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Phone: 606-633-2362





Shad Baker
Ag & Natural Resources Agent

AG & NATURAL RESOURCES
NEWSLETTER



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Martin Gattton
College of Agriculture,
Food and Environment
University of Kentucky

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OCTOBER 3 @ NOON

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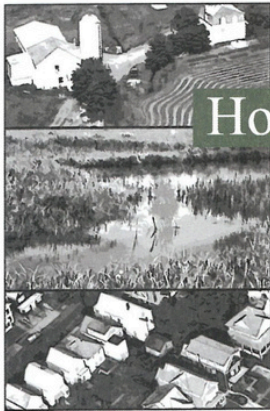
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COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT, LEXINGTON, KY, 40546
HENV-206



Home & Environment

Understanding and Protecting Kentucky's Watersheds

Ashley Osborne, Environmental and Natural Resource Issues; Jenny Cocanougher, 4-H and Youth Development; and Amanda Gumbert, Water Quality

In this Publication

- We all live in a watershed
- Kentucky watersheds
- What watershed do you live in?
- Watersheds and water quality
- Protecting our watersheds and waterbodies

We all live in a watershed

Regardless of where you are, you are always in a watershed. A watershed is any area of land that drains water to a single water body such as a stream or lake. Watersheds can be as small as just a few acres draining into a small stream or as large as several rivers draining into the ocean. Watersheds do not follow county, state, or national boundaries.

The land in a watershed affects how the water flows. If a watershed has numerous hills and mountains, precipitation runs off quickly. This runoff will reach the stream or body of water soon after a rain or snow event. If the land in the watershed is mostly flat, precipitation will run off more slowly and will not reach the stream or body of water as quickly. The rain or snowmelt may soak into the soil and become groundwater.





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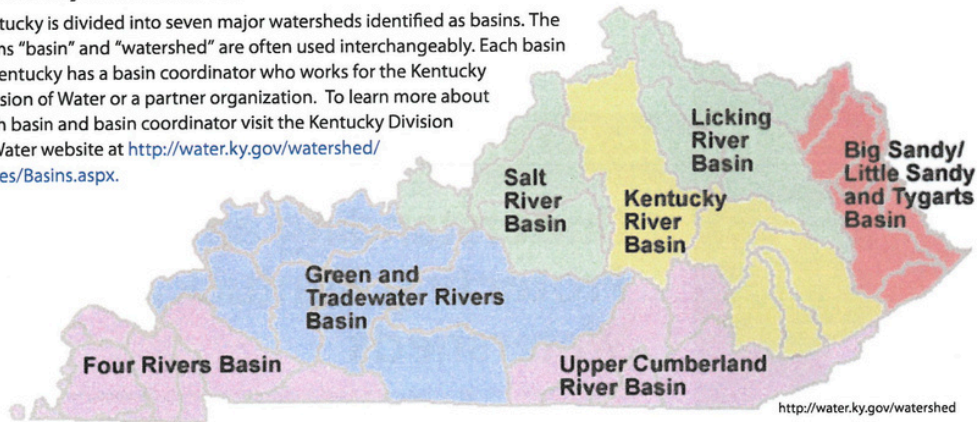
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Kentucky's watersheds

Kentucky is divided into seven major watersheds identified as basins. The terms "basin" and "watershed" are often used interchangeably. Each basin in Kentucky has a basin coordinator who works for the Kentucky Division of Water or a partner organization. To learn more about each basin and basin coordinator visit the Kentucky Division of Water website at <http://water.ky.gov/watershed/Pages/Basins.aspx>.



What watershed do you live in?

Knowing what watershed you live in is a first step toward protecting water quality. To locate your watershed, visit Surf Your Watershed, an online tool offered by the U.S. Environmental Protection Agency at <http://cfpub.epa.gov/surf/locate/index.cfm>. The site provides watershed-specific information including citizen-based groups working in the watershed and water quality monitoring data.

Watersheds and water quality

As humans, we impact the health of our watersheds. We use the land in watersheds for many purposes such as houses, shopping centers, parks, golf courses, factories, farms, and roads. These uses affect how water flows. They also affect the quality of the water. Precipitation washes pollutants from the land into our streams, lakes, and other waterbodies. Everyone who lives in a watershed impacts water quality.

Take a moment to think about the path precipitation follows. When it

reaches the ground, it will either soak into the soil or run along the surface. Precipitation that lands on a parking lot can pick up motor oil and other types of pollutants. Precipitation that lands on a lawn or farm field may carry fertilizer or loose soil with it as it travels. Precipitation that lands on a bare hillside can wash part of the soil away as it moves. All of these are examples of nonpoint source pollution.

Nonpoint source pollution, also referred to as runoff pollution, cannot be traced back to a single starting place. The pollutants are carried in water as it runs off the land. Nonpoint source pollution is the largest water quality problem in the United States today.

Runoff can travel directly to rivers, lakes, and streams, or it may travel through storm drains. Stormwater is runoff water from rain and snow-melt. In cities and towns, a system of drains and pipes is often used to carry stormwater. These systems usually empty into a nearby body of water. They most often do not take water to a treatment plant.

The most common pollutants carried in runoff are sediment and nutrients.

Sediment is soil that is carried in water. The soil can come from farm fields, construction sites, logging sites, or any bare land. As the water moves across the land, it picks up soil particles. This soil travels with the water until it reaches a stream, lake, or river.

Nutrients are found in waste from animals and humans and in fertilizer. Pasture fields and animal feeding lots can be sources of nutrients. Pet waste can be carried in runoff water from lawns. Farm fields, golf courses, and lawns may use fertilizers. If not applied properly the fertilizers can wash away in runoff.

Runoff water can also carry other pollutants. Pathogens can enter runoff water from animal wastes or failing sewer systems. Oil and automotive fluids can wash off streets, roads, parking lots and driveways. Vehicle emissions contain nitrogen oxides and sulfur dioxides that create acid rain when released into the air. Pesticides may be found in runoff from farm fields, lawns and gardens. Toxic chemicals such as paint and household cleaning products are sometimes washed away when spilled on the ground.



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Even if you are not in agriculture, construction or logging, you can help prevent nonpoint source pollution with actions you take at your own home.

Protecting our watersheds and waterbodies

We all can help prevent nonpoint source pollution. Farmers and developers use best management practices (BMPs) to help prevent water pollution. Best management practices are techniques or management strategies that help prevent water pollution. These practices can help stop soil erosion and keep nutrients out of water. BMPs can also be used to keep soil from running off construction sites and logging sites. Even if you are not in agriculture, construction, or logging, you can help prevent nonpoint source pollution with actions you take at your own home.

Make a difference in your watershed by:

- Never littering
- Composting yard waste
- Choosing hardy plants in landscaping that require little to no watering, fertilizers, or pesticides
- Covering bare soil with straw or mulch to prevent soil erosion
- Using permeable surfaces, such as wood, brick, or gravel for decks, patios, and walkways
- Picking up after your pet and disposing of their waste in the toilet or trash
- Keeping your septic system in good working condition
- Walking, biking, or carpooling
- Repairing vehicle leaks
- Adopting your watershed!

- The U.S. Environmental Protection Agency's Adopt Your Watershed Program provides information about volunteer groups working to protect watersheds across the U.S. To learn more about the program visit <http://water.epa.gov/action/adopt/>. Join or organize a group to collect trash in your watershed. Ask local businesses to donate trash bags and gloves.

- Conserving water
 - On average, Kentuckians use 70 gallons of water per day per person. Approximately 70 percent of our water use is indoors, most of it used in the bathroom. By making a few simple changes in your daily routine, such as turning the water off while brushing your teeth, taking a shorter shower, and fixing any leaky faucets or toilets, you can do your part.
- Disposing of hazardous waste properly
 - Never dump waste down the storm drain or into the street! Contact your county solid waste coordinator or Cooperative Extension agent for information about local hazardous waste collection days, or visit www.earth911.com, a website that helps you recycle hazardous items in your area.

References

- U.S. EPA (2005). Adopt Your Watershed Brochure. Retrieved November 1, 2011, from http://water.epa.gov/action/adopt/upload/2006_12_11_adopt_adopt_brochure-2.pdf.
- Kenny, J. (2009). Estimated Use of Water in the United States in 2005. Retrieved April 6, 2011, from <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>.
- Kentucky Energy and Environmental Cabinet (2011). Watershed Management: Basins. Retrieved November 1, 2011, from <http://water.ky.gov/watershed/Pages/Basins.aspx>.

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HENV-711

Homeowner's Guide to Rainwater Harvesting: Rain Barrels and Beyond

Lee Moser and Amanda Gumbert, Agriculture and Natural Resources Extension



BiancaGrueberg/iStock/Getty Images Plus via Getty Images

Stormwater runoff is one of the many water quality and quantity challenges in urban settings. Urbanization increases the proportion of impervious surfaces (surfaces that prevent rainfall from soaking into the ground, such as roofs and driveways) in a landscape. Greater amounts of impervious surfaces increase the volume of stormwater runoff to storm sewers and local waterways. As stormwater flows across impervious surfaces, it can transport pollutants to nearby streams and rivers.

One strategy for reducing stormwater runoff from a residential property is through water harvesting for beneficial reuse. Water harvesting can come in many forms and is a scalable concept. This publication will explore the opportunities and challenges associated with three systems for residential water harvesting: 1) rain barrels; 2) high-volume, above-ground tanks; and 3) cisterns or other large-volume, below-ground tanks. The information presented is intended to support decision-making for you as a homeowner in evaluating the potential for installing a water-harvesting system at your residence. Additional references and resources are provided at the end of this document to offer more insight and guidance on the topics covered within this publication.

Water-Harvesting Potential Analysis

One of the first steps to take when evaluating the potential for rainwater harvesting for beneficial reuse at your residence is to estimate how much water can be harvested from one or more roofs on your property. This can be accomplished by using the following simple procedure for estimating the water yield from your roof that would result from a one-inch rainfall event.

How to estimate water yield

Example: How much water could be collected from a 2,400-square-foot roof during a one-inch rainfall?

1. Determine the roof area and calculate the volume of water hitting the roof during a one-inch rainfall as measured in cubic feet, using a conversion factor of one inch of rainfall equaling .083 feet.

$$2,400 \text{ square feet of roof area} \times 0.083 \text{ feet of rainfall} = 199 \text{ cubic feet of water}$$

2. Convert cubic feet of water to gallons by using a conversion factor of 7.48 gallons per cubic foot.

$$199 \text{ cubic feet} \times 7.48 \text{ gallons per cubic foot} = 1,489 \text{ gallons of water (if 100 percent of rainfall is captured)}$$

3. Account for some loss of water during the collection process by applying a coefficient. In this example, a coefficient of 0.95 projects that 95 percent of the rainfall is likely to be captured.

$$1,489 \text{ gallons} \times 0.95 = 1,415 \text{ gallons of water}$$

Result: The estimated amount of rain to be collected during a one-inch rainfall from a house with a roof measuring 2,400 square feet is 1,415 gallons.



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The resulting value from this estimation procedure is the potential water yield from your roof during a one-inch rainfall event. This value will be needed to aid in sizing your potential system design in comparison to the potential water needs assessment that you will conduct in the next step. It is important to evaluate historic rainfall data by month to evaluate the suitability of a specific-capacity water-harvesting system to meet your needs. If you plan to use harvested water for watering landscaping plants or gardens, it is critical to evaluate monthly rainfall trends during the growing season (roughly April through October in Kentucky) versus the expected water demand. Determine the expected average inches of rainfall by month and multiply this value by the result from the water-harvesting potential analysis of a one-inch rainfall event to estimate total potential monthly yield from the roof or other catchment.

Needs Assessment

A method for estimating supplemental irrigation water need that your water-harvesting system may be able to provide is to determine the inches of supplemental irrigation water your planned landscape or garden plants will need over a specified period during one of the months of highest-expected water use. This can be accomplished by subtracting the expected rainfall from the water demand in inches for a given plant in your landscape or garden. For example, most vegetable crops require roughly one inch of water per week from rainfall or irrigation, or from a combination of the two. Convert the amount of additional water needed (beyond that supplied by rainfall) over the desired time period from inches to feet and multiply that needed amount by the area of the landscape or garden plants requiring supplemental irrigation. The result will provide an estimate of the volume of required supplemental irrigation water in cubic feet, which can then be multiplied by 7.48 to convert it to gallons of supplemental irrigation needed. This estimate could help provide insight into sizing your water-harvesting system based on a needs assessment. Compare the water-need estimate with your water-harvesting potential from the previous section and determine the feasibility for a water-harvesting system to potentially address your supplemental water needs. These values can also be utilized for guiding decisions on storage volume and system design as detailed in the following sections.



A rain barrel used for residential rainwater harvesting.
Photo by: Lee Moser

How to estimate supplemental water need

Example: How much supplemental water would be needed for a 10-foot-by-20-foot vegetable garden planted with crops that require one inch of water per week?

1. Determine the area of the garden.

$$10 \text{ feet} \times 20 \text{ feet} = 200 \text{ square feet}$$

2. Estimate the volume of supplemental irrigation needed by subtracting the average precipitation per week from the garden's weekly water requirements. For this example, we will estimate approximately 0.75 inches of water expected from precipitation per week.

$$1 \text{ inch of water required} - 0.75 \text{ inches of rainfall} = 0.25 \text{ inches of supplemental water needed}$$

3. Convert the water measurement from inches to feet.

$$0.25 \text{ inches} \times 1 \text{ foot}/12 \text{ inches} = 0.021 \text{ feet of water}$$

4. Multiply the feet of supplemental water needed per square foot by the total area of the garden.

$$0.021 \text{ feet} \times 200 \text{ square feet of garden} = 4.2 \text{ cubic feet of supplemental water for entire garden}$$

5. Convert 4.2 cubic feet of water to gallons, using a conversion factor of 7.48 gallons per cubic foot.

$$4.2 \text{ cubic feet of water} \times 7.48 \text{ gallons per cubic foot} = 31.42 \text{ gallons of supplemental water needed}$$

6. Add additional volume to serve as reserve capacity. Assuming the size of your catchment area can provide the amount of supplemental water required on average per week, you would want to size your storage tank to hold this volume of water with approximately 25 percent additional volume in reserve, if possible. To calculate the supplemental water needed with additional reserve capacity, multiply 31.42 gallons by 1.25.

$$31.42 \text{ gallons} \times 1.25 = 39.28 \text{ gallons of water storage capacity}$$

Result: An estimated 39.28 gallons of supplemental water storage capacity would be needed to fill the example garden's weekly irrigation needs.



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Designs to Consider

General characteristics of three residential water-harvesting systems are presented in the following section for consideration. Compare this information with the estimate of the water-harvesting potential of your roof and a general idea of the water needs assessment for your desired use to determine which type of system might be suitable for your situation.



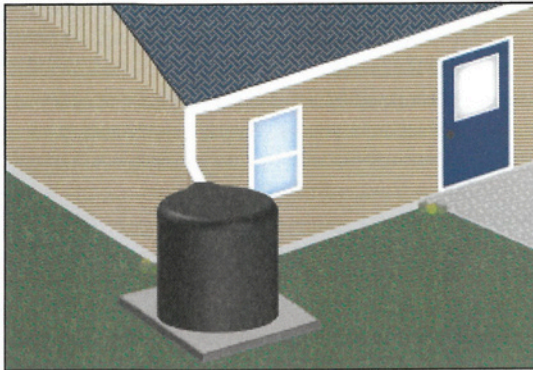
Rain Barrels

Pros

- Easy to assemble and easy to move, if necessary
- Comparatively low-cost
- Aesthetically appealing in many situations
- Multiples can be connected to increase capacity

Cons

- Comparatively low volume (most in the range of 55 gallons or less per barrel)
- Low-pressure gravity feed systems may limit distribution potential
- Potential to harbor insects
- Regular utilization needed to achieve a stormwater quantity benefit
- Winterization required



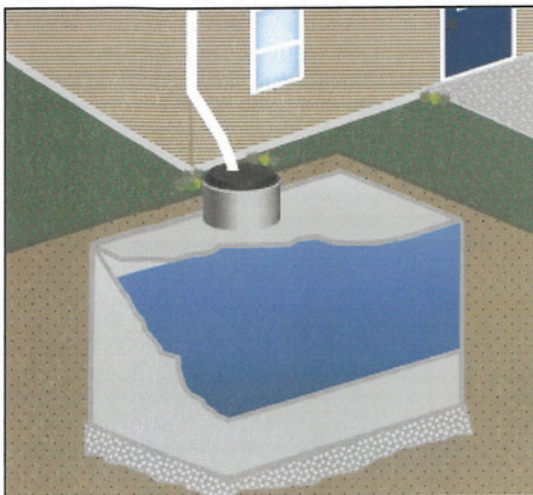
High-Volume, Above-Ground Tanks

Pros

- Comparatively high volume (can be in the range of hundreds of gallons to multiple thousands of gallons in capacity)

Cons

- Large and often difficult to move
- Aesthetically undesirable for some homeowners
- Require winterizing
- Moderate to high cost
- Likely to require some site preparation prior to installation
- Usually reliant on gravity feed, which can limit distribution potential



Cisterns or Other High-Volume, Below-Ground Tanks

Pros

- Comparatively high volume (can be in the range of hundreds of gallons to multiple thousands of gallons in capacity)
- Underground location helps regulate water temperature

Cons

- Pump required to distribute water
- Comparatively high cost
- Extensive excavation and site preparation required for installation
- Inability to move after installation (essentially permanent)
- Some components will likely require winterizing, depending on design



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Siting and General Precautions

There are several precautions that should be considered prior to starting any water-harvesting project:

- Homeowners should check on any state and local ordinances, as well as neighborhood or homeowners association restrictions, that may prevent or limit residential rainwater harvesting.
- It is important to remember that water is heavy. Water weighs approximately 8.34 pounds per gallon. Any system that you design should take this into consideration.
- Site preparation may be necessary to accommodate the loads generated by large volumes of water.
- Elevated storage containers should be avoided, if possible, to avoid the risk of tipping and crushing accidents.
- Choose opaque containers and locate them out of direct sunlight to discourage algal growth.
- Non-potable water signage should be affixed to all rainwater-harvesting storage containers, and the water that is captured should only be utilized for non-potable purposes (no human consumption of harvested water).
- Always call 811 to check for utility lines in the project area prior to excavation.

Operation and Maintenance

The specific operation of each system is unique to the design and will depend on the end use of the harvested water. It is a best practice to document the design and operation of your system in case another individual may use the system. Producing a drawing of your system with all valves, pipes, and end-use points of the harvested water identified is an excellent way of documenting and communicating important operational information about your system.

Routine maintenance is required on any water-harvesting system. To maintain the integrity of the system components and the quality of water in the system, the following maintenance considerations should be observed:

- Ensure that your roof, gutters, and downspouts are free of debris to avoid potential contamination from material that may deposit in these areas.
- Barrels, tanks, and cisterns should be cleaned as needed. It is recommended that rain barrels be emptied every five to seven days to discourage algal growth. If excess debris builds up, algal growth becomes evident, or insect or pest issues become apparent, it is time to drain and clean the system.
- Install screens over inlets to reduce the amount of debris and the potential for insect or pest intrusion.
- Consider adding a clarifier or first-flush diverter to your system to further reduce potential contaminants in the system.
- Drain tanks and lines for winter to avoid freeze-thaw damage to tanks, pipes, valves, and fittings.
- Affix a "Non-potable Water" sign to water-harvesting tanks and ensure that the harvested water is only used for non-potable purposes. The harvested water is unfit for human consumption.

Summary

Residential rainwater harvesting has the potential to help address stormwater quality and quantity issues in urban areas. The three options presented in this publication should not be considered an exhaustive list of potential water-harvesting system designs. When assessing the feasibility of a design to meet your needs, it is important to consider the potential water yield from your roof, the water requirements of your non-potable water project, project budget, and the overall operation and maintenance requirements of the system in consideration. Homeowners should investigate state and local ordinances as well as potential homeowners association restrictions prior to constructing water-harvesting systems on their properties.

References and Further Reading

- Building a Rain Barrel (HENV-201) <http://www2.ca.uky.edu/agcomm/pubs/henv/henv201/henv201.pdf>
- Understanding the Water System (IP-1) <http://www2.ca.uky.edu/agcomm/pubs/ip/ip1/ip1.pdf>
- Water Quality for Kentucky: Cisterns for Kentucky (IP-4) <https://www2.ca.uky.edu/agcomm/pubs/ip/ip4/ip4.htm>
- Parts of a Cistern Water System (ENRI-203) <http://www2.ca.uky.edu/agcomm/pubs/enri/enri203/enri203.pdf>
- Choosing Cistern Material and Location (ENRI-204) <http://www2.ca.uky.edu/agcomm/pubs/enri/enri204/enri204.pdf>
- Cleaning a Cistern (ENRI-205) <http://www2.ca.uky.edu/agcomm/pubs/enri/enri205/enri205.pdf>
- Reducing Stormwater Pollution (AEN-106) <http://www2.ca.uky.edu/agcomm/pubs/aen/aen106/aen106.pdf>
- Off the Grid: Ultra-low Pressure Drip Irrigation and Rainwater Catchment for Small Plots and High Tunnels (HO-120) <http://www2.ca.uky.edu/agcomm/pubs/HO/HO120/HO120.pdf>
- Stormwater (HENV-203) <http://www2.ca.uky.edu/agcomm/pubs/HENV/HENV203/HENV203.pdf>
- Saving Water at Home (HENV-601) <http://www2.ca.uky.edu/agcomm/pubs/HENV/HENV601/HENV601.pdf>

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Fall Frost and Freeze Information for The Bluegrass State



By Derrick Snyder – National Weather Service Paducah, KY

As we move through the month October, the risk of crop-killing frosts and hard freezes will quickly increase. The National Weather Service office in La Crosse, WI, compiled the following list of meteorological conditions that can lead to frost conditions:

- Clear skies lead to radiational cooling, allowing the greatest amount of heat to exit into the atmosphere.
- Calm to light winds prevent stirring of the atmosphere, which allows a thin layer of super-cooled temperatures to develop at the surface. These super-cooled temperatures can be up to 10 degrees cooler than five to six feet above the surface, where observations are typically taken. This is why frost develops even when reported temperatures are a few degrees above freezing.
- Cool temperatures, with some moisture, that promote ice crystal development. If the supercooled, freezing temperatures can cool to the dew point (the temperature at which, when cooled to at constant pressure, condensation occurs; moisture will have to come out of the atmosphere as fog, frost, etc.) frost could develop on exposed surfaces.
- Local topography also has a large role in determining if and where frost develops. Cold air will settle in the valleys since cold air is heavier than warm air, therefore frost conditions are more prone in these regions. Valleys are also sheltered from stronger winds, enhancing the potential for frost.

Other local effects, such as soil moisture and temperature, and stage of vegetation "greenness", are factors that can affect the possibility of frost forming. The Midwest Regional Climate Center has put together a map of when Kentucky can typically expect to see the first 32 degree freeze of the season. The great majority of the commonwealth will see the first hard freeze during the last 10 days of October, but this can vary a week or two sooner or later depending on the set-up for that particular year.

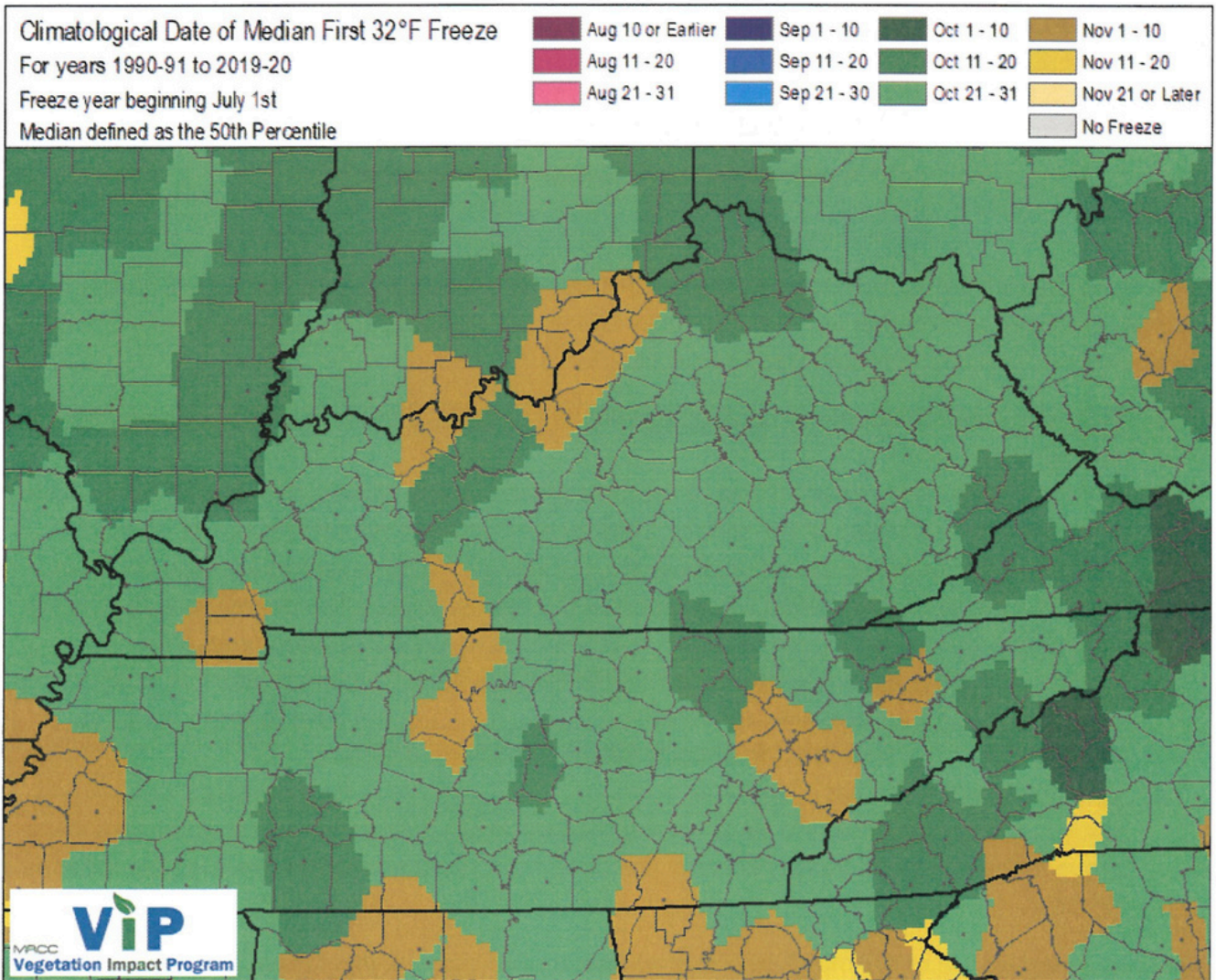


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FALL ARMYWORM ALERT

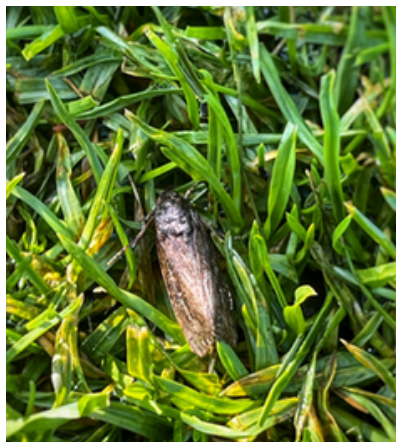
SUBJECT: FALL ARMYWORM ALERT

SOME PEOPLE WHO RECEIVED THIS MESSAGE DON'T OFTEN GET EMAIL FROM KENNETH.CLAYTON@UKY.EDU. LEARN WHY THIS IS IMPORTANT

I HOPE YOU HAD A GREAT LABOR DAY WEEKEND AND ARE ENJOYING THESE LAST DAYS OF SUMMER AS WE PREPARE FOR THE FALL. WE WANTED TO SEND OUT A QUICK UPDATE REGARDING A RECENT UPTICK IN REPORTS OF FALL ARMYWORM OVER THE PAST FEW DAYS ACROSS THE COMMONWEALTH. OVER THE PAST MONTH THERE HAVE BEEN A FEW REPORTS OF SIGHTINGS, BUT VERY FEW CASES OF ANY REPORTED DAMAGE. THIS WEEK THERE HAS BEEN A NOTICEABLE INCREASE IN EGG LAY AND ADULT MOTH SIGHTINGS WITH REPORTS FROM SOUTH CENTRAL ALL THE WAY TO NORTHERN KENTUCKY. AGAIN. THERE HAVE BEEN NO RECENT REPORTS OF DAMAGE, BUT WE WANTED YOU TO BE AWARE OF WHAT WE ARE SEEING WITH THE POTENTIAL RISK FOR DAMAGE OVER THE NEXT COUPLE OF WEEKS. WE HAVE INCLUDED SOME PICTURES FROM THIS WEEK SHOWING WHAT HAS BEEN SEEN.

THIS PEST IS A TROPICAL VISITOR AND CANNOT OVERWINTER HERE IN KENTUCKY. DEPENDING ON UPCOMING WEATHER, THIS COULD BE THE LAST HURRAH FOR EGGS BEING FOUND IN THE STATE OR WE COULD BE IN FOR ANOTHER ROUND OF EGGS. WHEN THE WEATHER IS WARMER AND MORE FAVORABLE TO FALL ARMYWORM, THEY CAN GO FROM EGG TO ADULT IN ABOUT 30 DAYS.

FOR MORE INFORMATION YOU CAN READ THIS KY PEST NEWS ARTICLE "RETURN OF THE FALL ARMYWORM" AND THIS ARTICLE BY OHIO STATE UNIVERSITY ENTOMOLOGISTS " FALL ARMYWORM ALERT!". PLEASE DON'T HESITATE TO REACH OUT IF YOU HAVE ANY QUESTIONS.





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**BE PREPARED FOR A
WILDFIRE**

**Wildfires can ruin homes
and cause injuries
or death to people
and animals.**

FEMA
FEMA V-1013/May 2018

A wildfire is an unplanned fire that burns in a natural area such as a forest, grassland, or prairie.



Often caused by humans or lightning.



Can cause flooding or create problems with transportation, gas, power, and communications.



Can damage your property. Set up defense zones to protect your home.



Can happen anywhere, anytime. Risk increases with little rain and high winds.

IF YOU ARE UNDER A WILDFIRE WARNING, GET TO SAFETY RIGHT AWAY

Leave if told to do so.



Listen for emergency information and alerts.

If trapped, call 9-1-1.



Use N95 masks to keep particles out of the air you breathe.



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HOW TO STAY SAFE WHEN A WILDFIRE THREATENS



Sign up for your community's warning system. The Emergency Alert System (EAS) and National Oceanic and Atmospheric Administration (NOAA) Weather Radio also provide emergency alerts.

Know your community's evacuation routes and find several ways to leave the area. Drive the evacuation routes and find shelter locations. Have a plan for pets and livestock.

Gather emergency supplies, including N95 respirator masks that filter out particles in the air you breathe. Keep in mind each person's specific needs, including medication. Don't forget the needs of pets.

Keep important documents in a fireproof safe. Create password-protected digital copies.

Use fire-resistant materials to build, renovate, or make repairs.

Find an outdoor water source with a hose that can reach any area of your property.

Create a fire-resistant zone that is free of leaves, debris, or flammable materials for at least 30 feet from your home.

Review insurance coverage to make sure it is enough to replace your property.



Evacuate. Leave immediately if authorities tell you to do so.

If trapped, call 9-1-1 and give your location, but be aware that emergency response could be delayed or impossible. Turn on lights to help people find you.

Listen to EAS, NOAA Weather Radio, or local alerting systems for current emergency information and instructions.

Use an N95 masks to keep particles out of the air you breathe.



Listen to authorities to find out if it is safe to return and whether water is safe to drink.

Avoid hot ash, charred trees, smoldering debris, and live embers. The ground may contain heat pockets that can burn you or spark another fire. Consider the danger to pets and livestock walking the ground.

Send text messages or use social media to reach out to family and friends. Phone systems are often busy following a disaster. Make calls only in emergencies.

Document property damage with photographs. Conduct an inventory and contact your insurance company for assistance.



Take an Active Role in Your Safety

Go to [Ready.gov/wildfires](https://www.ready.gov/wildfires). Download the **FEMA app** to get more information about preparing for a **wildfire**.



Shad Baker
Ag & Natural Resources Agent

AG & NATURAL RESOURCES
NEWSLETTER



PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)

If You Feel Shaking or Get an Alert:

If Possible



Using
Cane



Using
Walker



Using
Wheelchair



EarthquakeCountry.org/step5





Shad Baker
Ag & Natural Resources Agent

AG & NATURAL RESOURCES NEWSLETTER







PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)




**Don't Wait —
Check the Date!**

Replace Smoke Alarms Every 10 Years



Age matters when it comes to your smoke alarms.
Check the manufacture dates on your smoke alarms today!

<p>1 Remove the smoke alarm from the wall or ceiling.</p>			<p>2 Look at the back of the alarm for the date of manufacture.</p>
<p>3 Smoke alarms should be replaced 10 years from the date of manufacture.</p>			<p>4 Put the alarm back on the ceiling or wall if it is less than 10 years old.</p>

 <p>A closed door may slow the spread of smoke, heat and fire.</p>	 <p>Test smoke alarms at least once a month by pushing the test button.</p>	 <p>If the smoke alarm sounds, get outside and stay outside. Go to your outside meeting place.</p>
 <p>Install smoke alarms in every bedroom, outside each separate sleeping area, and on every level of the home, including the basement. Larger homes may need more alarms. For the best protection, make sure all smoke alarms are interconnected. When one sounds, they all sound.</p>	 <p>Call the fire department from a cellphone or a neighbor's phone. Stay outside until the fire department says it's safe to go back inside.</p>	

For more information about smoke alarms, visit usfa.fema.gov and www.nfpa.org.

U.S. Fire Administration





Shad Baker
Ag & Natural Resources Agent

➤➤➤ **AG & NATURAL RESOURCES** ❄️❄️❄️
NEWSLETTER



PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)



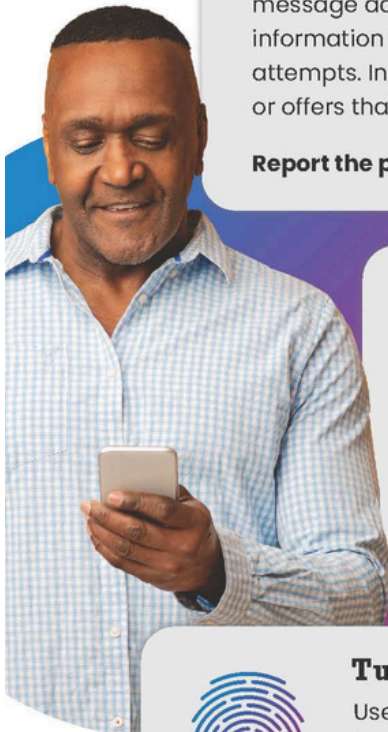
4 EASY WAYS to stay safe **online**

Our online world needs to be protected. There are easy things we can do to ensure our information is safe from those wishing to steal it.

Recognize & report phishing

Most successful online intrusions result from a recipient of a “phishing” message accidentally downloading malware or giving their personal information to a spammer. Do not click or engage with these phishing attempts. Instead, recognize them by their use of alarming language or offers that are too good to be true.

Report the phish and delete phishing messages.



Use strong passwords

Simple passwords can be guessed. **Make passwords at least 16 characters long**, random and unique for each account. Use a password manager, a secure program that maintains and creates passwords. This easy-to-use program will store passwords and fill them in automatically on the web.



Turn on multifactor authentication (MFA)

Use MFA on any site that offers it. MFA provides an extra layer of security in addition to a password when logging into accounts and apps, like a face scan or a code sent by text.

Using MFA will make you much less likely to get hacked.



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Shad Baker
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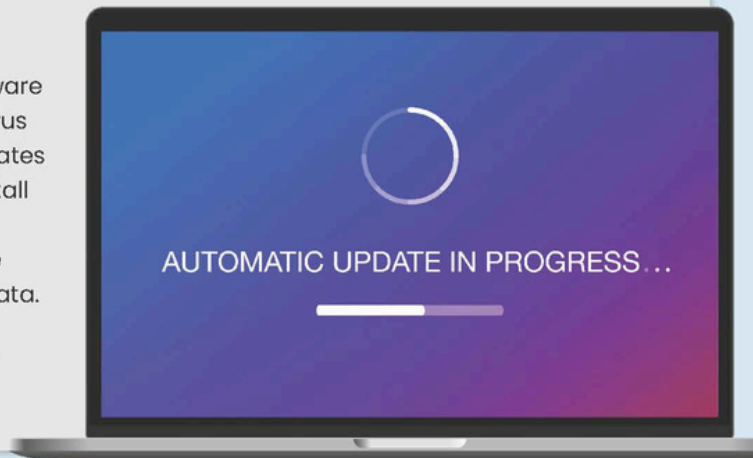


PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)

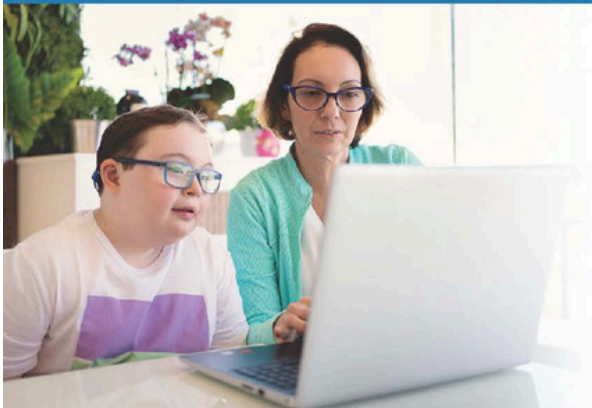
Update software

When devices, apps or software programs (especially antivirus software) notify us that updates are available, we should install them as soon as possible. Updates close security code bugs to better protect our data.

Turn on automatic updates to make it even easier.



Taking these steps helps
Secure Our World.



We can all help one another
stay safer online, so share these tips
with a family member or friend!

cisa.gov/SecureOurWorld



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Shad Baker
Ag & Natural Resources Agent



PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)

Recommended Earthquake Safety Actions



Federal, State, and local emergency management experts and other official preparedness organizations agree that the actions described below will reduce injury and death during earthquakes.

In most situations, if you feel shaking or get an earthquake alert, immediately:

DROP where you are, onto your hands and knees. This position protects you from being knocked down and allows you to stay low and crawl to shelter if nearby.

COVER your head and neck with one arm and hand.

- If a sturdy table or desk is nearby, crawl underneath it for shelter.
- If no shelter is nearby, crawl next to an interior wall (away from windows).
- Stay on your knees; bend over to protect vital organs.

HOLD ON until the shaking stops.

- Under shelter: hold on to it with one hand; be ready to move with your shelter if it shifts.
- No shelter: hold on to your head and neck with both arms and hands.

If you are unable to drop to the ground, sit and bend over, covering your head and neck with your hands and arms. If you use a cane, keep it with you even if you go under a table to help you get back up. If you use a wheelchair or walker with wheels (a rollator), **LOCK** your wheels (or set the brake) and remain seated until the shaking stops. Always **COVER** your head and neck with your arms, a pillow, a book, or whatever is available and **HOLD ON** until shaking stops. For other accessibility recommendations see [EarthquakeCountry.org/accessibility](https://www.earthquakecountry.org/accessibility).

U.S. West Coast residents are encouraged to download the MyShake app to receive earthquake alert messages on their cellphone.

A small jolt might turn out to be the start of a large earthquake, so always protect yourself immediately!





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Shad Baker
Ag & Natural Resources Agent



PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)

How to Protect Yourself in Various Settings

Indoors: Drop, Cover, and Hold On. Avoid exterior walls, windows, hanging objects, tall furniture, televisions, and cabinets with heavy objects or glass. Do not try to move more than 5-7 feet before getting on the ground. Do not go outside during shaking! (Exterior building materials and glass can fall and may hit you as you exit.) If seated and unable to drop to the floor: bend forward, Cover your head with your arms, and Hold On to your neck with both hands.



In bed: Do not get out of bed. Lie face down to protect vital organs, and Cover your head and neck with a pillow, keeping your arms as close to your head as possible, while you Hold On to your head and neck with both hands until shaking stops. You are less likely to be injured by fallen and broken objects by staying where you are.



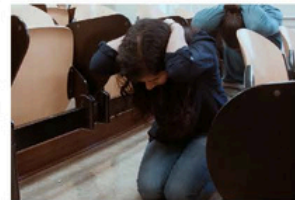
In a multiple-floor building: Drop, Cover, and Hold On. Avoid windows and other hazards. Do not use elevators. Do not be surprised if sprinkler systems or fire alarms activate.



In a classroom: Drop, Cover, and Hold On. Laboratories or other settings may require special considerations to ensure safety. Students should also be taught what to do at home or other locations.



In a stadium or theater: Drop to the ground in front of your seat or lean over as much as possible, then Cover your head with your arms (as best as possible), and Hold On to your neck with both hands until shaking stops. Then walk out slowly, watching for anything that could fall during aftershocks.



In a store: Drop, Cover, and Hold On. Getting next to a shopping cart, beneath clothing racks, or onto the bottom shelf of a large multi-shelf unit to provide extra protection from falling objects.

What NOT to do!

Many people still think "getting in a doorway" is safe, however this is out-of-date advice that should never have been recommended. We now understand that doorways: are not stronger than any other part of the house; do not provide protection from falling or flying objects; and will not be a safe space in the rare case of building collapse.



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Outdoors: Move to an open space if you can safely do so; avoid power lines, trees, signs, buildings, vehicles, and other hazards. Then Drop, Cover, and Hold On. This protects you from any objects that may be thrown through the air, even if nothing is directly above you.

Driving: Pull over to the side of the road, stop, and set the parking brake. Avoid overpasses, bridges, power lines, signs, trees and other hazards. Stay inside the vehicle until the shaking stops, then proceed carefully by avoiding fallen debris, cracked or shifted pavement, and emergency vehicles. If a power line falls on the car, stay inside until a trained person removes the wire.



Near the shoreline: Follow instructions for your setting described above. Then as soon as shaking reduces enough that you are able to stand, walk quickly to high ground or inland as a tsunami may arrive within minutes. Don't wait for officials to issue a warning. Walk, rather than drive, to avoid traffic, debris, and other hazards.



Below a dam or reservoir (water storage facility): Follow instructions for your setting described above. Large water storage structures can become damaged during a major earthquake. Catastrophic failure causing a large amount of water to be released and flow downhill is unlikely, but if you live downstream from a dam, you should know flood-zone information and have prepared an evacuation plan for getting to high ground.

More information

[EarthquakeCountry.org/step5](https://www.earthquakecountry.org/step5) (additional guidance, videos, and images)

[EarthquakeCountry.org/accessibility](https://www.earthquakecountry.org/accessibility) (includes additional guidance for accessibility accommodations before, during, and after earthquakes)

[ShakeOut.org](https://www.shakeout.org) (Register to practice earthquake self-protection along with millions worldwide each year!)

[YouTube.com/greatshakeout](https://www.youtube.com/greatshakeout) (Look for the *Earthquake Safety Video Series* Playlist)

October

2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Cure onions for storage Turn compost	2 Dig canna, dahlia, gladiolas and tubular begonias	3 Harvest green tomatoes and gourds before frost	4 Seed carrots for overwintering in high tunnel	5 Harvest and cure sweet potatoes Divide perennials
6	7 Harvest pumpkins and winter squash	8 Remove old crop residue and seed winter cover crop	9 Store winter squash in cool, dry location Plant multiplier or potato onions	10 Plant spring bulbs	11 Plant or transplant lilies that flower July 15 to Sept. 15	12 Seed spinach for overwintering
13	14 Top Brussels sprouts to size up sprouts	15 Prepare landscape bed for spring planting	16 Plant or transplant deciduous trees and shrubs after leaves drop	17 Save wildflower seeds for spring planting	18 Mow lawn for last time Prune roses and root cuttings	19 Plant garlic
20	21	22 Take a fall soil test	23 Mulch greens (chard, collards, etc.)	24 Plant mache in cold frame	25	26
27	28	29	30	31		

Hiking for Health

Oct

1

Oct

7

Oct

17

Oct

25

7:30

Leaving the office at 8:30

Please wear layer clothing and wear appropriate shoes. For more information contact Shad Baker or Nanette Banks 633-2362





FAMILY AND CONSUMER SCIENCES NEWSLETTER



Nanette Banks
Family and Consumer Sciences



PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)



**Crafty Cut-Ups
Homemaker Meeting
October 8 @ 10:00
Letcher County Extension**

**Letcher Homemakers
October 8 @ 10:30
Jeremiah Baptist**



Pasta
(Parenting a
Second Time
Around)
October 9 @ 9:30
Letcher County
Extension



**Traveling the
World with
Extension
October 10 @ 11:00**



Cooperative Extension Service
**COOKING THROUGH THE
Calendar**

**October 10
12 Noon
Sweet Potato Hash**

For more information on how you can attend these FREE cooking classes, please contact your local Cooperative Extension office:

Letcher County Extension Office
478 Extension Dr
Whitesburg, KY 41858
(606) 633-2362



USDA is an equal opportunity provider and employer. This project is partially funded by USDA's Supplemental Nutrition Assistance Program — SNAP.

**Homemaker Dues paid by
October 25th will receive a free
t-shirt**

Cooperative Extension Service
Agriculture and Natural Resources
Quality and Consumer Interest
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT
Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and all are developed on the basis of local, state, national, and international needs, interests, and objectives.
Persons with disabilities are encouraged to attend all programs. Requests for special needs and accommodations should be made in advance.
Persons unable to attend due to financial constraints are encouraged to attend. Requests for financial assistance should be made in advance.
This program is partially funded by USDA's Supplemental Nutrition Assistance Program — SNAP.
USDA is an equal opportunity provider and employer. This project is partially funded by USDA's Supplemental Nutrition Assistance Program — SNAP.



FAMILY AND CONSUMER SCIENCES NEWSLETTER



Nanette Banks
Family and Consumer Sciences



PLEASE CALL TO REGISTER FOR EACH PROGRAM 633-2362 (LIMITED SPACES)

WITS WORKOUT

Did you know that social connectedness and intellectual engagement are two lifestyle factors that contribute to your brain's health? Simply put, coming together and learning new things is good for your noggin! Join the *Wits Workout* group where you'll engage in all kinds of interactive puzzles and games and learn what you can do in your daily life to keep your brain healthy.

When: October 10

Time: 1:00 pm

Where: 478 Extension Dr
Whitesburg, KY 41858

Register: Call 606-633-2362

Cooperative Extension Service

Wits Workout is a program developed by University of Illinois Extension

Wits Workout
October 10th @ 1:00
October 17th @ 1:00



**Homemaker
Lunch-n-Learn
Communication
Essentials**
October 17th @ 12
noon



Jenkins Homemakers
October 11th @ 11:30
Jenkins Library



Sewing Class
October 15th
10:00 and 1:00



Nanette Banks
Family and Consumer Sciences

➤➤➤ FAMILY AND CONSUMER
SCIENCES
NEWSLETTER



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

Holiday Roadshow

November 15 @ 1:00

Please call and pre-register 633-2362

KENTUCKY COOPERATIVE EXTENSION
UK MARTIN GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT
AND COLLEGE OF AGRICULTURE, COMMUNITY AND THE REGIONAL

HOMEMAKER COOKBOOKS FOR SALE

\$15

Letcher County Homemaker's Cookbook

All proceeds go to the High School Senior Scholarship Fund!!
Stop by our office to pick one up today





Nanette Banks
Family and Consumer Sciences

»»» FAMILY AND CONSUMER
SCIENCES
«««
NEWSLETTER



KENTUCKY  **COOPERATIVE EXTENSION**
IN PARTNER-GATEWAY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT
AND COLLEGE OF AGRICULTURE, COMMUNITY AND THE SCIENCES

QUICKSAND AREA

Homemaker meeting

October 24

Registration 10:30

606-633-2362

Pre-register and Pre-pay by October 10 for catered meal

Silent auction all proceeds
going toward Ovarian Cancer
screenings



Nanette Banks
Family and Consumer Sciences

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SCIENCES
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NEWSLETTER



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

COME JOIN US FOR


HOMEMAKER
SOUPBEAN
Dinner

NOV | 1 | 11 AM-2:00 PM
2024

LETCHER COUNTY EXTENSION

478 EXTENSION DR WHITESBURG,
KY

CALL 606-633-2362

See you soon!





4-H



NEWSLETTER

HEAD - Problem solving: ability to sort out complex problems.

HEART - Emotional development: developing good attitudes toward work and learning; developing acceptance and appreciation of other people.

HANDS - Skills development: ability to do, skill in doing and habit of doing.

HEALTH - Physical development: understanding and appreciating a growing and changing body.


Crystal Smith

4-H Youth Development

EXPLORE

4-H CLUBS

REGISTER OR ANY QUESTIONS

 606-633-2362

 crystal.smith@uky.edu

- ✓ Arts
- ✓ Nutrition lesson
- ✓ teen activities
- ✓ something for all ages



TEEN CLUB
OCT 2
4:00



CLOVERBUDS
OCT 3
& 16
@
4:00 PM

HOMESCHOOL
OCT 18
@ 1:00 PM



ART CLUB
OCT 29
@
4:00 PM





Letcher County Extension
478 Extension Dr
Po Box 784
Whitesburg, Ky 41858

Return Service Requested