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Newsletter

September 2016

Announcements

SEPTEMBER

10 Walla Walla Community Hospice Pond & Garden Tour, 9 a.m.—4 p.m., $25 per person. A self-guided tour of ten beautiful gardens in the area that incorporate water features in their design. Tickets are limited, and must be purchased in advance at Bright's Candies & Gifts, 11 E Main Street; at the Walla Walla Community Hospice Office at 1067 Isaacs Avenue; or online at www.wwhospice.org. For more information, call 509-525-5561.

All proceeds from the Pond and Garden Tour will be used toward providing quality hospice care in Walla Walla, Columbia, and Northeast Umatilla Counties.

OCTOBER

1 Experience 4-H! Learn about local 4-H Clubs at the Downtown Farmer's Market from 9 a.m. until 1 p.m. Information on current projects; how to join a 4-H Club; as well as fun, hands-on activities.

Updates

WEST NILES VIRUS

Adapted from the American Association of Equine Practitioners

West Nile virus (WNV) is a concern for horses AND people. Remember to wear repellant and control mosquito populations. Late summer is when most WNV instances appear. Mosquitoes won't be gone until a killing frost.

WNV is the leading cause of arbovirus encephalitis in horses and humans in the United States. Since 1999, over 25,000 cases of WNV encephalitis have been reported in U.S. horses. Horses represent 96.9% of all reported non-human mammalian cases of WNV disease.


© Can Stock Photo

This virus has been identified in all of the continental United States, most of Canada and Mexico, most recently in Walla Walla County. The virus is transmitted from avian reservoir hosts by mosquitoes (and infrequently by other bloodsucking insects) to horses, humans and a number of other mammals. West Nile virus is transmitted by many different mosquito species and this varies geographically. The virus and mosquito host interactions result in regional change in virulence of the virus and no prediction can be made regarding future trends in local activity of the viruses. Horses and humans are considered to be dead-end hosts for WNV; the virus is not directly contagious from horse to horse or horse to human. Indirect transmission via mosquitoes from infected horses is highly unlikely as these horses do not circulate a significant amount of virus in their blood.

The case fatality rate for horses exhibiting clinical signs of WNV infection is approximately 33%. Data have supported that 40% of horses that survive the acute illness caused by WNV still exhibit residual effects, such as gait and behavioral abnormalities, 6-months post-diagnosis. Thus vaccination for West Nile virus is recommended as a core vaccine and is an essential standard of care for all horses in North America.

West Nile virus vaccines are licensed either as 1) an aid in prevention of viremia; 2) an aid in reduction of viremia, encephalitis and clinical disease; 3) an aid in prevention of disease, viremia, and encephalitis; or 4) an aid in prevention of viremia and mortality, and an aid in reduction of severity of clinical disease.

WSU VARIETY TESTING RESULTS FOR WALLA WALLA COUNTY

For current data on wheat and small grains, go to the following link: http://smallgrains.wsu.edu/variety/2016-data/.

Farming & Livestock

MANAGING THE RISK OF LOW FALLING NUMBERS IN WHEAT

Adapted from WSU FS242E

Grain is purchased at a discount when falling numbers are below 300 seconds (sec). This can result in serious financial losses for farmers. This article addresses many commonly asked questions about the Hagberg-Perten Falling Number test, and provides some suggestions for reducing losses due to low falling numbers.

What is the Falling Number test?

The Hagberg-Perten Falling Number test is used to measure damage to starch in flour (Perten 1964). Low falling numbers result from high levels of the enzyme alpha-amylase (Perten 1964; Kruger and Tipples 1980; Yu et al. 2015). Alpha-amylase catalyzes cleavage of starch chains. This starch damage leads to poor end-use quality of wheat products including bread, noodles, and cakes (Farrand 1964; Batey et al. 1997; Gooding and Davies 1997). For example, Japanese-style sponge cakes show an increasing tendency to fall with increasing levels of alpha-amylase (Figure 1).

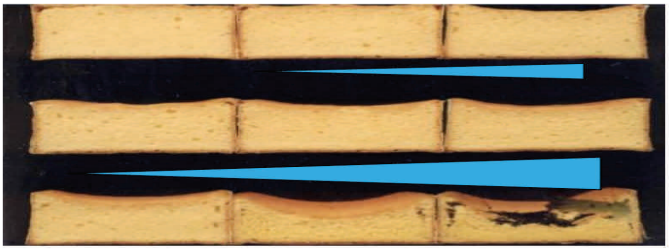

Figure 1. Sponge cakes fall with the increasing alpha-amylase content that can come from pre-harvest sprouting. Image re-produced with permission from C. Morris, WWQL, USDA-ARS, Pullman WA.

The falling number test is based on the principle that starch damage from alpha-amylase reduces the ability of wheat flour to "gel." During the test, a flour/water mixture is heated and stirred, like making gravy. Once the mixture has been stirred for exactly 60 sec, the falling number instrument measures the length of time in seconds needed for the stirrer to fall through the mixture (also see the video What is the Falling Number Test?). With more starch damage, the mixture is thinner, and the stirrer falls faster. The lowest possible falling number is 60 sec (the length of time the gravy is stirred). Grain with a falling number below 300 sec is typically discounted in the Pacific Northwest (PNW). The goal is to keep the falling number of PNW wheat higher in order to compete well in the export market.

What is pre-harvest sprouting?

Pre-harvest sprouting is the initiation of grain germination while still on the mother plant (Lunn et al. 2001). Germinating seeds make alpha-amylase. This alpha-amylase cleaves starch chains into sugars that can be used to fuel seedling growth.

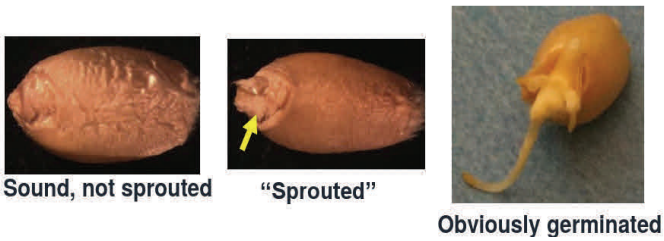

Figure 1. A sprouted grain with a seedling root just poking out of the grain is not obviously germinated, but has low falling numbers and high amylase. Photos by S. Martinez and C. Steber.

Why don't all mature seeds sprout right away in the rain?

Some wheat varieties can germinate immediately after the grains mature, while some cannot (Tuttle et al. 2015). Varieties that are unable to germinate immediately after maturity are considered dormant or "asleep." There are two ways to break the dormancy of such varieties. The first is to store them dry so that they "after-ripen"; this period of dry storage can range from two weeks to one year depending on the variety. The second way is to subject them to cold and wet conditions (wetness alone is not enough). Differences in seed dormancy explain 60–80% of the variation in pre-harvest sprouting susceptibility (DePauw and McCaig 1991).

What kind of weather promotes pre-harvest sprouting?

Not all rainstorms induce pre-harvest sprouting. Cool weather combined with rain increases the likelihood of pre-harvest sprouting. If the temperatures are in the 80's when it rains, then wheat is less likely to

sprout than if the temperatures are in the 60's (degrees Fahrenheit). Low falling numbers are also more likely when there are multiple rainy days in a row, as it is more likely that dormancy will be broken and germination started if the wheat stays wet longer. When conditions are cool and wet for an extended period of time, even cultivars that are highly resistant to pre-harvest sprouting will sprout.

How do you spot a sprouted grain?

It takes a lot of rainfall to make a seedling visibly sprout out from a wheat spike (about 3 days of constant rain at 70°F). But you can see visible signs of sprout in as little as 24 hours if you look closely at an individual grain. You can sometimes see a small root protruding from the germ-end of the grain (Figure 1). Such grain can have a very low falling number (under 200 sec). As the sprouted grain dries, the root can shrink back into the grain leaving behind a small crack or crater at the embryo/germ end. Sometimes this cracked end breaks, leaving behind a germ-less grain. A magnifying glass can be useful in spotting these early signs of sprouting.

Why do we see low falling numbers in wheat that is not visibly sprouted?

The germination process begins before the wheat seedling pokes out from the grain. The enzyme alpha -amylase can be produced before the grain is visibly sprouted. This is why you can sometimes have rained-on grain that has a falling number below 300 sec, but is not visibly sprouted. The other possible explanation is that the low falling numbers were not caused by sprouting.

Is pre-harvest sprouting the only possible cause of low falling numbers?

Pre-harvest sprouting in response to rain is not the only possible cause of low falling numbers. Low falling numbers (200–300 sec) can also be caused by what is called late-maturity alpha-amylase (also called LMA; Mares and Mrva 2008). The production of this alpha-amylase is caused by heat shock or cold shock during late grain maturation (26 to 30 days after pollen shedding). Late-maturity alpha-amylase causes low falling numbers in grain that visually appears to be sound. Thus, big temperature fluctuations can cause low falling numbers in susceptible cultivars, even without rain. While late-maturity alpha-amylase has been a problem in Australian wheat since the early 1990s, genetic susceptibility was discovered fairly recently in PNW wheat. Some late-maturity alpha-amylase-prone lines include Bruehl, Jasper, SY-Ovation, and Alturas.

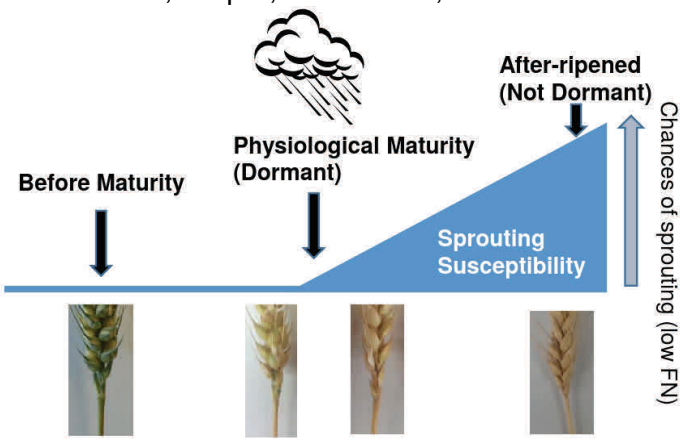

Figure 3. The chance that rain will induce sprouting and low falling numbers (FN) increases the longer the wheat "after-ripens," or sits dry on the mother plant after the wheat matures (turns yellow). Dormancy and sprouting tolerance are lost as the wheat stands in the field. Thus, there may be differences in apparent resistance to low falling numbers in different years depending on the timing of the rain event relative to crop maturity.

What can farmers do to reduce economic losses due to low falling numbers?

- Harvest wheat quickly after maturity.
- Plant wheat cultivars with genetic resistance to pre-harvest sprouting and late-maturity alpha-amylase.
- Avoid mixing sprouted grain with un-sprouted grain.
- Store mildly sprouted grain.

For the complete publication go to: http://pubs.wpdev.cahnrs.wsu.edu/pubs/fs242e/?pub-pdf=true.

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Home & Garden

DRYING IS A GREAT WAY TO PRESERVE SUMMER BERRIES

Adapted from Janet Hackert, University of Missouri Extension

Summer is a great time for berries. If you have extra berries that you're not sure what to do with, consider drying some of them.

University of Georgia Extension ranks strawberries as fair to good for drying. They are also fairly easy to dehydrate and, as a soft berry, they need no pre-treatment. Firm berries with a skin (e.g., blueberries, currents, gooseberries and cranberries) need to be "checked" before drying. This is done by plunging the berries in boiling water for 15 to 30 seconds, then into ice water to stop the cooking process. Then the berries need to be drained on paper towels.

To dehydrate, simply place whole berries in a single layer on dehydrator trays (so they do not touch) and dehydrate at 135-140°F for 24-36 hours. For 1/4 to 3/8 inch strawberry slices, dehydrate for 7-15 hours or until dry, leathery and crisp. Smaller round berries should rattle when dry. After dehydrating, let berries cool for 30-60 minutes. Do not let dried berries sit too long or they may begin to pick up moisture from the room air.

Next, condition the fruit. This helps distribute the moisture more evenly throughout the container to avoid moisture build-up in any one part. If moisture does build up, mold and other spoilage could occur. Simply pack cool berries loosely in sealed plastic or glass containers and store for 7-10 days, shaking daily to separate pieces. Moisture distribution will even out more with each shaking. If condensation shows up, re-dry and condition again.

Package dried conditioned berries in air-tight, moisture-tight containers and store in a cool, dry place (they do not need to be frozen).

Master Gardeners

FALL MAINTENANCE AND CLEAN UP CHECKLIST

Adapted from OSU Extension

- Harvest winter squash when the "ground spot" changes from white to a cream or gold color.
- Pick and store winter squash; mulch carrot, parsnip, and beets for winter harvesting.
- Protect tomatoes and/or pick green tomatoes and ripen indoors if frost threatens.
- Reduce water on trees, shrubs, and vines east of Cascades to harden them for winter.
- Stake tall flowers to keep them from blowing over in fall winds.
- Dig, clean, and store tuberous begonias if frost threatens.
- Harvest potatoes when the tops die down. Store them in a dark location.
- Optimal time for establishing a new lawn is August through mid-September.
- Aerate lawns.
- **Early-September**: Apply 1 pound nitrogen per 1,000 square feet to lawns. Reduce risks of run-off into local waterways by not fertilizing just prior to rain, and not over-irrigating so that water runs off of lawn and onto sidewalk or street.
- Recycle disease-free plant material and kitchen vegetable and fruit scraps into compost. Don't compost diseased plants unless you are using the "hot compost" method (120° to 150° F).

Planting/Propagation

- Divide peonies and iris.
- Plant or transplant woody ornamentals and mature herbaceous perennials. Fall planting of trees, shrubs and perennials can encourage healthy root growth over the winter.
- Plant daffodils, tulips, and crocus for spring bloom. Work calcium and phosphorus into the soil below the bulbs at planting time. Remember when purchasing bulbs, the size of the bulb is directly correlated to the size of the flower yet to come in spring.

Family Living

DIASTERS, MEDIA AND YOUR CHILD

Adapted from the Trauma & Grief Network

When natural disasters or man-made disasters occur elsewhere in the world, they are often given constant media coverage. It can seem like every time you turn on the TV there is more news about the event, who has been hurt and what is happening now.

Media coverage during times of disaster is important. It can help to provide people who have been affected by the disaster with news and information about where to go, how to access help and when it is safe to return to their homes. However, many people, including children and families, can become absorbed by the constant news stream about the disaster and sometimes watch or listen for hours. We know that during times of disaster children need to be protected and kept in mind. This can also mean not allowing them to have too much access to media coverage about the disaster.

The Impacts

When disasters are being shown on TV, or covered on the radio or on the internet, parents really need to be mindful about how much exposure their child has to this. The media often focus on the most frightening aspects of a disaster and this coverage can often contain graphic, scary and disturbing images. Seeing this type of media coverage can cause distress or worry for children. Children and young people will also often discuss what they have seen in the media with each other, so even though your child may not be seeing it on TV, they are still exposed to it by their friends.

Some of the ways that this sort of media coverage can impact children and young people are:

- It can lead to children and young people thinking a lot about the disaster and this can impact their sleep and their time at school.
- It can cause worry and anxiety that the same sort of disaster may happen to them or their family
- It can lead them to generally feel that they are unsafe and that something bad may happen to them or their family. The more media coverage a child or young person sees, the more likely it is that they will become afraid or upset.

Helping your child

It is important that parents, care givers and other family members help children and young people to cope with the media coverage that they may see of a disaster.

Some ways that you can do this include:

- Restricting the amount of time that children and young people are able to watch TV or internet coverage of the disaster.
- Making sure that you are there with your child when they are watching coverage of a disaster. This way you can talk to them about their fears and answer any questions that they may have.
- Distracting your child from the media coverage by doing something else with them, such as watching a different TV show or playing a game.
- Helping your child to understand what has happened and why it has happened and providing information on how likely this is to happen to you and your family.
- Reminding your child that while what is happening in the disaster is upsetting, there are also lots of good things happening in the world, though these do not always receive the same level of media coverage.
- Giving support to your child when upset, answering their questions and comforting them with physical affection. Talking to your child and making sure that you continue to follow the normal routines and rhythms of your daily life are important ways to help your child feel safe and secure. Keep in mind that if your child does begin to show signs of excessive worry or distress at the media coverage they have seen, you may need to speak to your GP or another health professional.

4-H

Fair was a tremendous success and we want to thank the many volunteers that gave countless hours of their time to help make it all happen!

October marks the beginning of the new 4-H year. Join us October 1st to explore the opportunities that 4-H has to offer. Experience 4-H takes place at the Downtown Farmer's Market from 9 a.m.—1 p.m. It is a wonderful opportunity to learn more about the opportunities that 4-H has to offer and also join in some fun activities.

Take the opportunity to explore the possibility of becoming a 4-H leader. They are the foundation of 4-H, and play a key role in helping young people grow and become active members of their communities. Consider becoming a 4-H leader!

Financial Fitness

FUN THINGS TO DO FOR LITTLE OR NO COST

Adapted from Kim Allen, Ph.D., M.F.T., Christina Crawford, M.A., former Extension Associate, University of Missouri Extension

Spending time and enjoying activities together is important for creating and nurturing strong relationships. Having a healthy couple relationship or a good relationship with a close friend can help decrease stress. It is especially important to engage in joyous and meaningful activities when money is tight, as money is one of the most stressful issues for families.

Luckily, having fun does not necessarily mean spending a lot of money. In fact, most families say their best memories are about the quality of the time together. The key is to plan regular times to be together and have fun. Here is a list of low-cost activities for having fun together.

- Rent a movie and watch it together.
- Go swimming at a nearby lake or public pool.
- Play a board game or a game of cards.
- Go camping.
- Go to a matinee movie at the theater.
- Have a picnic at a local park or on your living room floor.
- Go for a walk.
- Watch a favorite TV show together.
- Visit the local library.
- Have a candlelit dinner at home.
- Go to a local park — play on the swings, play basketball or just sit on a park bench.
- Cook a meal together.
- Visit a museum or historical site.
- Browse a local flea market.
- Grow a garden.

Check your local newspaper, parks and recreation department and Chamber of Commerce to find out about other events or attractions in your area.

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Debbie M. Williams
County Extension Director