WASHINGTON STATE UNIVERSITY
WALLA WALLA COUNTY EXTENSION
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Newsletter

January 2017

Announcements

JANUARY

10-11 Cropping Systems Conference, Three Rivers Convention Center, Kennewick, WA. Integration of dryland and irrigated direct seed cropping systems. For information visit: http://www.directseed.org/events/annual-conference/.

17 Cereal Grain Seminar, Walla Walla Airport Conference Room. Registration begins at 8:15 a.m.– 3:30 p.m. Offering 5 WSDA pesticide credits and 5 ODA (pending) credits. **Lunch is included so please pre-register with the WSU Extension office by Friday January 13th. Fee is $25**. For more information, call 509-524-2685, email becki.green@wsu.edu or pre-register online with a credit card at http://www.brownpapertickets.com/event/2736419 . Space is limited to 60 participants.

18-19 Hay Expo, Three Rivers Convention Center, Kennewick, WA. To register, visit http://www.wa-hay.org/ or call 509-585-5460 for more information.

18-19 Pre-License Pesticide Training, Spokane, Mirabeau Park Hotel, 8:00 a.m. to 4:30 p.m. Visit http://pep.wsu.edu for more information.

24-26 WA/OR Potato Conference 2017, Kennewick, WA, Three Rivers Convention Center.

Includes a Spanish language program with pesticide credits for farm workers. Featuring the 3rd Annual Potato Peel-Off. For more information or to register, call 509-766-7123 or visit www.potatoconference.com .

FEBRUARY

1 Ag Safety Days, Wenatchee, WA Annual training event that offers safety and health training to workers, supervisors, and managers of all levels in the agriculture industry. Registration information can be found at: https://www.eiseverywhere.com/ehome/209201.

2 WSU Oilseed Production Workshop, Clarkston, WA. One-day workshop includes region-specific topics. Attendees will learn about in-season crop diagnostics for pests, diseases, nutrients, and herbicide damage, fertilizer management for spring and winter oilseeds, and much more. Registration is available at http://css.wsu.edu/biofuels/ and includes lunch and refreshments. To learn more, send an email to ksowers@wsu.edu.

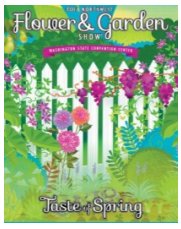
3 WASHINGTON STATE SWINE INFORMATION DAY, Moses lake, WA. Information and registration are available at: http://www.brownpapertickets.com/event/2737946.

7-9 Washington Association of Wine Grape Growers Annual Convention, Three Rivers Convention Center, Kennewick, WA. The premier educational and networking opportunity for the Northwest grape and wine industry with sessions for everyone including growers, viticulture staff, wineries, enologists, tasting room staff, marketers, and more. For more information visit: http://wawgg.org.

16-17 Recertification Pesticide Credits (6/day) & Pre-License Pesticide Training, Pasco, TRAC, 8:00 a.m. to 4:30 p.m. You must pre-register at least 7 days prior to the courses at pep.wsu.edu. For directions and training agendas, visit pep.wsu.edu; for registration questions call 509-335-2830 or email pest@wsu.edu; license information available at WSDA 877-301-4555.

21-22 Pre-License Pesticide & Recertification Training, Yakima, Convention Center, 8:00 a.m. to 4:30 p.m. Visit http://pep.wsu.edu for more information.

22-26 Northwest Flower & Garden Show,



Seattle, Washington State Convention Center, 7th & Pike. See designer gardens and attend free hands-on demonstrations and seminars. For more information, visit www.gardenshow.com or call 253-756-2121.

22 Ag Safety Days, Yakima, WA. Annual training event that offers safety and health training to workers, supervisors, and managers of all levels in the agriculture industry. Registration information can be found at: https://www.eiseverywhere.com/ehome/209202.

Farming & Livestock

RESEARCHERS FEED, BREED, PROTECT BEES TO SURVIVE WINTER

Adapted from Seth Truscott, WSU

Feeding bees, fending off disease

Entomologist Steve Sheppard checks colony health in the WSU Teaching Apiary.

Winter is a tough time for the world's most important pollinator. In addition to frigid temperatures, honey bee colonies must battle disease and parasites, including the devastating Varroa mite. WSU researchers are trying to help bees fight off these threats and survive until spring. "We are breeding bees that overwinter in a thrifty fashion and resist disease," said Steve Sheppard, a bee breeder. "We're trying to develop bees that thrive without antibiotic treatment and with reduced mite treatments."

A healthy hive contains at least 80-90 pounds of stored honey for the winter. To help underweight hives, Baker and WSU entomology students will place feeders full of thick sugar syrup inside. Timing is essential – once the temperature drops, bees aren't able to easily access feeders: "If you don't have your bees ready when winter comes, there's not a lot you can do to fix it," said Sheppard.

Winter bees cluster for warmth

In autumn, there's a changing of the guard inside beehives where a new, longer-lived generation of bees is born. "Winter bees", born with higher levels of fat and protein reserves, look the same as their summer siblings but far outlast hard-working summer bees, who only live as long as six weeks.

When outside temperatures fall below 55 degrees, bees form a "winter cluster," packing tightly together and vibrating their wing muscles to keep warm.

"They'll cluster for weeks or even months," said Sheppard, which keeps the core of the hive a toasty 75 degrees.

When daytime temperatures rise above 55, winter bees take a "cleansing flight," eliminating wastes.

"The cleansing flight is most noticeable after a number of weeks or months when they can't fly," said Sheppard. "When it warms up, the cluster dissipates and bees are able to fly again."

Protecting hives from rotting, rodents

Among winterizing duties, Baker ensured that every hive is raised off the ground and every entrance angles downhill to drain rainfall and prevent rotting. He installed wire mesh screens in the entrances to ensure mice can't come inside – a fast-multiplying rodent nest means quick doom for a dormant bee colony – and removed the entrance reducers that have protected the hive from wasp predators in late summer.

"These are dangerous to keep on in winter," said Sheppard. Entrance reducers increase the danger of blockage and suffocation during the clustering period.

"There shouldn't be many drones left," he said. Not needed for mating in winter, male bees are useless mouths driven out of the hive by workers every autumn. Bees stop rearing brood in fall and queens won't start laying eggs again until after the solstice, when days start to lengthen. New baby bees will be fed stored honey and pollen.

Pioneering controlled climates for bees

Sheppard's program has broken ground in incorporating controlled climates for better overwintering. Inside old apple storage warehouses, bees are kept in rooms containing up to 5,000 colonies with elevated carbon dioxide concentrations. The bees aren't harmed by the CO_2 but there is evidence that it can help control mites.

Sheppard's lab has recently found that bees from colonies wintered indoors exhibit improved lipid and protein levels compared to those wintered outdoors. The success of indoor wintering has already changed the overwintering practices of some beekeepers, and facilities are being built in a number of western states.

WSU entomologists are also continuing experiments with a fungus called Metarhizium Anisopliae, which is known to kill Varroa mites. Scientists seek to learn whether the fungus is more effective in winter.

"Metarhizium is sensitive to dryness and heat, which has been a limitation in summer use," said Sheppard. "We are selecting strains that show improved virulence against mites and will be testing them for winter use."

Learn more about the WSU bee program and the proposed new bee center at http://bees.wsu.edu/.

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Technology

FOREST-POWERED BIOFUEL FLIGHT TO WASHINGTON, D.C.
https://news.wsu.edu

Washington state-based Alaska Airlines made history flying the first commercial flight using the world's first renewable, alternative jet fuel made from forest residuals, the limbs and branches that remain after the harvesting of managed forests that is often burned after timber harvest.

The alternative jet fuel was produced through the efforts of the Washington State University-led Northwest Advanced Renewables Alliance (NARA).

The demonstration flight departed Seattle-Tacoma International Airport for Reagan National Airport in Washington, D.C. The flight was fueled with a 20 percent blend of sustainable aviation biofuel, which is chemically indistinguishable from regular jet A fuel. The flight, the first commercial passenger flight of its kind, continues to advance viable alternatives to conventional fossil fuels for aviation.

While the 1,080 gallons of biofuel used on the flight has a minimal impact to Alaska Airlines' overall greenhouse gas emissions, if the airline were able to replace 20 percent of its entire fuel supply at Sea-Tac Airport, it would reduce greenhouse gas emissions by about 142,000 metric tons of CO2. This is equivalent to taking approximately 30,000 passenger vehicles off the road for one year.

The NARA initiative was made possible by a $39.6 million grant from the U.S. Department of Agriculture National Institute of Food and Agriculture (NIFA) to support research on biofuels and biochemicals, foster regional supply chain coalitions, empower rural economic development and educate the public on the benefits of bioenergy.

Gevo, Inc., a NARA partner, successfully adapted its patented technologies to convert cellulosic sugars derived from wood waste into renewable isobutanol, which was then converted into Gevo's Alcohol-to-Jet (ATJ) fuel. Believed to be the world's first alternative jet fuel produced from wood, the fuel meets international ASTM (American Society for Testing and Materials) standards, allowing it to be used safely for today's commercial flight.

"This first of its kind flight demonstrates Gevo's commitment and ability to convert a wide range of sugar feedstocks into drop-in renewable fuels," said Pat Gruber, Gevo's chief executive officer. "We are pleased that we had the opportunity to prove, through the NARA project, that cellulosic sugars from wood can be used to successfully make commercial jet fuel. We congratulate our fellow NARA partners and thank the USDA-NIFA for its unwavering support in the pursuit of renewable jet fuel. I also thank Alaska Airlines, which continues to be a great partner."

SMART PHONES, HIGH-TECH TOOLS HELP FARMERS PUT EVERY DROP TO WORK
Adapted from Seth Truscott, WSU

By dryland standards, potato growers in Washington's rainy Skagit County don't irrigate much—only about five inches a year. But thanks to conservation efforts, "those five inches mean a lot here," said Don McMoran, director of Washington State University Skagit County Extension.

McMoran is working with Troy Peters, a scientist at WSU's Irrigated Agriculture Research and Extension Center in Prosser, to help growers statewide use every drop of irrigation water to the fullest. "Small improvements in irrigation efficiency can make a huge impact on water conservation," said Peters.

WSU Extension Educator Don McMoran, above measuring irrigation water in the field, is helping growers save water, both in Skagit Valley's potato fields, and statewide.

Developed with a $455,000 grant from the U.S. Natural Resources Conservation Service, the Water Irrigation System Efficiency, or WISE, project educates farmers and gives them smart tools to help the environment and their bottom line. "Farmers make their living from the land," said McMoran. "They want to be good stewards by using water in the most efficient way possible. Dr. Peters and I are giving them the tools to do that."

In a three-year project that began this year, McMoran and Peters are creating "Centers of Irrigation Excellence" throughout the state, with bases in Benton, Colville, Ferry, Lewis, Skagit and Spokane counties. From these centers, Extension educators will conduct field visits and offer voluntary assessments to help growers see how their water use stacks up and tailor improvements to fit their farms. Growers can also get advice as well as technical consultations to help upgrade their equipment.

Thanks to Extension efforts, farmers in Skagit County have led the state in adoption of the WSU-developed mobile app, Irrigation Scheduler Mobile. A big part of WISE involves encouraging farmers to use the app to plan and monitor water use on the go.

"Most farmers used to use the 'kick the dirt' method," McMoran said. "When they saw dust, that's when they got out their irrigation equipment." Using WISE tools, Skagit growers found and plugged leaks and switched to irrigation at night, when it's less windy.

"We found that if we do a better job of knowing when plants get stressed out, we can do a better job of keeping them alive," McMoran said. "We make sure plants receive water or nutrients when they need them."

Efficient pumps use less power, saving energy. Less irrigation runoff means that fertilizers and pesticides stay in the field and don't move into the water supply. "Irrigation efficiency saves water, saves energy, preserves environmental quality, and ends up making the farmer more money," said Peters. "Everybody wins."

To take part, growers should contact their local WSU Extension agent.

Family Living

WHAT IS CUSTOM MEAT?
WSDA Publication 039

Meat exempted from federal inspection is called custom meat or uninspected meat. Custom meat or uninspected meat includes any part of a meat food animal: cattle, pig, sheep or goat. Washington State Department of Agriculture (WSDA) Food Safety Division regulates custom meat facilities and custom slaughter operators. Custom meat is not federally (USDA) inspected at slaughter or at any processing point. This meat is intended for personal household use. The exemption from USDA inspection carries with it specific requirements for the use of the meat and all other parts of the uninspected carcass.

What do I need to do as a participant in a custom meat transaction?

Seller of a Live Animal:
· Sell live animals only. The transfer of ownership of any portion of a custom animal after slaughter is illegal.
· Complete the sales transaction prior to slaughter.
· Provide all names of buyers to slaughterer or cut/ wrap facility.
· You can compensate employees with live animals only. A legal transaction includes providing a bill of sale for the live animal listing the employee's name as the recipient. Transfer of ownership of any portion of custom carcass after slaughter is illegal. The employee as the owner of the live animal, must be listed at the cut/wrap facility as the ultimate owner of the meat. The employer may pay for the cut/wrap charges as a benefit for the employee.

Buyer of Live Animal and/or Grower/Consumer:

· Complete all sales transactions while the animal is alive.
· Persons who raise their own animals and have them slaughtered as custom meat are subject to the same provisions as buyers of live animals listed below.
· Inform the slaughterer or cut/wrap facility that you own an animal and which portion of the animal is yours. Include the amount you own (i.e., ½, ¼ or splitting a half or quarter).
· Give detailed cutting instructions. Request all items from the carcass that you want delivered to you. Include liver, heart, tongue, oxtail, head, and dog bones. You are the owner of the complete carcass including these parts. If you do not want some carcass components returned to you, tell the facility operator.
· Custom meat is for the sole use of the owner in their household, for their immediate family, and non-paying guests.
· You may not sell, give away or transfer ownership of uninspected meat in any way.

Custom Farm Slaughter:
· Record accurate transaction information about the sale of the live animal. Ownership may include many parties. Get the names of all owners to pass along to the cut/wrap operator.
· Tag all beef animals with beef tags. All other animals must be tagged with the words "not for sale" and the name of the owner(s).
· Identify owner's name on all portions of the carcass including organ meats and other portions of the carcass that don't hang on the rail with the carcass.
· The custom farm slaughterer must legally render all portions of the animal not delivered to the custom facility, except the hide, which may be sold by the slaughterer.

Cut/ Wrap Operator:
Provides the service of cut and wrap and does not own any portion of the carcass. All portions of the animal that are not returned to the owner must be rendered.
· Tag all animals not tagged upon arrival at the facility.
· Maintain owner's identity on all carcass parts

throughout the cut/wrap process.
· Names of all owners of each animal must be included in your records.
· Use an approved scale to record rail weights.
· Denature rendered items with ink or other approved method.

For sausage or other ground meat products:

· The source of fat or trim added to sausage or other ground custom meat products must be from USDA inspected meat products, or
· All fat trimmings and meat that make up the ground product must come from custom animals owned by the same customer who owns the end product.
· Transfer of fat and trim from a custom animal for use in another product for another customer is not legal.

A HEALTHY DIET CAN HELP FIGHT WINTER SNIFFLES

Sources: WebMD and Harvard Medical School

People try many different methods to avoid catching a cold or flu during the winter months. One thing to remember is that simple diet choices can boost our immune system, said Susan Mills-Gray, Nutrition and Health Education Specialist with University of Missouri Extension. The following list includes simple things that can boost the immune system to work at peak performance.

- Get plenty of liquids to help prevent viruses and bacteria from taking up residence in your body. According to Dr. Riva Rahl of the Cooper Clinic in Dallas, "the mucus in your nose is actually one of the key physical barriers that keep germs out of your body. When you're not well hydrated, it dries up and doesn't provide that barrier."
- Protein is a building block for a healthy immune system. Choose lean red meats, poultry and fish, dried beans and soy. You can also choose protein-rich plant sources with heart-healthy fat, like peanut butter and nuts.
- Choose foods rich in vitamins C and E. These two antioxidant-rich vitamins protect cells (including those of your immune system) from damage by toxins in the environment. Choose citrus fruits/juices, melons, mangoes, kiwi, peppers, tomatoes, berries, broccoli, cabbage, sweet/white potatoes, winter squash, leafy greens, almonds, hazelnuts, peanut butter, sunflower seeds, safflower oil, whole grains and fortified cereals several times a day.

- Eat probiotic foods to help build up the good bacteria in the intestines. These bacteria play a role in helping fend off illnesses. Any fermented food is rich in this type of good bacteria, so choose yogurt, sauerkraut, tofu, brine-treated pickles and aged cheese at least daily.
- Add a zinc-rich food to your daily diet to increase the production of white blood cells in your body. Research shows that this effect can reduce the number of days you'll suffer from a cold. Some foods rich in zinc are yogurt, lean red meat, poultry and fish, almonds, pumpkin seeds and fortified cereals.

Home & Garden

GARDENING HINTS FOR JANUARY & FEBRUARY

OSU Extension Faculty

Planning

• Keep a garden journal. Consult your journal in the winter, so you can better plan for the growing season.
• Begin planning this year's vegetable garden. Check with local retail garden or nursery stores for seeds and seed catalogs.
• Have your soil tested in your garden plot to determine its nutrient needs. Contact your local Extension office for a list of laboratories.
• Take hardwood cuttings of deciduous ornamental shrubs and trees for propagation.
• Plan to replace varieties of ornamental plants that are susceptible to disease with resistant cultivars.

Maintenance and Clean Up

• Clean pruners and other small garden tools with rubbing alcohol.
• Reapply or redistribute mulch that has blown or washed away during winter.
• Place windbreaks to protect sensitive landscape evergreens against cold, drying winds.
•To prevent winter damage from drying, water plants deeply every 6 to 8 weeks, when the temperatures are above freezing.

Pest Monitoring and Management

• Monitor landscape plants for problems. Don't treat unless a problem is identified.
• Scout cherry trees for signs and symptoms of bacterial canker. Remove infected branches with a clean pruner or saw. Sterilize tools before each new cut. Burn or send to landfill before bloom. See Managing Diseases and Insects in Home Orchards (EC 631): http://bit.ly/OSUec631.

• Watch for field mice damage on lower trunks of trees and shrubs. Eliminate hiding places by removing weeds. Use traps and approved baits as necessary.
• Use dormant sprays of lime sulfur or copper fungicide on roses for general disease control, or plan to replace susceptible varieties with resistant cultivars.

Financial Fitness

MAKE A RESOLUTION TO GET FINANCES IN ORDER FOR THE NEW YEAR

http://missourifamilies.org/

After spending big during the holidays, many people make getting their financial house in order a top New Year's resolution.

"Any day is a good day to make financial solutions," said Janet LaFon, family financial education specialist, University of Missouri Extension.

There are, however, several key areas in financial planning, like keeping financial records, starting a savings plan and getting a will done, that people need to remember all year.

"One of the best things a person can do is set up a home filing system for financial records. This will make it easier to find your financial information when it is needed. If you already have a system, spend time cleaning out items no longer needed," said LaFon.

The new year is also a good time to review beneficiaries named in insurance policies and wills to make sure those named are still the people you want to include.

"If you do not already have a will or some other form of estate plan, now would be a good time to get one in place. If you do have a will or plan, review it to make sure it still reflects your wishes," said LaFon.

Starting or adding to a savings program is another financial resolution a person should try to keep. She recommends that instead of waiting until the end of the month, you should pay yourself first.

"It doesn't have to be large amounts. You'll be surprised how quickly even small amounts can add up. The key is doing it on a regular basis," said LaFon.

Credit card debt is a critical area for many, especially after the holidays. She recommends developing a plan for getting bills paid and concentrating on paying off credit cards with the highest rates of interest first.

"As you're paying off the current bills, think about how you use credit cards and decide if changes are needed. If your answer is yes, then cut up the plastic," said LaFon.

4-H

ACHIEVEMENT NIGHT

On November 13, 4-H youth and adult volunteers were honored at the 2016 annual 4-H Achievement Night. Approximately 185 awards were presented to 4-H members, clubs, and volunteers in recognition of their 4-H accomplishments during the past year.

Connie Vinti received recognition as the Outstanding 4-H Volunteer Leader of the Year for her 45 years of exceptional leadership and service to the young people of the Walla Walla County 4-H program. After serving as a club leader for many years, Connie is now assisting youth to learn life skills through judging public speaking and record books. Connie is greatly appreciated for her dedicated service to 4-H as a volunteer.

Will Mackin received the Inspirational Leader of the Year award who has been a 4-H leader for 20 years.

Walla Walla Rotary received the 4-H Appreciation Award for their continuing support of the 4-H program and its members.

Two outstanding 4-H Members in Walla Walla County were selected in each age division. The junior division outstanding members were Regina Nelson and Colby Riley; the intermediate division recipients were Leah Chapin and Timothy Daves; and the senior division winners were Lauren Bergman and Ryan Chapin. Receiving honorable mention awards were Jenna Cox, Staci Maiden, Diego Caso, Rylie Dial, Brenna Huntley, Sydney Weston, Bodie Holderman, Reagan Case and Lane Floch. These members were selected based on the quality and growth of their 4-H project, leadership skills, and their active involvement in the county 4-H program.

WASHINGTON STATE UNIVERSITY
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Celebrating 100 Years of Extending Knowledge and Changing Lives.

Debbie M. Williams
County Extension Director