

GRAVES COUNTY AGRICULTURE & NATURAL RESOURCES NEWS

 **Martin-Gatton**
College of Agriculture,
Food and Environment
University of Kentucky.

*GRAVES COUNTY COOPERATIVE
EXTENSION SERVICE
4200 US HWY 45
MAYFIELD, KY 42066
(270)247-2334
GRAVES.EXT@UKY.EDU*

September 2024

IN THIS EDITION:

- Agent Notes
- Schedule of Events
- Announcements
- Forages
- Special Report
- Crops
- Entomology
- Horticulture
- Weather notes
- Recipes





Schools are back in session, Kentucky State Fair is over, and harvest has begun!

What a summer it's been. This has been a difficult summer for many of you with a lot of issues with damage from insects, disease, and other things out of our control- BUT fall is coming and it's coming soon!

Some things to be on the look out for:

Fall Armyworms- they are here, they are numerous, and they are hungry! Let me know if I can help give you advice on how to control these guys and I'll be happy to help you out.

Woolly aphids- those aren't ashes flying around in the air! These guys are mostly annoying, but can cause some cosmetic issues where they congregate. A good heavy rain will help take care of these guys, so let's all hope for a good rain soon!

We hope to see you all at our Fall Fest on September 5th! This event is for everyone, so come out and have some fun with us, eat, meet the staff, and see what all extension has to offer you! We will have all of our clubs represented and upcoming program information that you won't want to miss!

Included in this month's newsletter is special report on our Agriculture & Cultural Tour to Alaska. Myself and 3 other area agents led a group of 20 made up of several types of agriculturalists and it was an experience none of us will ever forget. Enjoy learning more about what we learned and took away from the trip and the pictures! I think after you read it, you will come away with a clear reason to why we have to continue to preserve our farmland and natural resources, protect our supply chain, and continue to work hard and look for innovative ways to continue making American agriculture the best there is. I encourage you to join us when we plan another trip to whatever destination is next!

This is a big newsletter, with plenty to look through so take the time to check out all of the programs that we have coming up here in Graves County and other offices!

Please reach out with any questions you may have and ideas of programs that you'd like to see are always welcome!

Miranda Rudolph

Extension Agent for Agriculture & Natural Resources
Graves County

miranda.rudolph@uky.edu | 270.247.2334 | 270.978.7052



ANR: What's Happening?

Bolded events are hosted at the Graves County Extension Office.

- **September 5- Fall Fest & Chili Cookoff, GCEO - 4:30pm**
- September 18 - Raising Hope Farmers' Appreciation Day, WKU Ag Expo Center, Bowling Green - 9:30am-12:30pm
- **September 30- Meat Cutting Demonstration with Dr. Rentfrow, GCEO - 5:30pm**
- October 14 - Bull Value Assessment Program Part 1, Marshall County Extension Office - 6pm
- October 15 - Pasture Ecology Workshop, Cecilia, KY
- October 16 - Heart of America Grazing Conference, Hardin County Extension Office, Elizabethtown, KY
- October 22- Planning for Farm Diversification, MSU Expo, Murray - 8am
- **October 22- Trunk or Treat, GCEO - 4:30-6pm**
- October 22 - Bull Value Assessment Program Part 2, Marshall County Extension Office - 6pm
- October 23 - Growing Your Farm and Food Business Workshops, Grand Rivers, KY



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Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English.
University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.
Lexington, KY 40506



Disabilities
accommodated
with prior notification.

Cooperative Extension Service

you're invited to
Fall Fest

SEPTEMBER 5
4:30-6:00PM

enjoy lawn games, treat walk, face painting, petting zoo + more!
meet the staff, learn about our programs + register for door prizes

CHILE COOK-OFF

GRAVES COUNTY EXTENSION OFFICE
4200 ST RT 45 N
MAYFIELD, KY 42066

Cooperative Extension Service

estás invitado a
Festival de otoño

SEPTEMBRE 5
4:30-6:00PM

¡Disfruta de inflables, paseos con golosinas, pintura de caras, zoológico de mascotas y más!
conozca al personal, conozca nuestros programas + regístrese para recibir premios

CHILE COCURSO DE COCINA

GRAVES COUNTY EXTENSION OFFICE
4200 ST RT 45 N
MAYFIELD, KY 42066

STORYWALK

Cooperative Extension Service

TRUNK OR TREAT

HOORAY FOR HALLOWEEN
Curious George

OCTOBER 22
4:30-6PM
GRAVES COUNTY EXTENSION OFFICE

4200 STATE ROUTE 45 N
MAYFIELD, KY 42066

Cooperative Extension Service
MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

PASEO POR LA HISTORIA

Cooperative Extension Service

TRONCO o GOLOSTINA

HOORAY FOR HALLOWEEN
Curious George

22 DE OCTUBRE
4:30-6PM
CONDADO DE GRAVES
OFICINA DE EXTENSION

4200 STATE ROUTE 45 N
MAYFIELD, KY 42066

Cooperative Extension Service
MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT



CALL 270-247-2334
TO REGISTER!

NEW DATE!

NEW RETAIL CUTS FROM THE BEEF RIBEYE

MEAT CUTTING DEMONSTRATION
WITH
DR. GREGG RENTFROW,
UK MEAT SCIENCE SPECIALIST

SEPTEMBER 30, 2024

5:30PM

GRAVES COUNTY
EXTENSION OFFICE



Cooperative Extension Service

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
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Disabilities
accommodated
with prior notification.





Martin-Gatton
College of Agriculture,
Food and Environment

Cooperative Extension
Marshall County
* 2081 Mayfield *
Highway Benton,
KY 42025 (270)
527-3285



"(BVAP) really assisted
with understanding real
world usage of EPD'S"

-past
participant

"Very educational. I
really enjoyed getting to
see things in action at
the mock auction"

-past
participant

Bull Value Assessment Program

October 14th & 22d

6:00PM

Free meal both nights!

**@ The New Marshall County
Extension Office**

RSVP Required

Call 270-527-3285

This program is a collaboration of the Marshall, Calloway, Graves, McCracken & Livingston County Extension Offices.

This two night
program is
designed to help
producers make future
bull buying decisions.

This "mock" bull buying
experience allows producers to
fine tune their bull evaluating,
selecting and purchasing skills at a
live, no risk, auction simulation!

Cooperative Extension Service

Agriculture and Natural Resources
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Community and Economic Development

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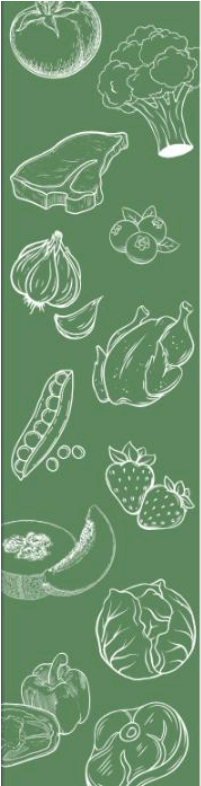
Disabilities
accommodated
with prior notification.



Time to sign up for
STATE COST SHARE!
 Applications will be accepted until October 1, 2024.
 Approval of applications is based on a statewide ranking criteria and the availability of funds. Cost share rates are maximum of 75% of the actual cost not to exceed \$20,000.



Contact the Graves County Conservation District for more information
 (270) 247-9525 ext: 8118



PLANNING FOR FARM DIVERSIFICATION

OCTOBER 22, 2024
DOORS OPEN AT 8AM CST

Murray State University
 William "Bill" Cherry Exposition Center
 2101 College Farm Rd
 Murray, KY 42071

Cultivate new horizons with this FREE workshop! Lunch provided. Registration required.



For more information or questions contact
 KCARD at kcard@kcard.info
 or 859-550-3972.



GROWING YOUR FARM AND FOOD BUSINESS WORKSHOPS

Unlock new opportunities for your agribusiness with KCARD staff and partners at our comprehensive workshops on funding, business planning, and more!

October 23rd Grand Rivers Community Center Grand Rivers, KY	November 13th Washington County Extension Office Springfield, KY	November 19th UK Robinson Center (RCARS) Jackson, KY
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THE 2ND ANNUAL RAISING HOPE FARMERS' APPRECIATION DAY

A Day Dedicated to Honoring Kentucky's Farmers

- Awards Presentation
- Free Health Screenings
- Educational Safety, Health, and Rescue Booths
- Agricultural Career Fair
- Free Burgers, Hotdogs, and Ice Cream Until Gone

SEPT 18TH 2024 - 9:30 AM - 12:30 PM CT

Western Kentucky University L.D. Brown Ag Expo Center
 406 Elrod Road, Bowling Green, KY 42104

In Partnership With:



PASTURE WALK AT BIG SPRINGS FARM

On Thursday, October 17, we will be visiting Greg Brann's Big Springs Farm in Adolphus, Kentucky. Join us to see a well-established multi-species grazing operations with one of the nation's foremost experts on soil health.

Thursday, October 17, 2024

Pasture Walk at Greg Brann's Big Springs Farm
10:00 a.m. - 4:00 p.m. CT
683 Blankenship Rd, Adolphus, KY 42120

Topics include:

- Native grasses and annuals
- Walnut silvopasture
- Soil health and pasture management
- Managing the forages you have
- Multi-species grazing with a "flerd"
- Grazing dairy animals (cattle, goats, sheep)
- Stockpiling grass to reduce winter feeding
- Battling nimbleweed



This event is part of the larger Heart of America Grazing Conference
Tickets can be found at <https://2024HeartofAmerica.eventbrite.com>

If registering by mail, please send checks payable to KFGC to: Caroline Roper, UKREC, PO Box 469, Princeton, KY 42445

Pasture Walk at Big Springs Farm
Tickets \$45 x ___ = _____

Name: _____
Address: _____
Phone: _____
Email: _____



2024 HEART OF AMERICA GRAZING CONFERENCE

Regenerative grazing... Merging science and practice

Tuesday, October 15, 2024 Tickets can be found at <https://2024HeartofAmerica.eventbrite.com>

Pasture Ecology Workshop with Matt Poore, North Carolina State University
 9:00 a.m. - 5:00 p.m. ET
 Glenmar Farms, 16943 St. John Road, Cecelia, KY 42724

Heart of America Banquet
 6:00 p.m. - 8:00 p.m. ET
 Hardin County Extension Office, 111 Opportunity Way, Elizabethtown, KY
 Capturing the Beauty of Forages with Dr. Jimmy Henning

Wednesday, October 16, 2024
 Heart of America Grazing Conference
 7:00 a.m. - 3:00 p.m. ET
 Hardin County Extension Office, 111 Opportunity Way, Elizabethtown, KY

- Healing the Land with Grazing
 Ray Archuleta, Raythesoilguy LLC
- Soil Health: Separating Fact from Fiction
 Alan Franzluebbers, USDA Ag Research Service
- Bale Grazing for Biological Fertility and Soil Health
 Greg Halich, University of Kentucky
- My Regenerative Journey
 Sam Kennedy, Kettle Mills Livestock Co.
- Build It and They Will Come... Managing for Soil Life
 Chris Teutsch, University of Kentucky
- Putting it All Together... A Call to Action
 Matt Poore, North Carolina State University

Thursday, October 17, 2024
 Pasture Walk at Greg Brann's Big Springs Farm
 10:00 a.m. - 4:00 p.m. CT
 683 Blankenship Rd, Adolphus, KY 42120



Ray Archuleta



Matt Poore



Ray Smith



Greg Brann



Alan Franzluebbers



Greg Halich



Chris Teutsch

Kentucky Master Grazer Educational Program



Tickets can be found at <https://2024HeartofAmerica.eventbrite.com>

If registering by mail, please send checks payable to KFGC to: Caroline Roper, UKREC, PO Box 469, Princeton, KY 42445

Pasture Ecology \$100 x ____ = ____
 Banquet \$50 x ____ = ____
 Grazing Conference \$75 x ____ = ____
 Pasture Walk \$45 x ____ = ____
 Total: _____

Name: _____
 Address: _____
 Phone: _____
 Email: _____



PASTURE ECOLOGY WORKSHOP

On Tuesday, October 15, join us for a pasture ecology workshop at a local regenerative agricultural operation, Glenmar Farms, in Cecelia, Kentucky.

We will be doing a deep dive into all things related to ecological systems and welcoming Dr. Matt Poore from North Carolina State University.

Tuesday, October 15, 2024

Pasture Ecology Workshop with Matt Poore, North Carolina State University
9:00 a.m. - 5:00 p.m. ET
Glenmar Farms, 16943 St. John Road, Cecelia, KY 42724

Topics include:

- Silvopasture establishment and management
- Managing for dung beetles
- Annuals as part of regenerative grazing systems
- The POWER of one-wire temporary electric fencing
- Eastern gamma grass and clover mixtures
- Temporary watering systems
- Understanding the potential and limitations of your soil

Registration capped at 60!

Kentucky Master Grazer Educational Program



This event is part of the larger Heart of America Grazing Conference Tickets can be found at <https://2024HeartofAmerica.eventbrite.com>

If registering by mail, please send checks payable to KFGC to: Caroline Roper, UKREC, PO Box 469, Princeton, KY 42445

Pasture Ecology Workshop Tickets
\$100 x ___ = _____

Name: _____
 Address: _____
 Phone: _____
 Email: _____



ALASKAN

Agriculture and Cultural Tour



PHOTO: JIM CLARK

The whole group, including our bus driver Debi, at the William Jack Hernandez Sport Fish Hatchery in Anchorage.

ABOUT THE TRIP

Four western region ANR agents led a group of 20 people on a 7 day land tour of Alaska exploring this incredibly unique state. We visited many different agricultural sites and had plenty of opportunities to enjoy the raw beauty and natural resources of this incredible place!

THE JOURNEY

We traveled from as far south as Seward and the Kenai Fjords to as far north as Fairbanks. We made stops in Anchorage, Palmer, Talkeetna, and Denali National Park. We were on our tour bus most of the time, but took a ride on the Alaska Railroad and a boat ride into Resurrection Bay.



Pyrah's Pioneer Peak Farm,. A u-pick vegetable and berry farm located in Palmer.



A reindeer takes a rest at the Reindeer Farm in Palmer, the home to many domesticated reindeer, bison, elk, yaks, highland cows, and a rescue moose!

QUICK FACTS

There are 1,173 total farms in Alaska and a total of 869,852 acres in production. 791 of these are new/beginning farmers which gives them the highest rate of beginning farms in the U.S. For comparison, there are currently 1,129 farms in Graves County with 255,830 acres in production.

AGRICULTURE



The Vanderweele Farm in Palmer is the largest vegetable producer in the state of Alaska. They are a major producer of potatoes, but offer a wide range of other crops as well. Additionally, the flower farm All Dahlia'd Up is here. Misty Vanderweele grows beautiful dahlias and other filler flowers where she sells them at their flower shop, offers flower farm evening tours, and a delivery service.

Agriculture is not the first thing that comes to mind when you think of Alaska, but they produce a diverse offering of commodities. Obviously, their sport fish industry is huge, but they are known for their record setting vegetable sizes as well! The extremely long daylight hours allow things to grow quickly, very large, and very sweet there. This is good since they only have about 100 days to work with from last to first frost. They produce mostly potatoes and other cold hardy crops, hay, several types of berries, barley, and amazing flowers! Animal agriculture also plays a role here with beef, reindeer, and poultry production. There are only 3 dairies still in operation in the entire state.

Alaska only produces around 3-4% of the food that they consume locally, making them highly reliant on imports. They have a population of approximately 733,391 people. The state is 2.5 times the size of Texas and full of very remote areas that are only accessible by boat or plane. It is estimated that, in the event of a supply chain disruption, they could only support their population for about 4 days with what is in the stores at any given time. Most homes have gardens and/or small greenhouses and they rely heavily on hunting, fishing, and wild harvests as well to supplement their food supply.

NATURE

Alaska provides some of the most beautiful, rugged scenery that you could imagine. It is interesting to observe the changes in terrain in the different areas that we visited. We were treated to quite the show of sea life when we were exploring Resurrection Bay. The rugged landscape in the Kenai Fjords was breathtaking to see along with the several glaciers still present.

During our time in Denali National Park we had the opportunity to see a young bull moose enjoying a meadow near the road.

We also saw a family of the Alaskan State Bird, the Willow Ptarmigan on the path. The weather was not friendly that day and it kept Denali hidden in the clouds. We were able to see where the recent wildfires had taken place near the entrance of the park and got to hear the stories of the culture of the natives that inhabit that area. Even during a cold, dreary, rainy day the pure majesty of Creation was on full display.



A young bull moose (top) and Willow Ptarmigan (bottom) in Denali National Park.



PHOTO: ZOEY RAMSEY

A group of sea lions sunning themselves on the rocks (left) and a humpback whale breaching for the crowd in Resurrection Bay in Seward.



Temperature and Water Use by Crops

Dr. E.B. Egli, UK Professor Emeritus

Summer is when farmers stress about the weather - when will it rain, when will it cool off? This obsession is not surprising - rain is the key to high crop yields (unless you can irrigate) and high temperatures increase water use, making rain less effective.

Crops use enormous amounts of water - a well-watered corn or soybean crop can use 0.25 inches (6788 gallons per acre) or more in a day. That is an inch every 4 days that must be supplied by rain, by irrigation or by water stored in the soil to avoid stress. High temperatures make this challenging situation worse.

Let's review the processes that control water use by crops to help us understand the effect of temperature. Transpiration is the movement of water vapor out of leaves through stomata, which are tiny pores in the leaf. Transpiration accounts for most of the water used by crops. Water is also lost by evaporation from the soil, which is usually less than transpiration, especially when the soil surface is dry or when crop leaves completely cover the soil. The combined loss is called evapotranspiration (ET).

Transpiration occurs when water in the leaf evaporates, and the vapor moves out of the leaf by diffusion. The rate of diffusion depends upon the amount of water vapor in the air inside the leaf vs. the amount in the air surrounding the leaf. Diffusion occurs only when there is a gradient in water vapor concentration between the air inside the leaf and the outside air.

Air inside the leaf is saturated with water vapor, but the atmosphere is usually not saturated (relative humidity < 100%) providing the gradient that drives transpiration. The larger the gradient, the higher the rate of transpiration. Transpiration will be higher if the air is dry (low relative humidity - larger gradient) than if the relative humidity is high (smaller gradient).

Temperature affects transpiration by changing the gradient from inside the leaf to the atmosphere. Increasing temperature increases the gradient and transpiration. The same logic applies to evaporation from the soil. The temperature effect is significant - increasing the temperature from 68 to 86°F increases the gradient by 1.8 times or more depending on changes in relative humidity of the air surrounding the leaf. A further increase in temperature to 104°F increases the gradient by 1.7 to 2.4 times over the gradient at 86°F. Increasing the temperature from 86°F, a fairly normal summer temperature, to 104°F would roughly double the gradient and significantly increase the rate of transpiration if plenty of water is available to the crop.

Wind also affects transpiration by influencing the water vapor gradient between the leaf and the air. In still air, the water vapor that diffuses out of the leaf increases the water vapor content of the air next to the leaf which reduces the gradient and reduces transpiration. Wind sweeps the water vapor away from the leaf, maintaining the gradient and the rate of transpiration.



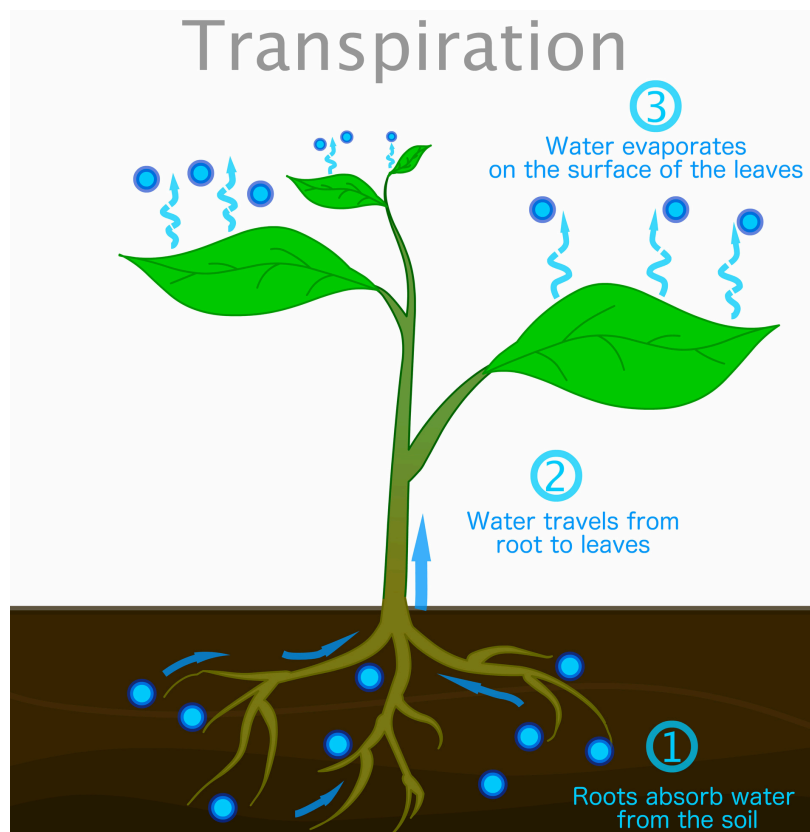
It takes a lot of energy to evaporate water (585 calories per g) - which is why transpiration is so effective in cooling the plant. When a lack of water limits ET, some of the energy that would have been used to evaporate water heats the plant and the air. Air and plant temperatures are usually higher during a drought. Plants in a desert can actually be cooled below air temperature by high transpiration rates resulting from the dry air and the large gradient.

Climate change and the resulting higher temperatures will increase water use by crops which will, in turn, cause a more rapid depletion of the soil moisture reservoir causing stress. High temperatures increase ET, deplete the soil water reservoir faster, and the lack of water makes it hotter. Isn't that a kick in the head?

The size of the soil moisture reservoir plays a critical role in matching the intermittent supply of water (rain + irrigation) with the relentless daily demand from ET. It is not surprising that soils that store large amounts of water often produce the highest yields. The increasing temperatures associated with climate change will increase ET making the size of the soil moisture reservoir even more important.

“Human vanity can best be served by a reminder that, whatever his accomplishments, his sophistication, man owes his very existence to a six-inch layer of topsoil - and the fact that it rains.” (Richard L. Evans, 1906 - 1971, author and radio personality).

Optional Citation: Egli D. 2024. Temperature and Water Use by Crops, Corn & Soybean News, Vol 6, Issue 8, Department of Plant and Soil Science. University of Kentucky, August 16, 2024.



What Are These Flying Bugs Resembling Cotton Lint?

Current Situation

Two colleagues at the University of Kentucky's Research and Education Center and the public were asking me for the identification of a flying bug that resembles a snowflake or cotton lint. These insects have been observed in many areas of western Kentucky and landing on tobacco leaves, many ornamental shrubs, on car surfaces, or flying while people were walking.

Identification & Description

This insect can be any of the several species of woolly aphids: alder (*Prociphilus tessellatus*), apple (*Eriosoma lanigerum*), elm (*E. americanum*), or hackberry (*Shivaphis celti*) woolly aphids. The appearance of woolly aphids is given by a waxy secretion that covers the body, legs, antennae, and around wings (Figure 1A through 1D) that makes them resemble a cotton lint or snowflake. Aphids are sap feeders of many plant species and excrete a liquid sweet waste substance known as honeydew. Honeydew, in many cases, accumulates on leaves, where a fungus called sooty mold can grow, turning leaves and branches black. Feeding of aphids can cause twisted, curled, or yellowed leaves and/or poor growth.

Not all aphids produce this wax structure, but other insects, such as white flies and psyllids, are also covered by wax. Researchers that studied the woolly oak aphid (*Stegophylla brevis*) in Florida hypothesized that the possible roles of these secretions might be to avoid contamination with honeydew, provide some protection against natural enemies, act as water-proofing protection, and reduce the efficacy of insecticides.

Management

Beneficial insects such as ladybeetles, lace wings, and parasitoids may be able to control aphids without the application of insecticides. However, woolly aphids may be sporadic pests, and outbreaks can be produced and require intervention to reduce their numbers. In these cases, plants can be treated with horticultural oils or soaps, and if required, conventional insecticides may be used.

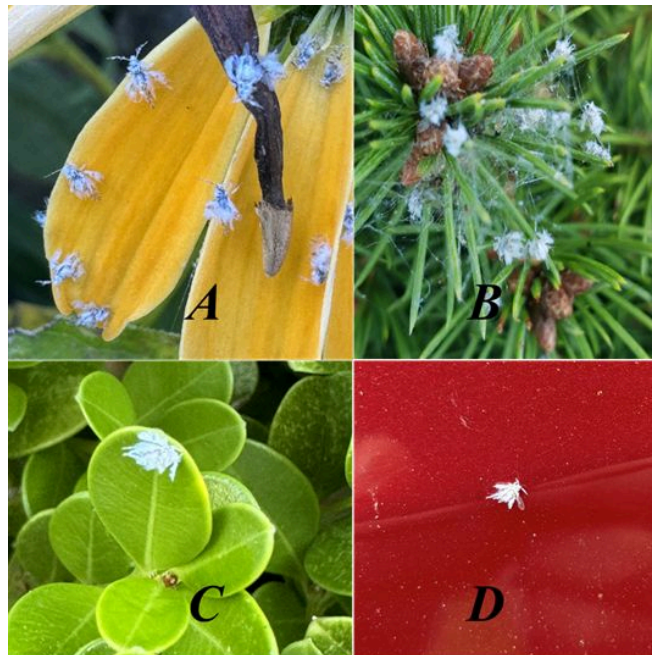


Figure 1. Several images of woolly aphid landing on a coneflowers, dwarf spruce, boxwood, and a vehicle surface (Photos: A to C: Raul Villanueva, UK, and D: Hanna Teutsch, Caldwell County High School)



Help Your Garden Weather a Heatwave

Source: Rick Durham, Extension Professor, Department of Horticulture

If you think you're hot, ask your plants (not literally). They can suffer under high summer heat, too.

Most vegetables and native plants can withstand a periodic heatwave, but once the soil dries out in the top few inches, all plants can feel the stress. Some vegetables like beans and tomatoes may delay producing fruit during hot weather but this is usually temporary. A layer of mulch around your plantings can help hold moisture for those important surface roots and moderate the soil's temperature. A light-colored mulch like straw, pine needles or grass clippings can help to reflect heat back and away from the plant's roots.

But don't worry. There are ways to protect your plants!

Water your plants in the early morning before the heat of day to prevent water loss to evaporation. If you use sprinklers, most of that water can be lost through wind drift and evaporation, so try to water on a calm morning. Hand watering gives you the best control and directs the water exactly where you need it. If you can, it is best to soak the soil directly beneath the plant and avoid getting the leaves wet. Soaker hoses are good for directing the water where it's needed most.

Watering in the morning also discourages slugs and fungal diseases. An evening dousing can leave the soil and foliage wet for longer periods of time and encourage snails, slugs and the spread of disease.

You may have to water container gardens two or even three times a day, depending on how large the container is and how much foliage is present. If they are small enough to be moved, shifting containers to a place where they can get partial shade will help manage the plants' stress, but some plants may not bloom as well when exposed to prolonged shady conditions.

During normal weather, young trees need at least 10 gallons of water a week for the first three years directed toward their developing root systems. If you find yourself in a hot dry spell, provide your young trees and shrubs with more water. They are at their most susceptible during those early years. A tree bag contains a reservoir of water that is released slowly to the plant and can help keep the tree well-watered during the hottest spells. You'll only have to fill the bag occasionally rather than watering every few days. They can be purchased at most garden shops.

Shade cloth, which comes in varying thicknesses, can help protect plants that are withering under the sun's rays. Support it above or to one side of the plants, which will shelter them like a porch protects us from the strongest sunlight. Tree branches with leaves can also be placed over plants to provide shade.

Now is not the time to cut your lawns short. Mow them to at least a three-inch height. That way, the grass blades will provide shade for their own roots and help hold in soil moisture. Avoid fertilizing lawns and gardens during heatwaves, because roots' capacity for taking up nutrients are reduced during hot weather. You'll just be wasting your money. Most Kentucky lawns are comprised of bluegrass and tall fescue. Once established, both of these species and withstand quite a bit of drought.

Many cool-season crops are planted in August, but the late summer heat can be hard on young transplants. Again, shade cloth can come in handy. Or plant them under more mature plants, so they can benefit from the shade the larger plant throws.

For more information about how to weatherproof your lawn and garden, contact the Graves County office of the University of Kentucky Cooperative Extension Service.





Wildfires and Weather

A Potentially Deadly Combination

By Tony Edwards - National Weather Service Charleston, WV



Wildland forest fires are fairly common across the Commonwealth, but especially so in the forests of eastern Kentucky. The Kentucky Division of Forestry reports that, on average, there are over 1,400 wildfires each year across Kentucky. Arson is the number one cause of those fires, with uncontrolled burning ranking second.

Ninety-nine percent of all wildfires in Kentucky are caused by humans!

Many of us have seen what look like harmless fires burning in the leaf litter in our forests during the dry fall and spring seasons. Some of us may have even been responsible for a burn pile or two getting “out of control”.

These situations shouldn’t be taken lightly, however, as given the right conditions, these fires can become deadly.

On April 6, 1999, rapidly changing weather conditions and steep terrain combined on a wildfire (named the Island Fork Fire) in Rowan County, resulting in the death of two volunteer firefighters, ages 28 and 30. These firefighters were overrun by the wildfire which likely started when a landowner lost control of a fire while clearing a fence line. The wildfire advanced quickly up the steep terrain, with flames as high as 20 feet and winds increasing rapidly to over 35 mph! Char marks on the tree bark were up to 50 feet high! While such fire conditions are rare in Kentucky, they illustrate how dangerous wildfires can be and why you should take measures to prevent them from occurring.

The National Weather Service issues Red Flag Watches and Red Flag Warnings to inform fire management agencies and the public when weather conditions are right for rapid wildfire growth. A Red Flag Watch means to be prepared as dangerous fire weather conditions are possible in the next few days but are not occurring yet.

A Red Flag Warning means dangerous fire weather conditions are occurring now or are expected to occur shortly. During a Red Flag Warning, you should use extreme caution when dealing with anything that could pose a wildfire hazard.

When fire danger is elevated, you may see a burn ban go into effect. Usually these are on a local county level, and are enforced with assistance from local law enforcement. Burn bans generally prohibit burning of forest, grass, crops, woodlands, marshes and other similar areas. Make sure to check with your local fire department or county officials before burning.

Keep in mind that during fire seasons in Kentucky, it is illegal to burn anything within 150 feet of any woodland or brushland between the hours of 6 a.m. and 6 p.m. The Spring Forest Fire Season runs from February 15 - April 30 and the Fall Forest Fire Season runs from October 1 - December 15. Violation of the burn ban is a misdemeanor punishable by law!





Wildfires and Weather A Potentially Deadly Combination



What Causes Wildfires?

A spark, in the presence of fuel and oxygen, can cause a fire, which can further spread depending on various weather conditions.

A SPARK + FUEL & OXYGEN = FIRE! X WEATHER CONDITIONS

Fires can be sparked by natural causes, but most wildfires in the U.S. are caused by human activity.

Natural causes:



Human activity:



Fuel is usually dry vegetation:



Oxygen is almost everywhere.



Certain weather conditions can make fires bigger, faster, and more dangerous.



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FIRE WEATHER WATCH

A Fire Weather Watch is issued when **critical fire weather conditions are possible.**

“Critical fire conditions” means warm temperatures, low humidity, and strong, gusty winds.

Be Prepared.

RED FLAG WARNING

A Red Flag Warning is issued when **critical fire weather conditions are happening or are about to happen.**

Avoid burning, be careful around open flames, safely dispose of cigarettes. Fires can spark and grow very quickly.

Take Action!



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Farmer's Market Skillet Bake

½ small onion, finely chopped	2 cups shredded mozzarella cheese, divided	4 medium sized tomatoes, sliced
2 cloves garlic, minced	1 medium summer squash, sliced	1 teaspoon salt
4-5 small red potatoes, sliced	1 medium zucchini, sliced	1 teaspoon pepper
1 tablespoon olive oil		5 fresh basil leaves, finely chopped, divided

Preheat oven to 375 degrees F. **Prepare** onion, garlic and sliced potatoes (about ¼ inch thick). **Heat** olive oil over medium heat in a 10 or 12-inch oven safe skillet. **Add** onion, garlic, and potatoes to pan and **stir** to coat with oil. **Cook** over medium heat, **stirring** occasionally until golden brown and tender. **Add** 1 cup mozzarella cheese. In a bowl, **toss** together the squash, zucchini and tomatoes with salt, pepper, and half of the finely chopped basil. **Layer** squash

and tomato slices over the potato and cheese layer. **Top** with remaining mozzarella cheese. **Bake** 35 minutes or until vegetables are tender and cheese is melted. **Remove** skillet from oven and **top** with remaining basil.

Yield: 8, 1 cup servings

Nutritional Analysis: 200 calories, 8 g fat, 4 g saturated fat, 20 mg cholesterol, 490 mg sodium, 24 g carbohydrate, 3 g fiber, 5 g sugars, 10 g protein.

Summer Squash

SEASON: June through October.
NUTRITION FACTS: Squash is low in calories. One cup raw squash contains only 20 calories. It contains vitamins A and C, and is naturally free of fat, cholesterol and sodium.
SELECTION: Popular summer squashes include yellow crookneck, yellow straightneck, zucchini, cocozelle and patty pan. Summer squash should be picked or purchased when small and tender; both skin and seeds are eaten. The peel holds many of the nutrients so do not peel. It should be harvested when 6 to 8 inches in length. Patty pan squashes are ready when they are 3 to 4 inches in diameter or less.
STORAGE: Store unwashed squash in plastic bags in the crisper drawer of the refrigerator. Wash the squash

just before preparing. The storage life of summer squash is brief. Plan to use within two to three days.
PREPARATION: Summer squash is a mild flavored vegetable that combines well with herbs and seasonings. Try it with basil, allspice, rosemary and marjoram. Cook summer squash as a vegetable or use in stews, casseroles and main dishes. Summer squash can be grilled, steamed, boiled, sautéed, fried or used in stir-fry recipes.
PRESERVING: Select small squash with small seeds and a tender rind. Wash and cut into ½ inch slices and heat in boiling water for 3 minutes. Cool promptly in cold water and drain. Pack in containers leaving ½ inch headspace. Seal and freeze.

SUMMER SQUASH

Kentucky Proud Project
 County Extension Agents for Family and Consumer Sciences
 University of Kentucky, Dietetics and Human Nutrition students
June 2017

Source: www.fruitsandveggiesmatter.gov

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers market, or roadside stand.
<http://plateitup.ca.uky.edu>



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Oven-Fried Fish Fillets

- 1 pound fish fillets
- 2 tablespoons lemon juice
- 2 tablespoons vegetable oil
- ¼ cup shredded parmesan cheese
- ¼ teaspoon dill weed
- ¼ teaspoon salt
- ¼ teaspoon pepper
- 2 cups cornflake-type cereal, crushed

Preheat oven to 350 degrees Fahrenheit. Grease a 13x9 baking dish. Cut fillets into serving pieces, if necessary. In a small bowl, combine lemon juice and vegetable oil. In a separate small bowl, mix Parmesan cheese, dill weed, salt, and pepper. Dip each fillet into lemon juice mixture. Lay in baking dish, sprinkle with cheese mixture, and coat with crushed cereal. Bake uncovered for 20 to 30 minutes or until fish flakes easily.

Yield: 4 servings

Adapted from "Fish and Game Cookbook" by Bonnie Scott, Copyright 2013, Bonnie Scott

Nutrition Facts

4 servings per container
Serving size 4 ounces (110g)

Amount per serving
Calories 200

	% Daily Value*
Total Fat 6g	8%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 80mg	27%
Sodium 330mg	14%
Total Carbohydrate 12g	4%
Dietary Fiber 0g	0%
Total Sugars 1g	
Includes 0g Added Sugars	0%
Protein 24g	
Vitamin D 1mcg	6%
Calcium 97mg	8%
Iron 6mg	35%
Potassium 449mg	10%

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

