



## Announcements

### November

**9, 10 Pacific Northwest Ag Industry Expo**, TRAC Center Pasco, WA 8 a.m.—5 p.m. For more details visit: <http://washingtongnetwork.com/pnw-agie/>.

**13 4-H Achievement Night**, Walla Walla County Fairgrounds Community Building, 5:00 p.m. Come join us to celebrate the achievements of our 4-H youth. Come early to see all of the silent auction items. Bring a hot dish and a salad or dessert, serving utensils, plates, and silverware for your family and guests. Coffee and punch provided.



If you would like to donate an item or a service to the 4-H silent auction, please bring it to the WSU Extension office at 328 West Poplar Street by November 7th. No used items, please.

**15 Walla Walla County Noxious Weed Board Public Meeting**, WSU Extension Office, 328 West Poplar at 1:30 p.m. Open to anyone who would like to add their input to the 2017 county weed program.



### December

**5, 6, 7 Pesticide Training & Recertification** Pasco, Holiday Inn Express at the TRAC, 8:00 am – 4:30 pm. Classes for the 2016-2017 WSU Eastern Washington Pesticide Education will be held in Pasco. Class fee is \$60/ day (not including license and testing fee). Registration forms available at the Extension Office along with testing materials. Registration for the courses online at: <http://pep.wsu.edu>. Internet pre-license classes are also available for a fee at: <http://pep.wsu.edu/ewplt/>. Internet Recertification One-Credit Classes are available at: <http://pep.wsu.edu/rct/recertonline/>. For questions, call 509-335-2830.

**6 Last Chance Pesticide Recertification Class** Walla Walla Regional Airport, 8:30 a.m. to 3:30 p.m. 3-5 WSDA Credits available. Call 509-524-2685 for questions. Fee of \$25 includes lunch.

**13, 14 Wheat Academy**, Pullman, WA Vogel Plant Biosciences Building. Registration cost \$125 for ag professionals and \$75 for growers. Visit <http://smallgrains.wsu.edu/2016-wheat-academy/> for schedule and registration information.

### January

**17 Cereal Grain Seminar**, Walla Walla Regional Airport 8:30 a.m. to 3:30 p.m. 4-6 WSDA credits will be available. Call 509-524-2685 for questions. Fee of \$30 includes lunch.

4-H

**Congratulations** to all of our 4-H state fair participants. Please make sure to thank Platt Electric for shipping all our state fair exhibits!



### 4-H Still Life Exhibitors:

Lilyan Adamson, Bethany Bennett, Miriam Bennett, Nathanael Bennett, Erin Chapin, Leah Chapin, Timothy Daves, Jared Farley, Sophie Fraser, Piper Fredrickson, Xander Fredrickson, Lauren Green, Lauren Hollopeter, Sarah Hong, William Hong, Marissa McBride, Rem McBride, Alicia Newcomb, Kiana Newcomb, Gracie Olmstead, Astrid Owen, Peter Owen, Amanda Verkist.

### 4-H Contest Participants

Livestock Judging: Skylar Druffel, Tanner Druffel, Jared Farley, Bow Maiden; Fashion Revue: Kelly Michelson, Arianna Wylie; Public Presentation: Alicia Newcomb, Gracie Olmstead; National Equine Contest: Hayley Taylor; Kitchen Activities: Alicia Newcomb.



### Union Bulletin Supports 4-H Program

A special thank you to the Union Bulletin for the gracious donation of advertising space to celebrate *National 4-H Week!*

### 4-H Potluck, Auction, & Awards Program

All 4-H families, friends, and supporters are invited to the 4-H Achievement Program on Sunday, November 13th starting at 5:00 p.m. The evening includes a potluck dinner, silent auction, and awards program. Join us in celebrating another successful 4-H year!

## Updates

### VALUE OF WASHINGTON AG HITS NEW RECORD

Posted By: Glenn Vaagenon, Olympic Tree Fruit



2015 was a banner year for Washington Agriculture. The Value of the state's agriculture production during the 2015 season hit \$10.7 billion, setting a new record, eclipsing the previous high set in 2014 by 5%. Much of that increase came because of the record high value of apples which increased 27% year-over-year. Apples remain Washington's leading agriculture commodity, with a value of \$2.4 billion.

The remaining top five commodities held from 2014, with Milk coming in the second position at \$1.14 billion, which is a 30% drop from last year, and the lowest figure reported since 2010. Cattle and Calves came in at #3, valued at \$858 million. Potato value increased slightly to \$772 million, but remain at the #4 spot. And wheat rounded out the top five with a value of \$600 million, down 16% from 2014 figures.

The remaining top ten commodities include Hay, cherries, eggs, grapes and hops.

For a breakdown of the value of each commodity, visit [USDA's Website](#).

## Farming & Livestock

### BIOSOLIDS – UNDERSTANDING BENEFITS AND RISKS

Adapted from Georgine Yorgey, WSU Center for Sustainable Agriculture & Natural Resources

Biosolids? Yes, that means sewage sludge. Well, sort of. But before you say YUCK and stop reading, let's start with what they really are: biosolids are the materials produced from digestion of sewage at city wastewater treatment plants. They are rich in plant nutrients such as organic carbon, nitrogen, and phosphorus, and can be applied to wheat, alfalfa, and timber land for plant fertilization and soil conditioning. When biosolids are applied at rates that meet plant nutrient needs, farmers and researchers are seeing crop yields equal to or greater than those seen with synthetic fertilizer. Applying biosolids as fertilizer also allows them to be recycled for a useful purpose rather than disposed of in landfills or incinerated.

In addition to the benefits to plant growth and the waste stream, biosolids can serve another role. Applying biosolids to the land can benefit the

climate because they sequester carbon in the soil in the form of enhanced organic matter. Given current climate concerns, that could be one small but important piece of a wider mitigation strategy.

While the benefits of biosolids are many, there are also perceived risks. A new WSU Extension fact sheet: [Guide to Biosolids Quality](#) by Shannon Mitchell, Chad Kruger, and Georgine Yorgey, digs into these risks and discusses major categories of contaminants and explains what is currently known about them. Concern about contaminants arises because municipal facilities treat wastewater from industrial and household sources that may contain small amounts of various contaminants including metals, pathogens, antibiotics, industrial and household chemicals, odorants, and aerosols. Some of these contaminants (often called "emerging contaminants") may be compounds whose impacts are not well understood.



Biosolids being spread on agricultural fields. Photo: A. Bary.

To date, research indicates that the major classes of contaminants in biosolids pose a minimal risk to human, animal, or environmental health. This is often because contaminants do not appear in sufficiently high concentrations

to cause harm or because they are not taken up by crops even when present in soils. To further minimize risk, the application of biosolids is highly regulated by state environmental protection departments and by the EPA.

Ongoing research on biosolids continues to investigate contaminants and potential impacts. New research findings are reviewed periodically and risk assessments conducted to reevaluate the effectiveness of existing biosolids land-application regulations.

For all the details, see the [extension publication](#) or visit the [Washington State University Biosolids Management](#) website.

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### ENVIRONMENTAL INJURY: WINTER BURN OF EVERGREENS

Adapted from WSU publication FS239E

Winter burn is a type of environmental injury that occurs on evergreen trees and shrubs. This includes needled evergreens such as arborvitae, cedar, fir, juniper, pine, spruce, and yew and broadleaf evergreens such as rhododendron, laurel, mahonia, St. Johnswort and boxwood.

#### Symptoms of Winter Burn

Symptoms of winter burn, also called winter desiccation, range from brown, dry needle tips or leaf edges to the reddening or browning and death of entire needles or leaves (Figures 1). Winter burn may not be immediately apparent when it occurs because the affected foliage may not turn brown until the weather warms in late winter or early spring. When winter burn is extremely severe, the foliage on entire branches and plants can be affected. However, winter burn damage is typically most severe on the sides of the plant more exposed to sun, wind, or both.

#### Cause of Winter Burn

Most needled and broadleaf evergreens retain their needles and leaves over the winter. These needles and leaves are capable of normal physiological plant processes. Because of this ability, they continue to transpire, losing moisture through the pore-like openings (called stomata) in their leaves.

Winter burn occurs when the water lost through the stomata in the needles and leaves isn't replaced at the same rate. This happens when there is not adequate available soil moisture for the plant's roots to absorb, when the plant roots are not well established as with newly planted evergreens, or when the soil is frozen making it impossible for the roots to absorb moisture. Areas where water settles and submerges root systems can also lead to winter burn because the roots are unable to function without oxygen and, as a result, cannot absorb water.

Direct sunshine, reflected sunlight, and windy conditions increase the amount of water lost through transpiration and thus increase the severity of winter burn.

Evergreens predisposed to winter burn include:

- Those with a south or southwest exposure.
- Those overly exposed to winter winds. Those in dry or poorly drained soils.
- Newly planted trees and shrubs that do not have a well-established root system
- Those with root problems that restrict water uptake, such as girdling roots, restricted roots, or roots that have been planted too deep
- Those suffering stress from drought, insect, or disease problems
- Those with roots not protected by mulch
- Species poorly adapted to the climate and conditions of the site

#### Treatment of Winter Burn

Do not rush to remove injured portions of the evergreens. In some cases, only the current foliage is damaged and new healthy growth may develop from the buds on the twigs and branches the following spring. Scratch a small area of the bark with your fingernail or a pocket knife to determine if there is any green tissue underneath. If green tissue is visible, wait and see what may develop. However, once it becomes obvious what is still alive and what is not, you should remove the damaged tissues immediately with proper pruning cuts. For more information, see the WSU Extension Home Garden Series publication FS196E, Cold Temperature Injury of Landscape Woody Ornamentals.

#### Prevention of Winter Burn

Proper watering of your evergreens throughout the growing season is essential to help prevent winter burn. Researchers used pyramidal, tall, hedge-type arborvitae to evaluate fall watering practices. They found that watering during summer and early fall dry periods to prevent drought stress from becoming severe was necessary to reduce the incidence of injury to this evergreen conifer (Pellett et al. 1980). Periodically check for soil moisture during mild (above 40°F) fall and winter weather. If the soil is dry, water evergreen trees and shrubs deeply. This is particularly important in regions where there is negligible natural fall and winter precipitation or in areas that don't receive natural precipitation, such as underneath the eaves of a building. Do not irrigate when the soil is frozen. Watering is especially important for trees and shrubs planted within the last two years that may not have well-established root systems yet. Coarse organic mulch applied over the root zone of trees and shrubs will help maintain soil moisture (Chalker-Scott 2007).



Figure 1. Winter burn injury to the needles of pine. Photo by William Jacobi,,Colorado State University



Place a three- to four-inch-thick layer of mulch, such as wood chips or shredded bark, over tree and shrub roots in landscape beds. Put the mulch close to, but not touching, the base of the trunk. For information on using wood chip mulches see WSU Extension publication FS160E, Using Arborist Wood Chips as Landscape Mulch.



Figure 2. Reliable snow cover helps to protect evergreens like this cherry laurel from winter burn.

In wind prone areas of the landscape, you can also protect smaller evergreen shrubs and trees by constructing a screen made with wood slat fencing, burlap, or canvas on the sunny and windward sides to buffer the wind and shade the plant. Place the screen approximately two feet away from the plant. Reliable snow cover during the winter can help protect evergreen foliage from winter burn. Foliage on the lower part of the evergreen cherry laurel shown in Figure 2 was blanketed under snow and protected while the upper portion of the plant, above the snowline, was damaged. Light, dry snow is a preferred insulator. Heavy, wet snow should be carefully removed before it weighs down and bends or breaks branches.

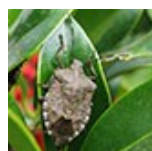
Avoid planting evergreens in the following areas:

- Southern and southwestern exposures
- Wind prone locations
- Where winter precipitation pools and submerges plant root systems
- Where plants are prevented from receiving natural precipitation because of structural features like eaves or overhangs.

## Master Gardeners

### STINK BUGS INVADE MORE COUNTIES, HOMES IN WASHINGTON

By Linda Weiford, WSU News



PULLMAN, Wash. — A recent upsurge of dirty, rotten, no-good brown marmorated stink bugs in the Pacific Northwest has researchers scrambling to keep the insect's numbers from exploding.

Since September, the agricultural pest has turned up in significantly larger numbers in traps and inside people's homes in Washington state. The bug has been detected in Lewis and Skagit counties, bringing

the documented number of inhabited counties from 17 to 19.

"It's obvious that the brown marmorated stink bug is building its population and expanding its range," said Washington State University entomologist Elizabeth Beers, a member of a national scientist SWAT team that's working to track and control it. "It's our hope that this doesn't mark a turning point where the insect will start causing crop damage after it emerges in spring."

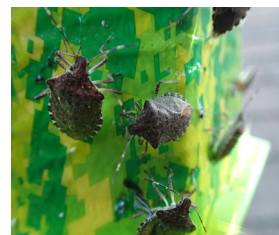
The shield-shaped bug from Asia gorges on everything from apples and lima beans to flowering dogwoods. After its discovery in Pennsylvania almost two decades ago, it has moved westward and was detected in Portland, OR, in 2006 and in Washington several years later.

### 'Quite a jump'

In recent weeks, researchers in Washington have captured hundreds of the bugs in traps, mostly in Yakima and Walla Walla. In a pheromone-baited trap placed outside a Yakima resident's home, researchers recovered nearly 200 stink bugs during a five day period, said entomologist Michael Bush of WSU's Yakima County Extension.

"That compares to the 36 we captured in the entire year of 2015 throughout all of Yakima County. We're talking about quite a jump," he said.

WSU extension agents and master gardeners are fielding an increase in calls from people asking about uninvited, six-legged guests found in their homes and office buildings. Escaping the chill of fall, the bugs are settling into sheltered places to spend the winter, Bush explained. "In less than two days, I heard from 27 people. To say we've been swamped would be an understatement," he said.



Marmorated stink bugs trapped this month in a homeowner's backyard in Yakima, Wash. They've also been trapped in parks. (Photo by Michael Bush, WSU)

With a notable uptick in marmorated stink bugs in Washington, no crop damage has been reported. Why not?

"In the mid-Atlantic states, homeowners noticed the stink bug species for about a decade before we saw significant damage to crops," said entomologist Tracy Leskey of the U.S. Department of Agriculture, director of the Stop the Brown Marmorated Stink

Bug SWAT team. The insect's populations built up until they advanced into the region's orchards, gardens and vegetable crops, causing millions of dollars in damage, she explained from her lab in West Virginia.

"It's a scenario none of us wants to see repeated," she said.

### **Wanted, dead or alive**

White bands on its antennae help distinguish the insect from native stink bugs beneficial to crops. If you see stink bugs in your home or business, WSU researchers want to know.



"It's crucial that we track their whereabouts," said Bush. You can either email a photograph to [bushm@wsu.edu](mailto:bushm@wsu.edu) or place a specimen in a pillbox in the mail and send to WSU Extension Office, 2403 S. 18th St. Suite 100, Union Gap, WA 98903.

Because stink bugs emit the smell of dirty socks when crushed, don't send samples inside envelopes, advises Bush. Also, the easiest way to tell the brown marmorated variety from other stink bug species is by the thin white bands on its antennae, he said.

### **Contacts:**

Elizabeth Beers, WSU entomologist in Wenatchee, 509-679-1010, [ebeers@wsu.edu](mailto:ebeers@wsu.edu)  
Michael Bush, WSU entomologist in Yakima, 509-574-1600, [bushm@wsu.edu](mailto:bushm@wsu.edu)  
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## *Family Living*

### **STORING FOOD IN THE REFRIGERATOR**

Barbara Willenberg, University of Missouri Extension Assistant;  
Karla Hughes, Missouri State Food and Nutrition Specialist

Food costs money, so keeping the quality of the food you buy just makes good sense. Knowing how to properly store food and how long to keep it brings many benefits.

### **Winning the proper food storage**

You can win four ways with proper food storage because:

- The food will be safe to eat
- Desirable flavor and texture will be retained

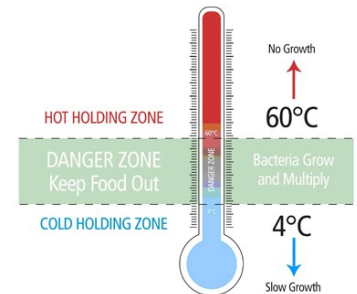
- High levels of nutrients will be maintained
- Money will not be wasted on spoiled food.

### **Safety first**

Bacterial infections account for 67 percent of all food poisoning in the United States. The three basic bacteria types responsible for most food-related illnesses are Staphylococcus, Clostridium perfringens and Salmonella. Staphylococcus is transferred to foods by humans during preparation. Clostridium perfringens and Salmonella can be on the food or transferred to the food during preparation. At low levels these bacteria do not cause trouble. Under favorable conditions, however, they can multiply to dangerous levels within a few hours.

Chief factors contributing to bacterial growth and possible food poisoning are temperature, time, food type and moisture. Bacteria need all these factors to grow. If any one is missing, bacteria will not increase as fast.

Temperatures between 40 degrees Fahrenheit and 140 degrees Fahrenheit permit fast bacterial growth. If food is kept for three or four hours in this temperature range, the number of bacteria present could cause illness. Food type will affect the rate of bacterial growth. Low-acid foods such as meat, cooked vegetables and egg dishes are particularly risky. Amount of moisture available will also affect microbial activity.



### **Preventing bacterial growth**

To prevent the growth of bacteria:

- Don't handle food carelessly.
- Keep hands, utensils and cutting boards clean at all times. Cooked food can easily be recontaminated.
- Cool or serve food as soon as possible after removing it from storage.
- Serve hot foods hot, serve cold foods cold.
- Refrigerate food in covered storage containers immediately after meal is over. Don't worry about your refrigerator-today's appliances are made to handle immediate storage of hot food.

Don't depend on appearance, taste or smell of food to indicate it's unsafe. Contaminated foods which can cause food poisoning may look fine and have no off-flavor or odor.

## Foods that need special care

Bacteria grow best in low-acid foods such as meat, fish, poultry, milk, eggs and cooked vegetables. Acid foods such as fruits, tomatoes and pickles seldom cause food poisoning.

Foods handled a great deal during chopping, slicing or deboning are likely to become contaminated. The combination of low-acidity and much handling makes some foods more dangerous than others. Potato salad, chicken pies and stuffings are prime examples.

## For safety sake

For the health of you and your family, remember to:

- Stuff poultry just before roasting or bake stuffing in separate pan
- Separate leftover meat, poultry, stuffing and gravy. Immediately refrigerate each in covered storage containers
- Use cracked eggs only in recipes requiring thorough cooking. Never use in meringue.
- Refrigerate perishable foods at 40 degrees Fahrenheit or below.



## Financial Fitness

### FLEXIBLE SPENDING ACCOUNTS ARE POWERFUL TOOL FOR REDUCING TAXES

Adapted from Andrew Zumwalt, Assistant Extension Professor, University of Missouri Extension

Flexible Spending Accounts are a powerful financial tool that can help reduce taxable income, according to Annette FitzGerald, a former family financial education specialist with University of Missouri Extension.

Flexible Spending Accounts are available through most employers and now is a good time to review your financial records and prepare for tax savings," said FitzGerald.

Flexible Spending Account or FSA is a program that offers tax advantages and allows employees to pay for eligible health care and dependent care expenses with pre-tax dollars.

"If you choose to participate in FSA, the amount you choose to contribute on an annual basis is withdrawn from your paycheck in equal installments each pay period," said FitzGerald.

Most employer plans offer two different flexible spending accounts: one for qualified medical/dental expenses, and one for dependent care expenses.

According to FitzGerald, it is important to first check with your employer to ensure your medical and dental expenses are qualified expenses that can be covered, and then plan how you will use all the funds contributed to the FSA by year end.

"It is also important to give some thought to determining how much money you plan to contribute, because if you don't use the money you may lose it," said FitzGerald.

For example, if you have \$100 per month contributed to the FSA (\$1,200 for the year) and you submitted \$1,000 in allowable expenses, you may lose the unused \$200.

The IRS does allow employers some flexibility at the end of the year for health FSA balances. Employers can choose to have unused health FSA balances up to \$500 to be rolled over into the FSA for the following year. Or employers can choose to include a grace period of 2.5 months to the end of the plan year. For example, if a plan year ended on December 31st, employees would have until March 15th to spend the remaining balance in their FSA. These changes are dependent on the employer making the change in the plan. These changes do not apply to dependent care FSAs. Check with your employer on your plan's details.

Many employer FSAs now provide debit cards which allow for an electronic transfer of pre-tax dollars from an employee account to pay for qualified expenses. Employees can use their medical and dependent care funds by using their card at the point of service.



WASHINGTON STATE UNIVERSITY  
WALLA WALLA COUNTY EXTENSION

Celebrating 100 Years of Extending Knowledge  
and Changing Lives.

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.