Asotin County Newsletter

WASHINGTON STATE UNIVERSITY

July-Sept 2019

Welcome to the WSU Asotin County Extension Newsletter! This is a quarterly electronic newsletter highlighting events and topics of interest to residents of Asotin County and the surrounding area. This newsletter can also be viewed on our website: extension.wsu.edu/asotin/

Do you have an event or subject you would like added to our newsletter or website? Would you like to be removed from our Extension Newsletter email list?

Contact the Extension Office
Phone: (509) 243-2009 Email: jreed@co.asotin.wa.us.

In this issue:

Contact Us

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(Basement of the Asotin County Courthouse)

Hours: Mon-Fri 8:00 to 4:00 (closed 12:00 to 1:00)

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4-H News/Events and Youth Opportunities

4-H Happenings…

Kim Belanger, 4-H Coordinator

Asotin County sent 8 youth to Bi-County 4-H Camp June 17th–21st at Camp Wooten ELC Near Pomeroy, WA. Their daily class included Archery, Shooting Sports, Canoeing, Crafts, Karate, a Magic Show, and learning about Electricity, Ecosystems, and Wildland Firefighting! Each day ended with fun evening programs like "Minute to Win It" and a Nightly Themed Dance.

Washington State 4-H Teen Summit was held June 28th-30th at Lazy F Camp in Ellensburg. Asotin County sent 9 youth and a chaperone. They were joined by 2 youth from Whitman County. Teen Leadership Summit gives 6-10th graders the opportunity to develop leadership skills including goal setting, meeting facilitation, communication, planning and leading activities, youth/adult partnerships, cultural awareness, time management, and public speaking.

Extension Youth Activity Camp (EYAC) will be held July 15th to 19th at Parkway Elementary in Clarkston. 45 youth will participate in daily classes such as "Archery", "Robotics", "Sporty Kids", "Choose Health: Food, Fun, and Fitness (CHFFF)", "Bugs, Bees and Plants" (led by our Master Gardeners) and "4-H Fun!" We will round out the week with Robotics and Entomology presentations for the Campers Families.

Asotin County 4-H Leader of the Year

Nominations due to the Extension Office by Aug 1st, 2019

Do you know an outstanding leader who deserves recognition?
Nominate them as Leader of the Year!!
The leader of the year award recognizes outstanding 4-H adult, teen, and youth leaders. Candidates for Leader of the Year are individuals that have made significant contributions of time and effort to Asotin County 4-H. All enrolled 4-H volunteers are eligible for this award. Outstanding leaders from each county will be recognized with a certificate and pin at the State 4-H Volunteer Recognition Banquet held in SeaTac in October.

The nomination forms are available at the Extension Office or can be found online at:
http://extension.wsu.edu/asotin/4h-youth-development/become-a-4h-leader/
or https://extension.wsu.edu/asotin/upcoming-events-and-workshops/

The Asotin County Youth Commission 22nd annual Youth Awards Night was held on May 22nd at Clarkston High School. The Youth Awards Night recognizes outstanding youth, adults, groups and organizations that are making a difference in Asotin County. They were nominated by teachers, community leaders, youth, family and friends. Congratulations to all!

Youth Organization Awards

Special Recognition—Asotin/Garfield Co. CASA program
Special Recognition—Willow Center & Camp Erin
Special Recognition and received the "Fan Favorite" Award of $100 from the Asotin Co. Youth Commission – Homes of Hope
KYG delegation advisors: Kim Belanger and Lisa Ubachs
Asotin County Library 'Wednesday Shelvers' volunteers: Jeanette Krause, Melissa Trampel, Janet Cable

Adult Awards

Special Recognition**:** Karen Kessler – The ROC, CASA
Special Recognition: Lisa Ubachs – Foster parent, 4-H leader
Special Recognition**:** Tim Weber – Asotin Science Olympiad team
Dawn Boyea – Our Savior's Lutheran Church
Jolyn Hobson – Young Life
Sam and Carolina Lachman - 4-H & FFA Boosters
Muddy Buddyz 4-H leaders and parents: Kimberly Abel, Krista Lathrop, Jacob & Janelle Snyder, Shannon Spinelli
Doug LaMunyan - CHS Principal
Don Lee - Grantham Elementary Principal
Dawn Smith – Exec Director, SEWEDA
Gwen Smith – CHS Performing Arts Booster
Math Ubachs – 4-H leader
Matthew Ubachs – 4-H Leader
Hollie Williams – CHS paraprofessional

Youth Awards

Special Recognition— DECA Entrepreneurship is Incredible: Alyssa Johnston, Jazmyne Woodbury, Michael St. Marie
Special Recognition—DECA It Can Wait: Gia Gonzales, Hallie Rogers, Paxton Taylor
Special Recognition—DECA Spike for the Cure: Jasmine Carringer, Claire Folsom, Heidi Hansen
DECA Bantam Bean: Jolee Nicholas, Jenna Allen, Eva Milan
DECA Deli: Jaxson Allen, Drew Kaufman, Rafe Coates
DECA Drive for Clarkston: Nicholas Noland, Danielle Keyes, Matthew McPeak
DECA Fashion Forward: Gia Gonzales, Corah Cassell, Molly Williams
DECA Rise Above: Mikayla Hill, Makayla McCabe, Erica Edens
Muddy Buddyz 4-H Kids: Khi Abel, Grace Cronan, Logan Spinelli, Cheyanne Spring
Emily Adams – 4-H

Master Gardeners and Gardening

Office Plant Clinics

Gardening, Plant, and Insect Problems? FREE diagnosis and advice from the Asotin County Master Gardeners. Bring your plant samples and pictures for diagnosis. Pictures can be emailed to mgardener@co.asotin.wa.us
Wednesdays, 10:00 - 1:00 through Sept 25 in the Asotin Co. Courthouse basement, 135 2nd St, Asotin
Call 509-243-2009 for more information

Brown Bag Garden Series

Bring your lunch and discuss garden-related topics with the Asotin County Master Gardeners Wednesdays from 12:00-1:00 in the Lions Gazebo at Upper Beachview Park in Clarkston (2nd and Adams Streets).

Scheduled topics:
July 3—Pollinators other than honeybees
July 10—Organic vs toxic pesticides & herbicides
July 17—Honeybee plants
July 24—Experiments from the Community Garden, and Worm Casting
July 31—Tomato tasting

For details on Master Gardener events go to the web page:
https://extension.wsu.edu/asotin/upcoming-events-and-workshops/

Request to be added to the email list by emailing Janice at jreed@co.asotin.wa.us.

Six Tips For Watering Your Garden

https://www.gardeners.com/how-to/when-to-water/8108.html

- **Focus on the root zone.** Remember that it's the roots that need access to water, not the leaves. Wetting the foliage is a waste of water and can promote the spread of disease.
- **Water only when needed.** Automatic watering timers are especially useful; just make sure to watch the weather, and reduce frequency when rainfall is abundant. Too much moisture can be just as damaging to plants as too little.
- **Water deeply and thoroughly.** Lawns and annuals concentrate their roots in the top 6" of soil; for perennials, shrubs and trees, it's the top 12". In heavy soil, it may take hours for water to percolate down 6-12". Use your finger or a shovel to check the progress.
- **Water in the morning.** If you do get moisture on the leaves, this gives them time to dry out. It's much more difficult for plant diseases to get a foothold when the foliage is dry.
- **Mulch everything.** Mulch reduces surface runoff and slows evaporation from the soil
- **Use the right tool.** For efficient watering at the root zone, use a soaker hose or an even more precise drip irrigation system instead of a sprinkler.

Spittle bugs: Bubble-pooping, high-jumping 'superhero' bug in a yard near you

WSU Insider
https://news.wsu.edu
June 13, 2018

A tiny lime-green insect with red eyes that ejects bubbles from its rear end is hiding in your backyard. And when it reaches adulthood, it will become the jumping champion of the world.
Meet the spittlebug, Philaenus spumarius.
"This is the best time to see spittlebugs, and I'd say it's a good year for them," said entomologist Richard Zack of Washington State University. "Go on a walk and you'll see them – provided you know what you're looking for," he said.

Spittlebug nymph enveloped by rear end bubbles. Beaverton, Oregon. (Photo by Eric Matthews)
By Linda Weiford, WSU News

Everywhere, but nowhere
Across the U.S., more than 30 species of spittlebugs inhabit flower stalks, tree branches, blades of grass, tall weeds and certain crops. Amazingly, few people ever see the bugs or realize what they are.

Instead, we see the concoction of white bubbles that the insect hides itself within. Resembling a spit-wad, it is produced by the young spittlebug, or nymph, to hide from predators, insulate it from extreme temperatures and keep its soft body from drying out, Zack explained.
Nymphs generate spittle by excreting plant sap mixed with air created by abdominal contractions. As bubbles form, they use their legs to pull the frothy substance over their bodies, he said "Every year, I get inquiries from people wanting to know about these masses of 'spit' clinging to some of their plants and pine trees.

A wad of spittle clinging to thistle weed. (WSU Entomology)

When I explain that it is an elaborate protective mechanism of a tiny insect that lives inside, they're surprised. Spittlebugs are highly successful at hiding in plain sight," he said. Spittlebugs cause little harm to firm plants such as lavender and daisies but they can damage softer plants like strawberries. Puckered flesh isn't always caused by slugs. Look for a glob of spittle.
Fortunately, the insects are easy to control. "Just hose them off with a strong spray of water," Zack advises.

Goes lickety-split
After a nymph feeds 5-8 weeks, it emerges from its protective bubble bath to become the high-jumping champion of the planet. A 2003 study published in the journal Nature found that an adult spittlebug – also called a froghopper – employs a unique catapult mechanism to exert a force 414 times its body weight. At less than a quarter-inch long, it can launch itself more than two feet into the air.
Go to : https://www.nature.com/articles).

They use these stunning leaps to avoid predators and spring from plant to plant in search of food, Zack explained. "While many insects are interesting, the spittlebug should be at the top of the list. It lives in its own 'poop,' creating a fantastic home that keeps it safe and comfortable. It can also leap high weeds in a single bound. The spittlebug is a superhero among insects," he said.

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Got a question? Any question?
Ask Dr. Universe!
Web.wsu.edu/askdruniverse

Dear Dr. Universe: Why do flowers smell so nice? – Miles, 5

Dear Miles,
Flowers not only smell nice to humans, but also to many insects and birds who help the flowers do a really important job. Let's imagine that you are a bee or a butterfly. You don't have a nose on your face, but instead use your two antennae to smell things.

As you fly around, you catch a whiff of chemicals floating in the air. Down below, you see a field of daisies. The flowers are releasing some chemicals, which are the building blocks of a smell.
You fly down to the field and land on a daisy's petal. It's just what the flower wanted you to do.
Not only can you drink nectar from the flower to get some energy, but you can help the flower get ready to produce even more flowers.

Walking on flowers
As you sip on the daisy's sweet, liquid nectar, the hairs on your body start picking up pollen, sticky grains on the flower. If you are imagining yourself as a bee, you might also use your front legs to put the grains into your pollen baskets, or pollen pants, near your back legs. That's what I found out from my friend Rachael Bonoan, a scientist with the Conservation Biology Laboratory at Washington State University.
She told me that bugs, birds, bats, and a few other animals make up a group called pollinators. They carry pollen around from flower to flower. The process is called pollination and it is kind of like a matching game.

All kinds of smells
Different flowers will send out their own unique smells to attract the right kind of pollinators. Not all of these smells are sweet, though. Even stinky flowers need pollinators to survive. Flies like flowers that smell like rotting garbage or poop, such as the corpse flower. Beetles like spicy, musky smelling flowers. Bees and butterflies like sweeter smelling flowers.

Flowers send out their chemical messages, or smells, at different times of the day. Jasmine and Honeysuckle are a few of the flowers that release their smells at night. They do this to attract insects like moths that are awake when it is dark out.

A Puget blue butterfly on a daisy. Some insects can use their feet to help them smell.
Photo by Rachael Bonoan.

Investigating butterflies
Insects also pick up smells from a flower's leaves. And in addition to their antennae, some insects that walk around on plants can even pick up a scent with receptors in their feet. Bonoan studies one of these insects in the Pacific Northwest. It's called the Puget blue butterfly. She told me that a leaf's smell is likely one way these butterflies decided where to lay their eggs. Smell plays a big part in how pollinators and plants can help each other survive.
Humans also really like the way flowers look and smell. We plant gardens, which are great places for pollinators to do their work. Do you have a favorite flower? What kinds of pollinators can you spot in your neighborhood? Tell us about it sometime at Dr.Universe@wsu.edu or share on our website.

Sincerely,
Dr. Universe

More than 700 North American Bee Species Are Headed Toward Extinction

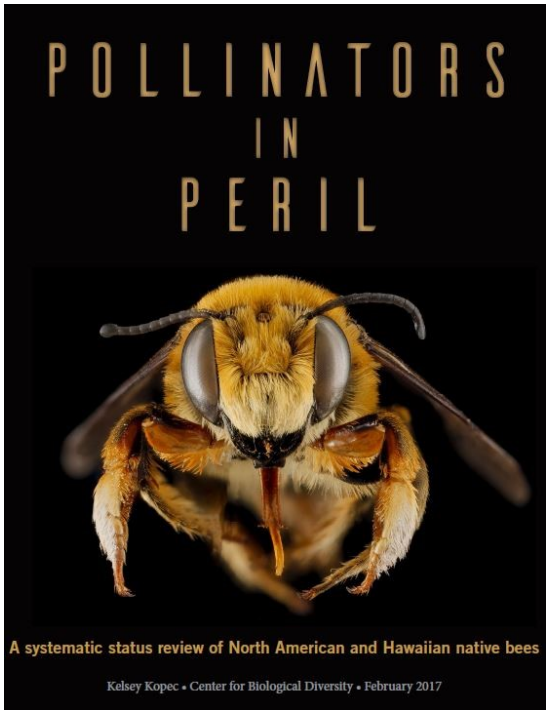
https://time.com/4688417/north-american-bee-population-extinction/

Population levels of more than 700 North American bee species are declining as habitat loss and pesticide use continue at a breakneck pace, according to a new report.
The report from the Center for Biological Diversity relies on an evaluation of more than 1,400 bee species with sufficient data for the assessment. More than half of those species are on the decline and nearly a quarter is at risk of extinction, according to the report.

"We're on the verge of losing hundreds of native bee species in the United States if we don't act to save them," said study author Kelsey Kopec, a pollinator researcher, in a statement. "If we don't act to save these remarkable creatures, our world will be a less colorful and more lonesome place."

The study joins a growing body of research sounding the alarm on the threats facing bees. A 2015 report from a United Nations group found that populations are declining for 37% of bee species, with 9% of butterfly and bee populations facing extinction.
The insects play an important economic role as pollinators helping sustain agricultural production. In the United States, that value reaches billions of dollars annually, according to a 2015 White House report.

The new analysis, *Pollinators in Peril: A systematic status review of North American and Hawaiian native bees,* revealed that more than 700 species are in trouble from a range of serious threats, including severe habitat loss and escalating pesticide use.



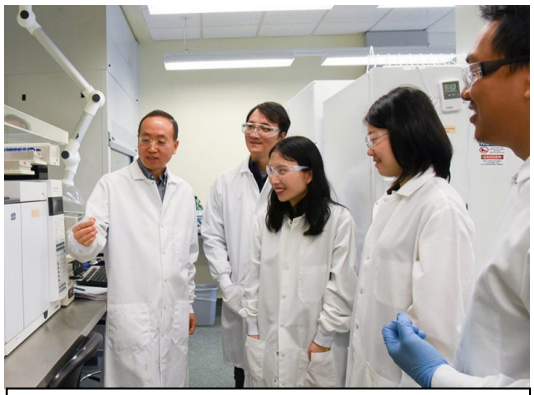
Native bees face myriad threats and are in desperate need of protection to safeguard their future. They contribute more than $3 billion in fruit-pollination services annually. And these unique insects, and their pollination services, are vital to the survival of ecosystems. Our lives and culture would be significantly impoverished without these hardworking, underappreciated and declining animals.

The data compiled in this report offers a snapshot of magnitude of threats native bee species face and the extent of their decline. These findings are in line with those found globally and demonstrate the necessity of more research to fill the data gaps. But what we already know is troubling and should inspire us to act: 24 percent of data sufficient native bees are imperiled, and 52 percent show population declines. We need to take aggressive steps to better understand and protect our precious bee species before it is too late.

The entire article can be viewed at:
https://www.biologicaldiversity.org/campaigns/native_pollinators/pdfs/Pollinators_in_Peril.pdf

Plastic water bottles may one day fly people cross-country

June 4, 2019
By Scott Weybright
College of Agricultural, Human, and Natural Resource Sciences



WSU associate professor Hanwu Lei, left, and his team, in the Bioproducts, Sciences and Engineering Laboratory.

RICHLAND, Wash. – A research group led by Washington State University scientists has found a way to turn daily plastic waste products into jet fuel.

In a new paper published in the journal Applied Energy, WSU's Hanwu Lei and colleagues melted plastic waste at high temperature with activated carbon, a processed carbon with increased surface area, to produce jet fuel.

"Waste plastic is a huge problem worldwide," said Lei, an associate professor in WSU's Department of Biological System Engineering. "This is a very good, and relatively simple, way to recycle these plastics."

How it works

In the experiment, Lei and colleagues tested low-density polyethylene and mixed a variety of waste plastic products, like water bottles, milk bottles, and plastic bags, and ground them down to around three millimeters, or about the size of a grain of rice.

The plastic granules were then placed on top of activated carbon in a tube reactor at a high temperature, ranging from 430 degree Celsius to 571 degrees Celsius. That's 806 to 1,060 degrees Fahrenheit. The carbon is a catalyst, or a substance that speeds up a chemical reaction without being consumed by the reaction.

"Plastic is hard to break down," Lei said. "You have to add a catalyst to help break the chemical bonds. There is a lot of hydrogen in plastics, which is a key component in fuel."

Once the carbon catalyst has done its work, it can be separated out and re-used on the next batch of waste plastic conversion. The catalyst can also be regenerated after losing its activity.

After testing several different catalysts at different temperatures, the best result they had produced a mixture of 85 percent jet fuel and 15 percent diesel fuel.

Environmental impact

According to the Environmental Protection Agency, landfills in the U.S. received 26 million tons of plastic in 2015, the most recent year statistics are available. China has recently stopped accepting plastic recycling from the U.S. and Canada. Conservative estimates by scientists say that at least 4.8 million tons of plastic enters the ocean each year worldwide.

Not only would this new process reduce that waste, very little of what is produced is wasted.

"We can recover almost 100 percent of the energy from the plastic we tested," Lei said. "The fuel is very good quality, and the byproduct gasses produced are high quality and useful as well."

He also said the method for this process is easily scalable. It could work at a large facility or even on farms, where farmers could turn plastic waste into diesel. "You have to separate the resulting product to get jet fuel," Lei said. "If you don't separate it, then it's all diesel fuel."

This work was funded by the Agriculture and Food Research Initiative Competitive Grant from the National Institute of Food and Agriculture, United States Department of Agriculture.

Media contact: Hanwu Lei, WSU Department of Biological System Engineering, 509-372-7628, hlei@wsu.edu

Timed release of turmeric stops cancer cell growth

By Tina Hilding, Voiland College of Engineering and Architecture

Turmeric has been used in cooking and as medicine for centuries in Asian countries, and its active ingredient, curcumin has been shown to have anti-oxidant, anti-inflammatory and bone-building capabilities.

PULLMAN, Wash. – A Washington State University research team has developed a drug delivery system using curcumin, the main ingredient in the spice turmeric, that successfully inhibits bone cancer cells while promoting growth of healthy bone cells. The work could lead to better post-operative treatments for people with osteosarcoma, the second most prevalent cause of cancer death in children.

The researchers, including Susmita Bose, Herman and Brita Lindholm Endowed Chair Professor in the School of Mechanical and Materials Engineering, and graduate student Naboneeta Sarkar, report on their work in the journal, ACS Applied Materials and Interfaces.

Young patients with bone cancer are often treated with high doses of chemotherapy before and after surgery, many of which have harmful side effects. Researchers would like to develop gentler treatment options, especially after surgery when patients are trying to recover from bone damage at the same time that they are taking harsh drugs to suppress tumor growth.

Turmeric has been used in cooking and as medicine for centuries in Asian countries, and its active ingredient, curcumin has been shown to have anti-oxidant, anti-inflammatory and bone-building capabilities. It has also been shown to prevent various forms of cancers.

Susmita Bose

“I want people to know the beneficial effects of these natural compounds,” said Bose. “Natural biomolecules derived from these plant-based products are inexpensive and a safer alternative to synthetic drugs.”

However, when taken orally as medicine, the compound can’t be absorbed well in the body. It is metabolized and eliminated too quickly.

In their study, the researchers used 3D printing to build support scaffolds out of calcium phosphate. While most implants are currently made of metal, such ceramic scaffolds, which are more like real bone, could someday be used as a graft material after bone cancer surgery. The researchers incorporated curcumin, encapsulated in a vesicle of fat molecules into the scaffolds, allowing for the gradual release of the chemical.

The researchers found that their system inhibited the growth of osteosarcoma cells by 96 percent after 11 days as compared to untreated samples. The system also promoted healthy bone cell growth.

“This study introduces a new era of integration – where modern 3D printing technology is coupled with the safe and effective use of alternative medicine, which may provide a better tool for bone tissue engineering,” said Bose.

The researchers are continuing the unique area of research, studying the benefits of integrating other natural compounds in biomedical technology. The work was funded by the National Institutes of Health.

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Easy Ways to Eat and Drink Turmeric

1. Add it to scrambles and frittatas.
Use a pinch of turmeric in scrambled eggs, a frittata, or tofu scramble. If you or your family are new to turmeric, this is a great place to start because the color is familiar and the flavor subtle.
2. Toss it with roasted vegetables.
Turmeric's slightly warm and peppery flavor works especially well with cauliflower, potatoes, and root vegetables.
3. Add it to rice.
A dash of turmeric brings color and mild flavor to a pot of plain rice or a fancier pilaf.
4. Try it with greens.
Sprinkle turmeric into sautéed or braised greens like kale, collards, and cabbage.
5. Use it in soups.
A bowl of vegetable or chicken soup feels even more warming when it's tinged with golden turmeric.
6. Blend it into a smoothie.
While fresh turmeric root is especially great in juices and smoothies, a pinch of ground spice is good, too. The slightly pungent flavor is usually well masked in smoothies.
7. Make tea.
Simmer turmeric with coconut milk and honey to make an earthy and comforting beverage, aka the pervasive and wildly popular "Golden Milk."

An Additional Tip: If you're looking to get the health benefits of turmeric, pair it with pepper. Herbalist Rosalee de la Forêt tells us, "To get the most out of your turmeric add 3% black pepper to the mix. Black pepper improves the bioavailability of turmeric, making smaller doses more effective." This works out to about 1/2 teaspoon of ground pepper to 1/4 cup of turmeric. To make it easy, I simply premix pepper into my jar of turmeric

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Cauliflower Steaks with Ginger, Turmeric, and Cumin
Serves 3

INGREDIENTS

1 large head cauliflower
Salt and pepper
2 tablespoons olive oil, divided
1 teaspoon freshly grated ginger
1 teaspoon ground cumin
1/2 teaspoon ground turmeric
Small handful of cilantro, chopped

Preheat the oven to 400°F.
Remove the leaves and trim the stem end of the cauliflower, leaving the core intact. Using a large knife, cut the cauliflower from top to base into three 3/4-inch-thick "steaks." Season each steak with salt and pepper on both sides. (Reserve any loose florets for another use.)
Heat 1 tablespoon of olive oil in a large skillet over medium-high heat. Sear the cauliflower steaks until golden brown, about 2 minutes on each side. Gently transfer the steaks to a baking sheet.

Whisk together the remaining 1 tablespoon of olive oil, ginger, cumin, and turmeric. Brush or spoon the mixture onto the cauliflower steaks.