-to-mouth contact than adults.

Symptoms of *Salmonella* infection begin about one to three days after exposure and include diarrhea, fever, and stomach pain. Illness usually lasts four to seven days and most people will recover without medical treatment. However, in some people the symptoms may be so severe that medical treatment or a stay in the hospital is needed. Infants, children, the elderly, and people with weakened immune systems are more likely to experience severe illness. Call your health care

provider, if you or your child has a high fever, severe diarrhea, or other symptoms that concern you.

Don't Spread Salmonella

- **Wash hands with soap and water after touching chicks and ducklings.** It is the single most important thing you can do! When soap and water are not available, alcohol-based hand wipes and gel sanitizers may be used. Sanitizers may not be as effective if hands are too dirty. Clean off as much dirt as possible before using sanitizers.
- **Young poultry are not good pets for children under 5 years old.** Raising poultry can be a great experience, but sometimes adults make the mistake of giving a chick or duckling to a young child as a spontaneous gift. Young poultry given as pets to children often don't survive, and if they do, they aren't as cute and cuddly when they're adults. Young children are also more at risk from severe illness from *Salmonella*.
- **Supervise children when handling poultry.** Don't allow children to nuzzle or kiss chicks and ducklings, touch their mouths with their hands, or eat and drink while handling birds.

Keep young poultry away from family living spaces. Keep birds and their equipment out of the kitchen. Disinfect areas where feeders, water containers, and cages are cleaned.

For information, visit: http://go.usa.gov/x9Scv.

Home & Garden

SYMPTOMS OF COLD TEMPERATURE INJURY

Adapted from FS196E Marianne Ophart & Rita Hummell

The failure of formerly healthy buds, twigs, branches, or entire plants to leaf out in the spring can be indications of cold temperature injury. In springtime, some plants may at first appear unscathed, flowering and leafing out normally, and then suddenly start dying as the weather warms. Late development of leaves is also a symptom of cold temperature injury. The failure of spring blooming trees and shrubs to flower while still developing healthy leaves can also be a symptom of cold temperature injury.

Flower buds are often damaged by freezes while vegetative buds and stem tissues remain unharmed. Root cold hardiness is usually not a problem for landscape plants established in the ground because the earth protects the roots from temperature extremes. Plants in containers are more likely to have freeze-damaged roots.

Generally, stems are hardier than vegetative buds, and vegetative buds are hardier than flower buds. Furthermore, flower buds are hardier than roots, with young roots being less cold hardy than older roots (Wiest and Steponkus 1976).

Figure 7. The hardiness of plant parts differ, with roots being the least hardy and stems being the most hardy.

Causes of Cold Temperature Injury - Cold temperature injury occurs from internal dehydration when ice crystals form either within or between the cells of plant tissues. Damage can be caused if a plant is drought stressed going into winter or if the freezing temperatures are well below 32°F (0°C).

If the onset of cold weather is sudden, water may not have a chance to move out of plant cells. When this happens, depending on the severity and length of the freeze, ice can form within the cells and cause them to burst.

Cold temperature injury occurs when:

- Unseasonably low temperatures occur in the fall before plants are fully dormant and have not become fully acclimated.
- Temperatures drop below a plant's maximum mid-winter hardiness. Fully cold hardy plant tissues vary in their individual hardiness. Flower buds are less hardy than leaf buds, which are less hardy than woody tissues. Roots are one of the least hardy tissues, but soil provides protective insulation when planted in the ground.
- Unseasonably low temperatures occur in late winter and early spring, often referred to as a "cold snap," when the plants have started to deacclimate in response to warming temperatures.
- Tree or shrub growth is stimulated by late summer to early fall fertilization and pruning. Plants with active growth late in the season experience delayed dormancy and acclimation, making them more susceptible to cold temperature injury.
- Trees or shrubs are weakened by drought stress and are more vulnerable to cold temperature injury going into fall and winter.

Identification and Treatment of Cold Temperature Injury - When some injured plants are slow to leaf out, gardeners should not rush to prune off injured tissues. Scratch a small portion of the bark with your fingernail or the edge of a small knife blade to determine if there is any green tissue underneath the bark (Figures 2). If green tissue is visible, wait to see if growth resumes in the spring. Once it becomes obvious what tissue is still alive and what is not, you should remove the damaged branches immediately using proper pruning techniques.

Prevention of Cold Temperature Injury Select

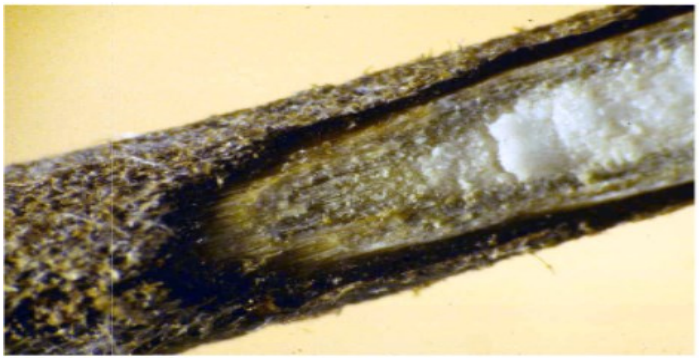

Fig. 3 If tissue beneath the bark is brown, likely branch is severely injured or dead and will not grown in spring.

Hardy Plants-Selecting cold hardy plants for the local climate is the best insurance against freeze damage. For help determining climate-appropriate cold hardy plants, visit a botanic garden or arboretum if there is one nearby. Well-kept old cemeteries can be a place to see and identify mature cold hardy trees and shrubs as well.

Many books and catalogs rate woody plants for winter hardiness using the USDA Plant Hardiness Zone System or a system of their own, such as the New Sunset Western Garden Book. The USDA's Plant Hardiness Zone Map rates plants according to the range of hardiness zones in which they survive.

An updated USDA Plant Hardiness Zone Map was released in 2012. This map divides the United States into 13 zones that differ from adjacent zones by 10 degrees; each 10-degree zone is further divided into 5-degree zones. The updated map is available online as an interactive GIS-based map at http://planthardiness.ars.usda.gov/PHZMWeb/.

A plant is more likely to be severely damaged or killed by winter cold if it is only marginally hardy in a particular zone. Marginally hardy plants are those that may experience winter damage; typically, they are rated as hardy in one zone but not in the next colder zone where they are marginally hardy. They may survive in the colder zone, especially if situated in a warmer microclimate within the landscape or given protection from cold winter temperatures.

When growing marginally hardy plants, it is especially important to avoid cultural practices in late summer that will encourage late season growth. These practices include fertilizing and pruning. Also, stressed plants are more susceptible to cold temperature injury, so keep plants as healthy as possible during the growing season.

Avoid Drought Stress- Roots do not cease growth in response to shortening day lengths and will continue to grow as-long-as soil temperatures are above freezing. Because moist soil stays warmer than dry soil, be sure that the soil is not dry going into cold weather. If fall and early winter weather is mild and dry, check the soil moisture and irrigate if needed. By watering and mulching you can provide some protection to the roots of plants growing in the ground.

To view the entire article go to: http://cru.cahe.wsu.edu/CEPublications/FS196E/FS196E.pdf .

Family Living

LIFELONG HEALTH SKILLS TO OUR KIDS

Adapted from James E. Meyer, Nutrition and Health Education Specialist, University of Missouri Extension

We can do a lot as parents to protect our kids from ailments that strike typically in middle age and beyond, according to research by Tulane University physician Gerald S. Berenson, whose Bogalusa Heart Study has been tracking 145,000 children and young adults over a period of thirty years. "It all starts in childhood," Berenson says. It's our "window of opportunity" to have an impact on a child's weight, height, bones and tooth strength.

Other diseases have their origins in childhood too. Diseases such as heart disease, high blood pressure and diabetes all can be linked back to poor habits developed during childhood. As a parent, try these suggestions to help protect your child.

Don't mix food and television. Kids consume more calories when they eat in front of TV, probably because the distraction makes them less aware of what they're eating. The Journal of Nutrition Education and Behavior reported that families who watch TV during dinner tend to eat higher-fat foods. TV-viewing comes up in virtually every study as having a strong correlation with childhood obesity.

Sit down to a family meal. A study of students in Saint Paul, Minnesota found that children who ate frequently with their families ate more fruits, vegetables, grains and calcium-rich foods, and drank fewer soft drinks.

Cut back on the juice. A small glass of orange juice in the morning is enough. Switch kids to drinking more water and low-fat milk or serve them a whole piece of fruit instead.

Encourage sporting friendships. Kids who exercise regularly are less likely to be overweight. Girls who exercise as teenagers can affect their long-term osteoporosis risk. A Purdue University study found that the most physically active children were those who had a close friend taking part in the same activity.

Keep offering rejected foods. Kids naturally prefer sweet and salty foods. They learn to like everything else. Nutritionist Susan Roberts suggests a "rule of 15," encouraging parents to offer a healthy food at least 15 times (waiting two to three weeks before bringing back a rejected food).

Control the food in the house. Exerting too much control over a child's eating can backfire. A safer bet is to pack the fridge and cupboards with healthy foods and put balanced meals on the table.

At every stage of a child's development, parental example is a good way to influence behavior. Parents who exercise and have good eating habits are more likely to have kids who do the same.

As parents, let's not overlook that one of the most important skills we can teach our children is lifelong health. Please help your child learn good health and nutrition habits. It's a skill that will last their lifetime.

Food Safety

PLAN AHEAD FOR HOME CANNING THIS SUMMER

If you are just now thinking about joining the trend in our communities to can food this summer, start by checking your equipment and supplies. Proper equipment in good condition is required for safe, high quality home canned food.

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. For information on testing a dial gauge, call your county Extension Office or a local hardware store. 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.

A boiling water canner is needed for canning other foods such as fruits, pickles, jellies and jams. The canner should be deep enough to allow at least one to two inches of water to boil over the tops of the jars.

Both types of canners should have a rack in the bottom to keep jars off the bottom of the canner.

Inventory your jars and decide if you need to buy new jars this year. Inspect those you have for nicks, cracks or chips, especially around the top sealing edge. Nicks can prevent lids from sealing. Very old jars can weaken with age and repeated use; they break under pressure and heat. Consider investing in new jars if you need to, and watch for specials at the stores. New jars are a better investment over time than buying used jars at yard sales or flea markets.

Mason-type jars specifically designed for home canning are best. Jars that use two-piece self-sealing metal lids are the recommended container in USDA guidelines. A "must" every canning season is new flat lids. Used lids should be thrown away. The screw bands are re-usable if they are not bent, dented or rusted.

A final must is reliable, up-to-date canning instructions. Publications and information are available at your county Extension office, or on this website for the National Center for Home Food Preservation. The most recently revised edition of the USDA Complete Guide to Home Canning is dated 2009; all recommendations in this book are current. The University of Georgia Cooperative Extension Service also sells So Easy to Preserve, a comprehensive book with information on all types of home food preservation. The order form for the book can be printed from www.soeasytopreserve.com. Directions for payment and mailing or faxing orders are on that order form.

Be sure to look at the instructions for what you want to can well before you are ready to prepare the food. You may need time to purchase some ingredients and small equipment that are necessary to prepare food exactly as the directions indicate. There are a few products in the USDA Complete Guide to Home Canning, for example, that use a starch only available through mail order for most locations.

Planning ahead can save you time, money, and frustration with home canning. Make it a happy, successful canning season by getting prepared before your harvest is ready.

Prepared by Elizabeth L. Andress, Ph.D., Extension Food Safety Specialist, The University of Georgia. March 2011

4-H

SUPER SATURDAY

Walla Walla County 4-H will be hosting our annual Community Super Saturday Program on March 18, 2017 from 9 am to 2:15 pm. Join us for a day of fun and hands-on educational workshops for youth in grades 1–12. Open to all youth including non 4-H. Youth will have the opportunity to choose from a variety of classes including robotics, aeronautics, community service, food science, teen leadership, and more.

Pre-registration and a fee of $5 per person are required. Youth scholarships are available in case of financial hardship. Some classes have age restrictions. Class sizes are limited and fill up on a first come (paid), first enrolled basis. Register early! For more information, stop by the WSU Extension office, visit http://extension.wsu.edu/wallawalla/ or call WSU Extension at 524-2685, or email mowens@wsu.edu .

Farming & Livestock

VARIABLE RATE NITROGEN APPLICATION – A GROWER'S PERSPECTIVE

The unique, hilly topography of the inland Pacific Northwest causes great within-field variability in soil and water conditions. As a result, crop yield potential and crop response to nitrogen (N) applications will vary according to the hillslope position, steepness, and aspect of any planted location. Thus, variable rate N (VRN) application makes sense for growers in this region.

In a recently published case study, Variable Rate Nitrogen Application: Eric Odberg, a grower from Genesee, Idaho, shares his 10 years of experience using VRN application in a direct seeding (no-till) system. Although transitioning to VRN application is a big decision with many challenges along the way, Eric's 10 years of experience has brought him numerous benefits. These benefits include reduced fertilizer input, reduced lodging, reduced risk of N losses to the environment, and increased financial gain. Furthermore, because Eric complements VRN application with direct seeding and diversified crop rotations, his farm's soil quality has also improved.

For questions or comments, contact Georgine Yorgey (yorgey@wsu.edu) or Sylvia Kantor (kantors@wsu.edu) at the Center for Sustaining Agriculture and Nature Resources, Washington State University, or Kathleen Painter (kpainter@uidaho.edu) at the Department of Agricultural Economics and Rural Sociology, University of Idaho.

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Celebrating 100 Years of Extending Knowledge and Changing Lives.

Debbie M. Williams
County Extension Director