

View this newsletter as a [PDF](#).

Bed Bug Battle – We Want to Hear From You

Anyone can get bed bugs! Bed bugs can cause anxiety, bite reactions, and financial hardship. The University of Arizona Urban IPM Program and several partnering research institutions are working to battle the bed bug resurgence in the United States. The researchers hope to determine the real impact and social cost of bed bugs, the risks to individuals and society, as well as the significant causes of infestations.

We need your help. We hope you will complete an online bed bug survey. This survey asks brief questions on how bed bugs affect your life, how bed bugs cause people stress, and what people do when trying to get rid of them. This voluntary survey should take about 10 minutes of your time. The survey is available in English and Spanish. There is no compensation available for your participation. Your answers are anonymous and you will be contributing to information that will help us battle the pesky parasites.

Who should take this survey? We would like to hear from people who currently live with bed bugs, people who have dealt with them in the past, and people lucky enough not to have experienced living with bed bugs at all. Your answer to the first question will direct you to questions specifically designed for you. We are dedicated to helping community members who need it most, and sharing your experience will be extremely helpful to develop strategies to reduce the bed bug problems.

English version of Bed Bug survey: <http://www.surveymonkey.com/s/DGLQS52>

Spanish version of Bed Bug survey: <https://es.surveymonkey.com/s/F5NZXJK>

IPM Mosquito Management

Mosquitoes have serious impacts on the health, comfort, and economic welfare of people. They can cause a variety of health problems due to their ability to transfer (vector) viruses and other disease-causing pathogens. There are two main types of mosquitoes in Arizona: Stagnant water mosquitoes (*Culex* mosquitoes) and intermittent water mosquitoes (flood water mosquitoes). An exotic species of mosquito known as *Aedes aegypti*, while not native to Arizona, has been spreading into many populated areas of Arizona as well.

Mosquito-borne encephalitis viruses, such as St. Louis Encephalitis (SLE) virus, Western Equine Encephalitis (WEE) virus, and West Nile virus (WNV) are found every year in Arizona. The presence of these three viruses has been detected in parts of Maricopa County. Maricopa County's Vector Control Division investigates citizen complaints. If mosquitoes are biting in a

particular area, report the problem by calling (602) 506-6616 and file an environmental complaint during working hours (<http://www.maricopa.gov/EnvSvc/VectorControl/>). Tucson doesn't have a complaint line but Pima County does have a WNV Hotline (520) 243-7999 (http://webcms.pima.gov/health/food-safety/vector_control/).

Mosquitoes need water to complete their life cycle. The best ways to avoid WNV is to prevent mosquitoes from breeding and biting. Here are some tips for what you can do by using IPM to manage mosquitoes and eliminate mosquito-breeding sites around your school or home.

1. Look for standing water in plant pots, birdbaths, fountains, tires, depressions in tarpaulins, and backyard trampolines. Drain the water regularly (twice a week is ideal for birdbaths and potted plants) or immediately after rain.
2. Remove unnecessary clutter. Keep rain gutters free of leaves and other debris that prevent water from draining. Store boats, canoes and other objects so they do not collect rainwater.
3. Repair water leaks (leaky pipes, sprinkler systems, and outside faucets). Correct drainage problems when ponding occurs in yards and playing fields. Report drainage problem in ditches and canals. Fill holes or depressions in tree stumps and branches with sand.
4. Regularly change water in containers for pets and check livestock watering troughs and tanks, or add *Gambusia* (mosquito eating fish). The fish are available free of charge from the Vector Control office. Just call at (602) 506-0700 to schedule a pickup time.
5. Larvacides such as bacteria (*Bti*) specifically target the larval stage of an insect, while harmless to humans, pets and the environment. Mosquito larvacides will kill mosquito larvae in a non-consumptive water source.

Additionally, when outdoors, consider the following safety tips:

1. Wear light colored clothing with loose fitting long-sleeves, long pants and socks. Use protective clothing when exposure to mosquitoes cannot be avoided.
2. If possible, avoid outdoor activity before dawn and after dusk when mosquitoes are most active and avoid being bitten by mosquitoes at any time.
3. Properly apply insect repellent even if you are outside for just a short period of time, and share your insect repellent with those around you. For additional help selecting which repellent is right for you, go to the EPA search page: <http://cfpub.epa.gov/oppref/insect/#searchform>

Consider the following tips for relieving the itch of mosquito bites:

The first step is to clean the bite area with soap and water. Topical corticosteroids can reduce the rash, itching, and discomfort. Topical diphenhydramine and caine-containing derivatives should be avoided because of concerns about inducing allergic contact sensitivity. Oral antihistamines can be effective in reducing the symptoms of mosquito bites. Use of a cold compress can be helpful, but do not apply ice directly to the skin.

With education and awareness, we can limit the health threat posed by these pests.

For more information, visit:

- Article featuring mosquitoes and West Nile Virus: <http://cals.arizona.edu/apmc/westernschoolIPM.html#schoolspstpress>

- Mosquito general information: <http://www.maricopa.gov/EnvSvc/VectorControl/Mosquitos/MosqInfo.aspx>
- West Nile Virus in Maricopa County: <http://www.maricopa.gov/wnv>

Fall Landscape Checklist

✓ Irrigation

Reduce the irrigation for trees and shrubs in fall. Plants need less irrigation as day length shortens and temperatures drop. In response to these environmental cues, trees and shrubs start to acclimate for winter. Giving them less water will prevent new shoot growth which is undesirable in late fall as tender, new shoots can be damaged by early freezing temperatures.

Irrigation should be cut back to maintain healthy plants. Check and reset irrigation controllers. For trees this means irrigating the root zone to a depth of 18-36 inches in the drip line and beyond. Shrubs should be watered to a depth of 12-24 inches at the drip line. Plant water needs vary by plant species, climate and location. Irrigation of established trees and shrubs in fall and winter can be reduced to a single irrigation once every 4 to 10 weeks. Transplanted trees and shrubs need to be watered more often until their root system is fully established, which takes one to two years for shrubs and two to four years for trees.

For more information see the publication
Watering Trees and Shrubs – Simple Techniques for Efficient Landscape Watering
<http://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1298.pdf>



✓ Planting

Fall is a good time to plant new trees and shrubs so they get a good start growing new roots before the soil temperatures become too cold for root growth. Before planting a tree, selecting the right tree for the right place is critical. This ensures that the species that will be planted is well adapted to the climate and microclimate, the soil, and that it will have sufficient space to develop to a mature size without impacting nearby structures or neighboring plants. The selection of vigorous and healthy nursery stock is the next step before purchasing the plant. Avoiding root-bound plants can prevent many problems in the future. Fall is also a good time to plant bare root stock which is available for some deciduous plants.



Once the right plant is selected for the right place it is time to dig the planting hole about 3-4 times the width and no deeper than the root ball. The soil that was excavated from the planting hole should be used as the only backfill. Placing organic mulch on top of the soil around the new transplant helps conserve moisture and prevents weed growth. Staking should be done only if necessary to keep the plant stable or protect them until the new roots are established and firmly anchor the plant.

For more information see the publications:

Planting Guidelines: Container Trees and Shrubs

<http://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1022.pdf>

Selecting, Planting, and Staking Trees

<https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1402.pdf>



School Gardens

September and October are good times to plant winter vegetables in the low desert in Arizona. Vegetable planting dates and many tips for a successful vegetable garden are found in the publication Ten Steps to a Successful Vegetable Garden.

<http://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1435.pdf>

Upcoming Webinars and Events

Attend Free Sessions of the [Green Strides Webinar Series](#). View archived webinars [here](#).

The [Green Strides Webinar Series](#) provides school communities the tools to reduce their schools' environmental impact and costs; improve health and wellness; and teach effective environmental literacy, including STEM, green careers, and civic engagement.

October 21, 2014, 2:00-3:30 p.m. Eastern / 11:00-12:30 p.m. Arizona: [Basics of School Integrated Pest Management \(EPA\)](#)

October 10, 2014, 8:00 – 12:00 p.m. Arizona: Irrigation Seminar for School Grounds. Maricopa Unified School District Administrative Office, 44150 Maricopa Casa Grande Hwy, Maricopa, AZ 85138.

Participation is FREE. The seminar will cover topics in turf irrigation including calculating actual precipitation rates and how to maximize irrigation efficiency. For more details, contact Dave Kopec (dmk@email.arizona.edu), Turf Specialist, Department of Plant Sciences, University of Arizona, Tucson. For registration, contact Shaku Nair (nairs@email.arizona.edu), Assistant in Extension, University of Arizona Maricopa Ag. Center.

October 21, 2014, 8:00 – 11:00 a.m. Arizona: [Landscape Trees Under Permanent Drought Field Day](#). Maricopa Agricultural Center, University of Arizona, 37860 W. Smith-Enke Rd, Maricopa AZ 85138.

Participation is FREE. Please register here:

https://cals.arizona.edu/spls/deserthort/field_day_registration

You are invited to join us at the Maricopa Agricultural Center of the University of Arizona in Maricopa to see the long-term Tree Irrigation Study. Nine species of landscape trees have been irrigated with different treatments since 2010. Trees have not been irrigated since spring 2014. Learn about the experiment, observe how trees responded to the treatments, and find out which species can tolerate a growing season without irrigation. In case of questions please contact Ursula Schuch at uschuch@email.arizona.edu.

October 30, 2014, 9:00 – 2:00 p.m. Arizona: [Synthetic Turf Field Day: Product Improvements and Choices for Athletic Fields](#). Arizona Stadium at the University of Arizona, Tucson, AZ

The University of Arizona Turfgrass Research, Extension, and Education program will conduct a Synthetic Turf Field Day on Thursday, October 30 in Tucson. The link to the announcement is from our website at: <http://turf.arizona.edu>.

So many schools have converted to synthetic turf from natural grass or more may be considering installation of synthetic turf athletic fields. The field day will provide an opportunity to learn about product choices and the maintenance that is required for safe and long-term use. There will be an opportunity to inspect 2 types of turfs, an irrigation system, sweeper, groomers, blower, thermometer, water infiltrometer, surface hardness measuring instruments. If there are any questions, please feel free to contact Kai Umeda at kumeda@cals.arizona.edu.

For more information about the EPA Schools program, visit:

<http://www.epa.gov/schools/>

For more information about the Community IPM, visit:

<http://www.extension.org/pages/23359/urban-integrated-pest-management-community-page>



For more information about School IPM in Arizona, visit:

<http://cals.arizona.edu/apmc/westernschoolIPM.html>

Shujuan (Lucy) Li, Newsletter Editor and Assistant in Extension. Email: lisj@cals.arizona.edu

Ursula Schuch, Landscape Horticulture. Email: ukschuch@ag.arizona.edu

Dawn H. Gouge, Public Health IPM Expert. Email: dhgouge@cals.arizona.edu

Shaku Nair, Assistant in Extension. Email: nairs@email.arizona.edu
Al Fournier, IPM Assessment. Email: fournier@cals.arizona.edu
Kai Umeda, Extension Agent, Turf. Email: kumeda@cals.arizona.edu
Dave Kopec, Turf Specialist. Email: dkopec@ag.arizona.edu
Paul Baker, Urban Entomologist. Email: pbaker@ag.arizona.edu

Acknowledgements

This material is based upon work that is supported in part by the National Institute of Food and Agriculture, U.S. Department of Agriculture (USDA NIFA). Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture. Additional support is provided by the U.S. Environmental Protection Agency (EPA) and the University of Arizona – Arizona Pest Management Center (APMC).



United States
Department of
Agriculture

National Institute
of Food and
Agriculture