

Winter/Spring Edition

EXTENSION DIVERSIFIED

CALLOWAY COUNTY COOPERATIVE
EXTENSION

Managing Mud on Livestock Farms

Mud on livestock farms is more than just a seasonal inconvenience—it can create serious challenges for animal health and farm operations. University of Kentucky research has highlighted the detrimental effects of muddy conditions on livestock, particularly cattle.

See pages 3-4 for more on this.



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service



WHAT IS

EXTENSION DIVERSIFIED

Extension Diversified is a publication created by University of Kentucky Cooperative Extension agents in Western Kentucky, in collaboration with University specialists and guest contributors. This magazine offers a curated selection of articles, stories, and practical insights for individuals engaged in diversified farming. For further details on any of the topics covered, please contact your local county extension office.



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MANAGING MUD

Managing Mud on Livestock Farms: Practical Solutions from University of Kentucky Research

Mud on livestock farms is more than just a seasonal inconvenience—it can create serious challenges for animal health and farm operations. University of Kentucky research has highlighted the detrimental effects of muddy conditions on livestock, particularly cattle. These include hoof damage, increased exposure to bacterial infections, and heightened stress, all of which can lead to reduced weight gain and decreased productivity.

Mud can also impact farm efficiency by slowing down feeding and handling operations. When workers and machinery struggle to navigate the farm due to excessive mud, tasks become more labor-intensive, increasing both time and costs. Fortunately, there are several ways to tackle mud issues head-on by focusing on prevention and proper management.

Key Strategies for Mud Control

- 1. Improve Farm Drainage:** Effective drainage is the cornerstone of mud management. University of Kentucky researchers suggest diverting water away from areas that see high traffic, such as feeding stations, water troughs, and barn entrances. Simple but effective solutions include digging trenches or installing French drains to guide water away from these areas. Proper grading of the land also ensures that water flows naturally to lower ground and doesn't pool where livestock congregate.
- 2. Install Gravel or Geotextile Fabrics:** Gravel and geotextile fabrics are cost-effective ways to create a stable surface in critical areas. Installing these materials near gates, feeding areas, and barns helps reduce the formation of mud by providing a solid foundation. The University of Kentucky's studies have shown that gravel layers improve footing for livestock and help minimize hoof damage caused by standing in deep mud for extended periods.
- 3. Practice Rotational Grazing:** Rotational grazing can significantly reduce mud buildup in pastures. By rotating livestock between fields, farmers give the soil time to recover, allowing vegetation to regrow and preventing the ground from becoming compacted and muddy. Research supports that healthy pasture management, including preventing overgrazing, leads to better soil structure, allowing for faster absorption of water, which in turn reduces mud formation.
- 4. Maintain Barns and Shelters:** Providing dry, clean bedding in barns and shelters is crucial, especially during wet seasons. This not only ensures animal comfort but also reduces their time spent standing in wet, muddy environments. Regularly adding dry straw or other absorbent materials helps manage moisture levels and reduces the likelihood of hoof and skin infections.

Action Steps for Farmers

To successfully manage mud, livestock farmers should take a proactive, integrated approach by addressing multiple areas on the farm. Here are practical action steps:

- Assess Drainage – Walk the farm to identify where water pools or causes problems, then install drainage systems like trenches or French drains.
- Reinforce High-Traffic Areas – Place gravel or geotextile fabrics in areas that see the most traffic, such as near gates and feeding stations.
- Plan Grazing Rotations – Design a grazing rotation plan that ensures no single pasture is overused, allowing time for soil and vegetation recovery.
- Regularly Add Bedding – Ensure barns and shelters have ample dry bedding, especially during the rainy season, to keep animals comfortable and dry.
- Monitor Animal Health – Watch for signs of hoof or skin problems that might indicate excessive exposure to muddy conditions, and take early corrective action.

Where to Find Best Management Practices

Farmers looking for comprehensive guidance on managing mud and improving livestock welfare can find helpful resources from their local agricultural extension offices. The University of Kentucky Cooperative Extension Service offers numerous publications, workshops, and personalized advice on mud management and farm design. Additionally, online resources like the university's Agriculture and Natural Resources Extension website provide access to research-backed strategies and case studies from other farmers.

Another excellent resource is the USDA's Natural Resources Conservation Service (NRCS), which offers programs like the Environmental Quality Incentives Program (EQIP) that may provide funding for mud management projects like drainage improvements and pasture reseeding.

By staying informed and implementing best practices, livestock farmers can significantly reduce the impact of mud, promoting better animal welfare and farm efficiency year-round.

Writer: Matt Chadwick, Calloway County Extension Agent for Ag and Natural Resources.

SOIL BUILDING FIELD DAY

HOW TO GAIN 2' OF SOIL BY DISSOLVING THE FRAGIPAN

MARCH 13TH, 9:00 AM
PASCHALL AG OPERATIONS
1434 BILLY PASCHALL RD
MURRAY, KY 42071

LUNCH @ YATES CENTER
2760 ST RT 121 N,
MURRAY, KY 42071

Real on farm evidence of fragipan remediation using annual rye grass as a cover crop for 10 years.

Shallow Fragipan based soil transformed to a deep highly productive soil.

-COME AND SEE-

On farm soil pits to compare treated and untreated areas of the same soil types.

**Dr. Lloyd Murdock,
*University of Kentucky***

**Dr. Tasio Karathanasis,
*University of Kentucky***

**Dr. John Murphy
*Soil Scientist***

Panel Discussion:

*George Pettit - Moderator
Mitchell & Kody Paschall
Junior Upton
Matt Griggs
Jonathan Reynolds*

CALL 270-753-1452 (CALLOWAY EXT.) TO RSVP



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Lexington, KY 40506



Disabilities
accommodated
with prior notification.

Staying Safe and Protecting Your Family from H5N1

By: *Matthew Chadwick, Calloway County Extension Agent*

H5N1, also known as avian influenza, is primarily a bird flu virus that has recently been observed in mammals, including dairy cows. While the risk to the general public remains low, there are precautions you can take to protect yourself and your family. Here are the key highlights on how to stay safe:

Understand the Risks

- **Exposure Sources:** People in contact with wild birds, poultry, or mammals like dairy cows are at greater risk.
- **Geographic Incidence:** Human cases in the U.S. have primarily occurred in California, Washington, and Colorado, with smaller outbreaks in other states.

Recognize Symptoms

Symptoms of H5N1 can range from mild to severe, including:

- Eye redness (conjunctivitis)
- Fever or feeling feverish
- Cough and sore throat
- Muscle or body aches
- Shortness of breath
- Less common symptoms like nausea, vomiting, diarrhea, or seizures

Protect Yourself

The Centers for Disease Control and Prevention (CDC) recommends the following safety measures:

1. **Use Personal Protective Equipment (PPE):** Gloves and masks are essential when handling wild birds, poultry, or potentially infected mammals.
2. **Report Sick or Dead Birds:** In Kentucky, contact the Department of Fish and Wildlife at 1-800-858-1549 or the Kentucky Sick Bird Hotline at 866-536-7593.
3. **Practice Good Hygiene:**
 - Wash hands thoroughly after handling animals or being outdoors.
 - Avoid touching your face, especially eyes, nose, and mouth.
4. **Cook Poultry Properly:** Ensure poultry and eggs are cooked to an internal temperature of 165°F (74°C) to eliminate potential viruses.

Take Action in Case of Illness

If you or a family member exhibit symptoms consistent with H5N1 after possible exposure:

- Seek medical attention promptly.
- Inform healthcare providers about any recent exposure to birds or mammals.

Additional Resources

- CDC's Prevention Resources: [cdc.gov/bird-flu/prevention](https://www.cdc.gov/bird-flu/prevention)
- Kentucky Avian Influenza Factsheet: [kyagr.com/statevet/documents](https://www.kyagr.com/statevet/documents)

By understanding the risks, recognizing symptoms early, and taking preventive measures, you can effectively safeguard your family against H5N1.

Vermicomposting: *Let the worms do the work*

By Jeffery O. Neely, Calloway Co. Ext. Master Gardener Volunteer

Have you considered composting, and don't have the time, space or resources? Maybe you can't stand the cold of winter, or the hot and humid Kentucky heat. Let me introduce you to a simple way to compost in a small indoor space. Now, don't go throwing your kitchen scraps in the hall closet. Take a minute to follow me back almost 2 years on a journey in vermicomposting.

Supplies & Tools

- 3 heavy duty plastic containers with lids.
- Some shredded paper or cardboard (undyed or waxed). Traditional newspaper is perfect.
- Composting Earthworms $\frac{3}{4}$ lbs (red wigglers are preferred); you can use less in a smaller container
- Drill
- 1/8 drill bit
- Kitchen scraps (NO meat, dairy, onions or garlic)

Now I chose 3, 13 gallon "tough totes"; they tend to be black with a yellow, red, or blue lid. You can use any size container, such as 5 gallon buckets or another size tote. You just need to make sure that it will be sturdy even with holes drilled in it.

Set one container & lid aside as these will be your catch basin for excess moisture. On 2nd container, drill holes around the bottom around 2-3 inches apart. You will need plenty of drainage but not so much you compromise the strength of the tote.

Once the drain holes have been drilled we need to drill breather holes for our container. Set the drilled container inside of the other. Drill holes just above the catch basin top 3-4 inches apart all the way around the already drilled container. We will also need to drill holes in the lid (one we haven't used yet) around the perimeter again about 3-4 inches apart.



Make sure to clean all of the plastic shavings from your drill holes and you're ready to get started. Set your undrilled lid on the floor or a shelf. Set the catch basin on top, then your worm container inside.

Moisten your shredded paper until it is damp and wring it out. Add 3-4 inches of this shredded paper to the bin, then add your earthworms. Place the vented lid on top. Let your worms acclimate for a few days. At this point you can add kitchen scraps or other organic materials every few days topping them with a smaller layer of shredded paper.

Keep your vermicoposter in a cool dry place out of direct sun. Check and drain your catch basin weekly (it makes a great fertilizer). If the bin starts to put off an odor it is most likely too moist or the scraps didn't get covered adequately.

When your original worm bin gets around half full and the worms seem to be doing well, take your third container and put drain and vent holes in it. Set it on top of the existing worm bin and start the process over. The worms will migrate to the new container once they have consumed the contents of the original.

Once the worms have left the original container it can be removed from the cycle to let the worm castings dry sufficiently (damp) to be used in your garden or planters. Put this container back in rotation when needed.

Vermicomposting can be very rewarding and I hope you'll consider it for your next composting venture. A thriving bin can be divided as the worms multiply to start new bins, or they can be used as fishing bait or treats for aquarium fish or other pets that may enjoy them.

GAP TRAINING

February 11th, 2:00 PM

Graves County Extension Office
4200 US Hwy 45, Mayfield, KY

Other Regional Training Opportunities

Jan. 28th-9:00 AM: Stewart Co. Visitors Center, Dover TN

Feb. 10th-6:00 PM: Lyon Co. Convention Center, Eddyville, KY

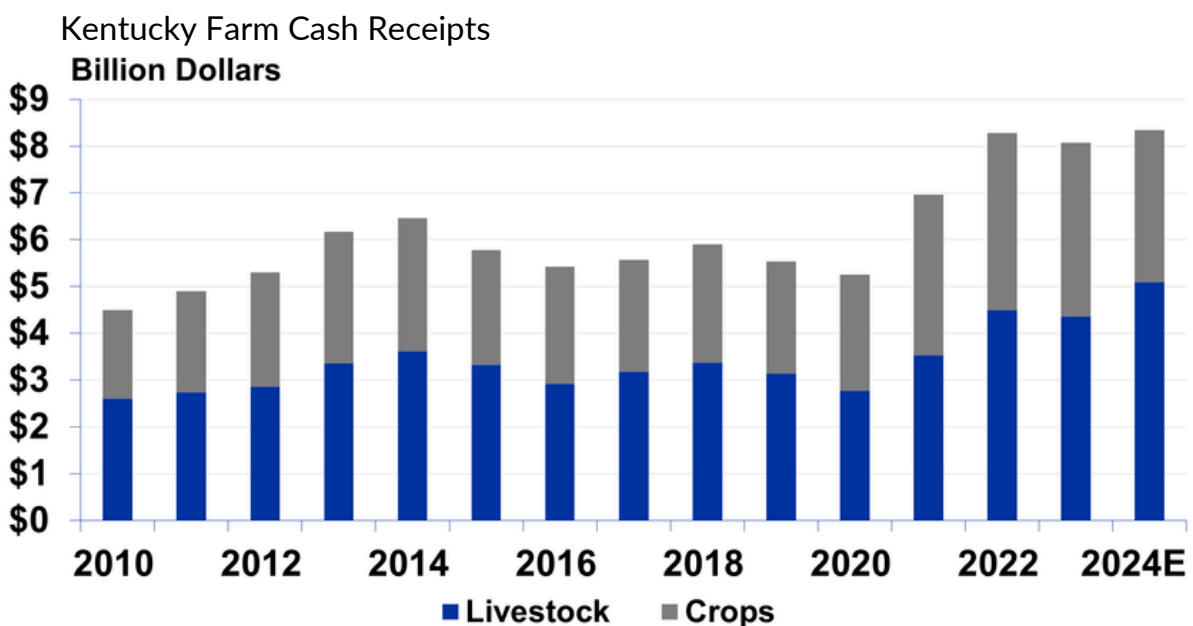
Mar. 24th-6:00 PM: Barren Co. High School, Glasgow, KY



2024 Economic Situation & 2025 Outlook

Our annual Ag Economic Situation & Outlook publication is a collaborative effort between the Department of Agricultural Economics Extension Faculty and the Department of Forestry and Natural Resources. This comprehensive outlook is initially presented at the Kentucky Farm Bureau Annual Meeting in Louisville, Kentucky, and is made available to the public afterward. In this year's edition, we delve into the challenges U.S. agriculture faces in 2024, from falling commodity prices and shrinking government payments to rising input costs.

However, Kentucky's diverse agricultural sector shows resilience, with strong performances in livestock and horticulture helping to offset downturns in grain production. This report provides valuable insights into both national and state-level trends, offering projections for 2025 and the factors that will shape the future of agriculture in Kentucky and beyond.



For more information, including commodity specific situations and outlooks, please visit the Ag Economic Situation & Outlook publication website using this QR code.



ARE YOU PREPARING FOR WINTER OR SPRING?

BY MEGAN GERDING, CALLOWAY CO. EXT. MASTER GARDENER VOLUNTEER

As the last of the autumn leaves fall, so begins the days of nature's time of rest. For the avid gardener...not so much. Before we bed down for the winter season, we must prepare for Spring so that we may be ready to fill our flowerbeds, planters and gardens with plants that help feed our mind, body and soul as well as provide food and shelter for wildlife (maybe not so much for the rabbits – or voles – or deer – or raccoons). But most certainly for butterflies, hummingbirds, bees and other beneficials.

I mean...it's cold out...and probably a little wet too. So, what else are we going to do while we wait for the garden centers to reopen with a mass of new planting opportunities and yard decor?? As we dream by the fire, let's plan ahead and get our winter checklists out. Are you ready?

Early Winter Checklist:

- Collect seeds from plants you'd like to plant again. Remember to share and leave some for wildlife that depend on seeds for winter foraging. Some examples include echinacea, sunflowers, and black-eyed susans.
- Cut back herbaceous plants like hostas, and impatiens that turn soggy after a hard freeze. Leaving this type of foliage in the flowerbeds encourages pests like slugs and disease to develop.
- Decide which perineal flowers and shrubs to cut back now versus Spring. Some plants offer pleasing winter-interest, shelter and food for wildlife, or are host plants for pollinators. Asters, Milkweed, Winterberry, Beautyberry, Holly, Switchgrass, Sedum, Bluestem grass are a few to consider.
- Record this year's details in a journal. What plants were your favorite and will plant again? Which plants did not do so well? Why? Do they need more, or less sun, water? What pests or diseases did you encounter? What's something new you want to try next year?
- Consider snipping remaining blooms and branches for dried floral arrangements or pressing projects to enjoy or craft with during the winter months.
- Assess evergreens for potential pests, damage or disease whether you plan to utilize some fronds for winter decorating or prevent damage from cold winds and temperatures. Make sure these plants receive ample water to prevent winter burn. A few days after a thorough watering, apply an anti-desiccant spray (such as Wilt Stop) to provide a barrier against harsh elements.
- Determine if you'll be bringing plants indoors to over-winter. If so, inspect for pests and treat accordingly, give the leaves a good cleaning and top dress the soil with moss or decorative rocks to prevent/reduce fungus gnats.
- Check greenhouses and other seed/plant storage areas for drafts and leaks. Also check electrical, water and heat sources for optimal functionality. Make repairs as needed before the cold temperatures set in. Replace light bulbs in overhead and grow lights.
- Winterize fountains, irrigation lines, and water hoses. Blow out/drain water lines/hoses and empty fountain bowls. Detach water hoses from outdoor faucets to prevent damage from freezing. Insulate or install frost free faucets.
- Clean, sharpen and oil tools before winter storage.
- Collect, empty and clean out pots and planters. If storing planters outdoors, turn them upside down to prevent water collection and damage from freezing. If continuing to use planters through the winter months, consider propping them up from hard surfaces with pot feet to prevent damage from freezing.



Mid-Winter Checklist:

By now, the holidays are over, and we have some time to kick back and enjoy the peacefulness of winter. Maybe you're missing your gardens a teensy bit, but not quite ready to run-for-the-roses. What can we do to ride-the-reins a little longer?

- Continue to monitor evergreens outdoors and water as needed to prevent winter burn. Overwintering plants that are in planters will also need occasional water (once every two weeks or so). These plants could be Lenten Rose, Coral Bells, evergreens, and Snowdrops. If root balls are frozen, use warm water but not boiling.

- Fill bird feeders with a variety of seeds and nuts. Create your own suet molds with fun cookie cutter shapes. Hang garlands of citrus and berries to shrubs and trees for added snack appeal. Birdwatching and identifying species is a fun family activity.

- Begin browsing seed/plant catalogs and placing Spring orders. Consider adding early blooming native species to feed emerging pollinators.

- Tour your own gardening spaces occasionally. Where do you need additional winter interest? Would you fill that space with an evergreen, a sculpture or statue, birdhouse condominium, bee houses, a bench or obelisk?

- Inventory tools, seed/plant varieties, bags of soil/compost/mulch, planters, fertilizer, garden chemicals. Replenish anything low in stock so that you're prepared for Spring activities.

- Begin calculating seed starting and planting schedules. Use a calendar, spreadsheet, or a useful app such as the Seedtime gardening planning app.

- Review previous photos taken of your gardening spaces and decide if more color is needed in various seasons. It's interesting to see the progression of a mature space versus when you first planted it.

Late-Winter Checklist:

Okay, now it's getting serious. House plants just aren't cutting it at this point. The birds and squirrels are draining our upcoming gardening budget, and the garden centers need to open their doors so that we can purchase all the spring plants and get them in the ground before...oh wait. It's probably going to snow and freeze one more time before we can do any planting. You're chomping-at-the-bit. Surely there is something we can do to bide our time for two...three more weeks?

- Don those cute gardening gloves you got for Christmas and let's start some seeds already! We've inventoried and replenished our supplies, we've calculated and plotted when to start each variety, and our tools are shiny and clean.

- Yes, it's winter. But it's about to be Spring. Tour your planting beds and scout for emerging weeds. Not sure if they're actual flowers popping up? Stick to pulling the more well-known weeds like dandelion, nettle, crabgrass, thistles, etc.). Don't let these bullies take over.

- o Dandelions can be essential for early-season pollinators like bees. So maybe take them out of your flowerbeds and ask your neighbor to simmer-down while you leave dandelions to bloom in the lawn – at least until your other Spring-blooming flowers emerge.

- Wait to do any flowerbed clean up until the ground temperature is at least fifty degrees. Some beneficial insects make hollow stems their winter homes and will not awaken until consistent warm temperatures arrive. If you must start spring cleaning your flowerbeds, gather the cut stems and other debris and stack it in an unseen corner of the property instead of bagging or disposing of it. This allows the insects to still emerge and remain in a pollinator-friendly environment. Compost or dispose of this debris towards the beginning of Summer.

- Collect soil samples of various areas of your garden/flowerbeds to diagnose any potential issues and amend soil accordingly before bloom season begins. Choose areas that you know were problematic last year or where you might place a new plant that may have special needs such as sedum, which does not do well in nutrient-rich soils, or azaleas that need more acidic soil conditions.

- Contact your local UK Extension office and Master Gardener volunteers to discuss additional information needed to help make your space successful this upcoming season.

KEY CHANGES IN THE 2024 IRS PUBLICATION 225

Kara Schlinke, Kentucky Farm Business Analysis Specialist

Farmers face unique tax challenges due to the specific nature of their work, including income fluctuations, capital expenses, and the need for specialized deductions. The IRS regularly updates its guidelines to help farmers navigate these complexities. For 2024, several important changes to IRS Publication 225, "Farmer's Tax Guide" may have significant implications for farm tax filings. These changes cover a range of topics, from depreciation rules to revised credit opportunities, and each may impact farmers' ability to manage their tax liabilities effectively.

1. Increased Section 179 Deduction Limits

The Section 179 deduction, which allows farmers to deduct the cost of qualifying property (such as machinery and equipment) in the year it is placed in service, has seen an increase in limits for 2024.

What changed? The maximum Section 179 deduction has risen to \$1,170,000 in 2024, up from \$1,160,000 in 2023. The deduction limit begins to phase out after \$2.89 million of qualifying property is purchased, which has also increased slightly from the previous year.

Farmers who invest in new equipment or capital improvements can immediately deduct a larger portion of the expense, improving cash flow and potentially reducing taxable income for the year. This benefit is especially helpful for farmers who make substantial investments in machinery or structures to maintain or grow their operations.

2. Changes to Bonus Depreciation

Farmers can take advantage of bonus depreciation to recover the cost of certain property faster than regular depreciation schedules would allow. However, the bonus depreciation rate is set to phase down starting in 2023.

What changed? The bonus depreciation rate for 2024 is set at 80%, down from the previous 100% in 2022 and 2023. This gradual reduction continues over the next few years, with the rate expected to drop to 60% in 2025 and eventually phase out by 2027.

While farmers can still benefit from accelerated depreciation, the reduced rate means that they will be able to deduct less of their property's cost in the first year. This could result in higher tax liabilities in future years if large purchases are made.

3. Revised Eligibility for Qualified Business Income Deduction (QBI)

The Qualified Business Income (QBI) deduction allows farmers who operate as pass-through entities (such as sole proprietors, partnerships, or S corporations) to deduct up to 20% of their qualified business income.

What changed? There are updates regarding the ability to claim the QBI deduction, particularly for farmers who have income from both agricultural and non-agricultural activities. The IRS has clarified that farmers engaged in farming activities may still claim the full deduction if their taxable income falls below certain thresholds. This revision is important for farmers who also have income from other sources, as it can help them maintain access to the full 20% deduction. Farmers with diversified businesses should review their eligibility to ensure they're not inadvertently disqualifying themselves from this tax-saving benefit.

4. Updates to Farm Income Averaging Rules

Farm income averaging allows farmers to spread out their income from a particularly good year over a period of three years, potentially lowering their overall tax liability.

What changed? For 2024, the income averaging rules have been refined to ensure more farmers can benefit from this strategy, particularly those who have fluctuating income due to weather patterns or market conditions.

Income averaging can be especially beneficial for farmers who experience significant year-to-year income swings. By averaging high earnings over several years, farmers can reduce their taxable income in years with higher-than-usual profits, lowering their effective tax rate.

5. Revisions to Farm Vehicle Deduction Rules

Farmers often use vehicles for both personal and business purposes, and the IRS provides specific rules for deducting expenses related to farm vehicles.

What changed? The IRS has clarified which types of vehicles qualify for deductions and has updated the calculation methods for business use versus personal use of farm vehicles. Farmers should review their records carefully to ensure they are claiming only the business portion of vehicle expenses. The IRS has also updated the per-mile rate and the limits for depreciation on certain farm vehicles, meaning that farmers who own or lease vehicles may need to adjust their deductions accordingly.

6. Expanded Opportunities for Conservation Incentives and Credits

The IRS continues to encourage environmentally friendly practices through conservation incentives and credits.

What changed? New rules make it easier for farmers to claim deductions for conservation efforts, such as implementing soil and water conservation methods, or using renewable energy sources in their farming operations.

Farmers investing in sustainable practices can access additional tax savings, which can offset the costs of these investments. This is particularly relevant for farmers seeking to adopt new technologies or practices aimed at reducing their carbon footprint or improving soil health.

7. Clarification of Farm Income Reporting

In recent years, the IRS has been tightening its rules around how farmers report income, particularly in relation to cash accounting versus accrual accounting.

What changed? The IRS has provided clearer guidelines on when farmers should report income and expenses under cash basis accounting versus accrual basis accounting. Farmers who use cash basis accounting (which is often more beneficial for tax purposes) will need to ensure they're accurately reporting income in the year it is received and expenses in the year they are paid. The IRS has also updated rules on reporting crop insurance proceeds and disaster relief payments, which should be closely tracked to avoid errors in reporting.

8. Changes to Self-Employment Tax (SE Tax) Exemptions

Farmers are subject to self-employment taxes on their net earnings from farming, but there are certain exemptions available.

What changed? There have been updates to the self-employment tax exemption for certain farm workers and farm owners, particularly in cases where farm income is low or where specific income thresholds are not met.

Farmers who qualify for these exemptions could see a reduction in their self-employment tax liability. It's important to review income levels and farm ownership structure to ensure any available exemptions are applied.

By understanding these changes, farmers can better position themselves to take full advantage of available tax-saving opportunities. You should consult with a tax professional to ensure they're applying these new guidelines correctly and maximizing their benefits under the latest tax rules.

Source: <https://www.irs.gov/publications/p225>



The Cup Plant: A Great Native Perennial for Your Garden

R. Andres Ferreyra and Liliana Ferrer (Calloway Co. Ext. Master Gardener Volunteers)

Mothers' Day, 2021: Liliana wanted to gift herself something from the annual native plant sale at the Nature Station in Land Between the Lakes (LBL). We arrived to find only a few scraggly runts remaining, and drove off with what we thought were two compass plants (*Silphium laciniatum*), a spindly native prairie sunflower. A year later we realized we had something even better: cup plants!

We planted them in full sun, in an often-wet corner of our front garden where they're thriving. In just 3 years the original two plants turned into a beautiful patch of many 10+ foot tall pillars of green and gold. It's our nature hotspot, teeming with all kinds of insects and birds.

The cup plant

The cup plant (*Silphium perfoliatum*) is a tall, sturdy perennial that can bring great beauty and benefits to your garden. Native to the central and eastern United States, this wildflower is an excellent choice for gardeners who want something easy to care for, good for wildlife, and attractive to look at.

Why it's called the cup plant

The cup plant gets its name from how its leaves grow. Each pair of leaves wraps around the square stem, forming little rainwater-holding cavities that birds love, because these “cups” provide handy drinking and bathing spots. In summer the plant grows bright yellow flowers that look like small sunflowers and attract bees, butterflies, and even hummingbirds.

Where it grows best

Cup plants need the sun and grow in many types of soil, though they prefer damp areas such as pond edges or rain gardens. They grow quickly, often reaching 6 to 10 feet; a great choice to add height to your garden.

If you're planting seeds, do it in fall or early spring. The seeds need to go through a cold period (called “stratification”) to germinate. You can also start with young plants from a garden store if you want a quicker start. Space them about 2-3 feet apart so they have room to grow.

How to take care of It

Cup plants don't need much care once they're established. Water them regularly in the first year to help their roots grow strong. After that, they can handle dry spells, though they grow best in moist soil.

Every fall or early spring, cut the stems back to the ground to make room for new growth. If the plants spread too much, you can dig up and divide them every few years. Because they're tall, you might need to stake them if you live in a windy area.

Why add cup plants to your garden?

Besides looking great, cup plants help the environment. Their flowers feed bees, butterflies and other pollinators, and their water-filled cups help birds. Plus, their deep roots prevent soil from washing away.

If you're looking for a tough, beautiful, wildlife-friendly addition to your garden, the cup plant is a fantastic choice!





Downtown FARMERS MARKET MURRAY, KENTUCKY



EVERY SATURDAY 7AM – NOON

MURRAY COURT SQUARE • MAY THROUGH OCTOBER



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 @downtownfarmersmarketmky



ALLOWAY COUNTY CATTLEMEN'S CATTLE TRIVIA NIGHT

JOIN US AT THE KEG'S
QUARTER ROOM FEBRUARY
18TH, 2025 @ 6:30 PM

DINNER PROVIDED

PLEASE RSVP TO THE ALLOWAY EXT. OFFICE BY 2/14



Converting from Wildtype to Novel Tall Fescue

Conservation Innovation Grant Project Fact Sheet



CIG # 69-33A7-16-1243
Produced by Dr. John Fike,
Project Director

Tall Fescue

Tall fescue is the predominant forage in the upper South, largely because it is well-adapted to the region's soils and climatic conditions, tolerates drought, is competitive and persists under a wide range of management. This is largely due to its association with a fungal endophyte (a fungus living within the plant).



Wildtype vs. Novel Endophytes

Endophytes support tall fescue growth and persistence, but the common, 'wildtype' strain found in 'KY31' tall fescue produces toxic alkaloids that harm livestock (Figure 1). Once this was realized as a problem, scientists removed the endophyte and promoted "endophyte-free" fescue - but it did not persist. The newest technology has been to create the best of both worlds. Novel, non-toxic endophytes

have been discovered and combined with tall fescue to create a pasture grass with high persistence.

Deciding Whether to Renovate

Most producers recognize the signs of fescue toxicosis (e.g., rough hair coats, missing tail switches, poor weight gain and low reproduction). Pasture testing can aid decisions about pasture renovation and management (Figure 2).

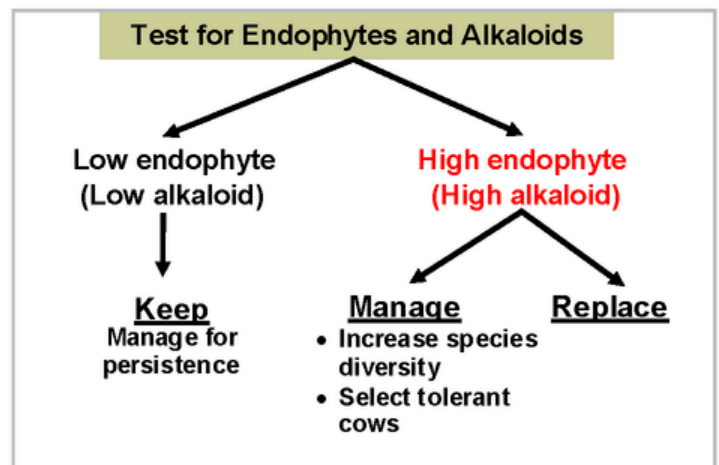
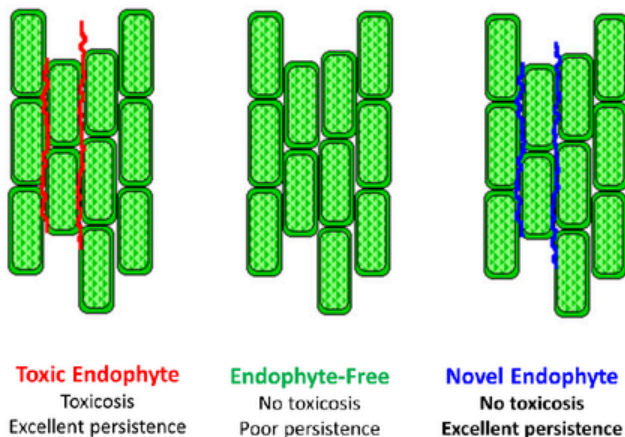


Figure 2. Decision tree for fescue management based on endophyte presence or alkaloid levels.

Figure 1. A common schematic of tall fescue plant cells with different endophyte status.

How Much Renovation Is Enough?

It may be challenging financially to renovate the whole farm. However, research from Arkansas (Caldwell et al., 2013) indicates that planting 25 percent of a farm with novel fescue for use during breeding and weaning periods can improve farm profit.

Renovating Toxic Pastures

Keys to successful renovation include:

- Eliminating toxic fescue plants and seed
- Ensuring viable endophyte in novel fescue
- Having suitable establishment conditions

Endophytes in tall fescue are passed from mother plant to seedling through the seed - and fescue is a prolific seed producer. To avoid contaminating a new planting of novel fescue, it is critical to kill all the existing toxic fescue and to keep any toxic seed from growing.

The seed can survive for some time, but the endophyte will die by or before 18 months. Thus, toxic seeds should be kept out of fields to be renovated for a similar period of time. This can be managed with close grazing or clipping.

Time and poor storage conditions can kill the endophyte in a seed bag - just as in the field. Use novel fescue seed that has been certified by the Alliance for Grassland Renewal (Figure 3).

Figure 3. This “Alliance” insignia, found on novel fescue seed tags or bags, indicates the seed has been tested and has viable novel endophyte. The label will also have a “use by” date.



Establishing new stands presents risks, but many factors are within a grower’s control.

- Fall planting is recommended
- Ensure soil pH and fertility are adequate; apply lime and nutrients according to soil test
- Have fields weed- and fescue-free at planting
- Be sure fields are not affected by carryover herbicide
- Do not plant seed too deep
- Kill broadleaf weeds in late winter if needed
- Fertilize at planting and in March
- Let grass establish before planting legumes

Renovation Schemes

Three general schemes (Figure 4) are used for fescue renovation. The schemes use at least two herbicide applications, with the latter helping ensure escapes are killed. The spray-wait-spray approach may be the most economical, but many farmers choose spray-smother-spray to help meet forage supply needs. The smother crops used in these systems should have upright growth habits to allow better herbicide penetration to the understory when they are killed out. Avoid low-growing grasses such as annual ryegrass or crabgrass that can cover (and protect) escapes.

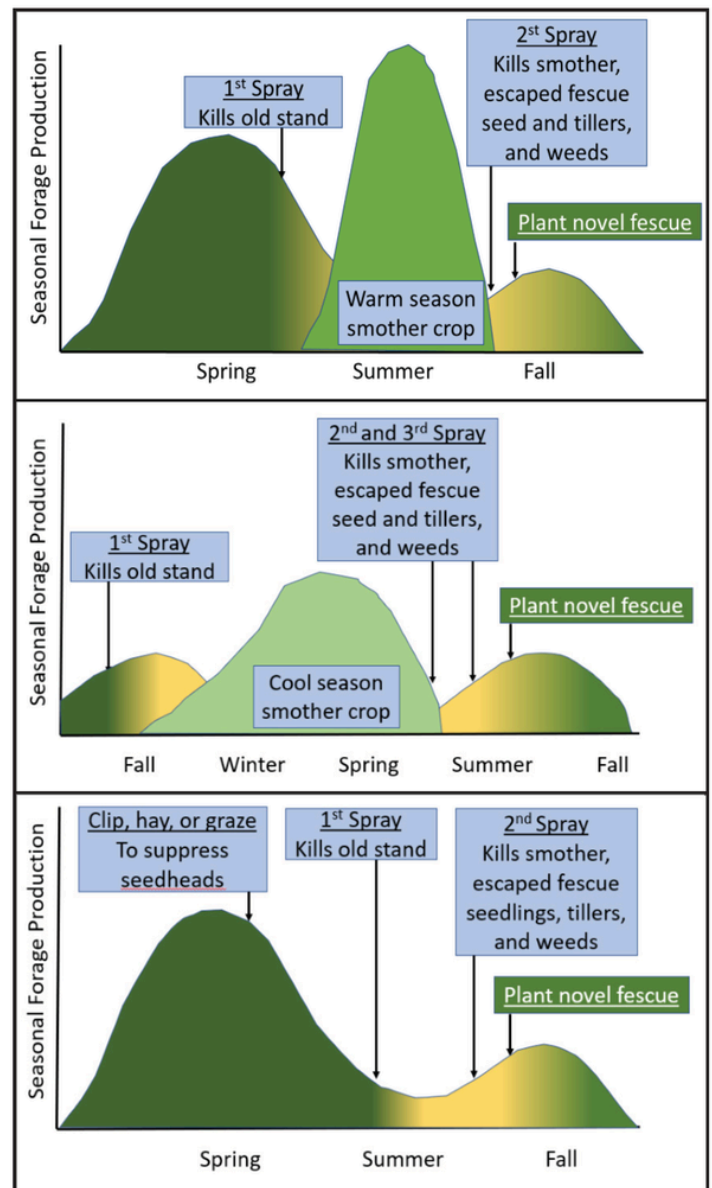


Figure 4. Spray-summer smother-spray (top), spray fall smother-spray (middle), and spray-wait-spray (bottom) schemes are used to renovate toxic fescue pastures. Note that the fall smother regime starts in fall and covers a much longer span of time.

Virginia
Natural
Resources
Conservation
Service





Simplified Backyard Peach & Stone Fruit Spray Guide

Nicole Gauthier
Extension Plant Pathologist

Ric Bessin
Extension Entomologist

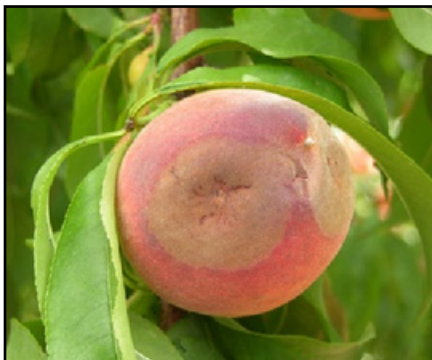
John Strang
Extension Horticulturist

Introduction

Peach, nectarine, apricot, plum, and cherry are all stone fruits. Production of these tree fruits requires pest and disease management programs for quality fruit. Home orchards are no different. Homeowners, however, are generally more tolerant of aesthetic maladies or minor crop losses than commercial orchardists. Thus, homeowners may choose to limit numbers of insecticide and fungicide sprays. Disease resistant cultivars are the preferred method for reducing spray inputs. Bacterial spot resistant peach cultivars are listed in *Peach Cultivar Performance* (HO-6). Information on cultivars, as well as additional pest management information, can be found in the *Midwest Home Fruit Production Guide*. Using bags to mechanically exclude insect pests is an alternative management for home fruit production. A more detailed spray guide including options for organic growers, as well as pictures of stone fruit growth stages, may be found in *Disease and Insect Control Programs for Homegrown Fruit in Kentucky* (ID-21).

Additional Sources

- Disease and Insect Control Programs for Homegrown Fruit in Kentucky, Including Organic Alternatives, ID-21 (University of Kentucky)
<http://www.ca.uky.edu/agc/pubs/id/id21/id21.pdf>
- Entomology Insect and Pest EntFacts (University of Kentucky)
<https://entomology.ca.uky.edu/entfacts>
- Midwest Home Fruit Production Guide, B591 (Ohio State University) 5.7 MB file
https://plantpathology.ca.uky.edu/files/mw_home_fruit_productn_b591.pdf
- Peach Cultivar Performance, HO-6 (University of Kentucky)
<http://www2.ca.uky.edu/agc/pubs/ho/ho6/ho6.pdf>
- Plant Pathology Extension Publications (University of Kentucky)
<https://plantpathology.ca.uky.edu/extension/publications>



BROWN rot (left), Green June Bugs (center) and healthy peach fruit (right)

Growth Stage 1	Target Organism(s)	Pesticide(s)2	Comments
Dormant (late fall to early spring before bud swell)	Black knot of plum, Peach leaf curl Aphids, European red	chlorothalonil	This is the only time that a fungicide spray will control peach leaf curl and plum pockets. Application is not required if these pests have not
Bud swell	mites, Scale insect	[oil]	been a problem previously. Do not spray oil when temperature is below 40°F or likely to drop below 40°F within 24 hours. Fungicide is required on plums only if black knot is a
Pink (just before buds open)	Black knot of plum	Captan or chlorothalonil	problem. For black knot control, fungicides will not be effective unless all knots are removed from tree and destroyed. Infections on nearby trees must also be eradicated. Permethrin and Pyrethrum are for use only on
	Catfacing insects (Plant bugs & Stink bugs)	Permethrin or [Pyrethrum] or Sevin	peaches. Fungicide should not be required during bloom if good
Bloom	none	none	sanitation is used to control brown rot. To protect bees, do not use insecticide during bloom.
Petal fall (last petals are falling)	Brown rot, Cherry leaf spot, Scab	Captan or chlorothalonil	
	Oriental fruit moth, Plant bugs, Plum curculio, Stink bugs	Permethrin or [Pyrethrum]	Permethrin and Pyrethrum are for use only on peaches.
Shuck split (most shucks have split apart)	Brown rot, Black knot of plum, Cherry leaf spot, Scab	Captan or chlorothalonil Captan	Do not apply chlorothalonil after shuck split.
First cover (7 days after shuck split)	Brown rot, Cherry leaf spot, Scab		
	Oriental fruit moth, Plant bugs, Plum curculio, Stink bugs	permethrin or [Pyrethrum] or spinosad	Permethrin and Pyrethrum are for use only on peaches. Spinosad will not control plant bugs or stink bugs.
Remaining covers (10-14 day intervals)	Brown rot, Black knot of plum, Cherry leaf spot, Scab	Captan	Use shorter interval if wet, rainy weather persists.
	Oriental fruit moth, Plant bugs, Plum curculio, Stink bugs, Japanese beetle.	permethrin or [Pyrethrum] or spinosad	Permethrin and Pyrethrum are for use only on peaches. After this spray, no further spray needed.
	Brown rot, Cherry leaf		
Preharvest (3-4 weeks before	spot, Scab	Captan	

¹ Refer to *Disease and Insect Control Programs for Homegrown Fruit in Kentucky*, ID-21, for pictures of floral stages.

² Insecticides and fungicides can be mixed in the same tank and sprayed together.

³ Check pesticide labels for the Pre-Harvest Interval (PHI).

JOIN JUNIOR LIVESTOCK CLUB!

Study Website & Resources



Meetings

2nd Mondays
January through May
4:00–5:00 PM
Calloway County Extension

Additional events and field trips will be scheduled

Leaders:

Kelsey and Matt Chadwick
270-227-5885



Livestock Judging: Beef, Swine, Sheep, Goats

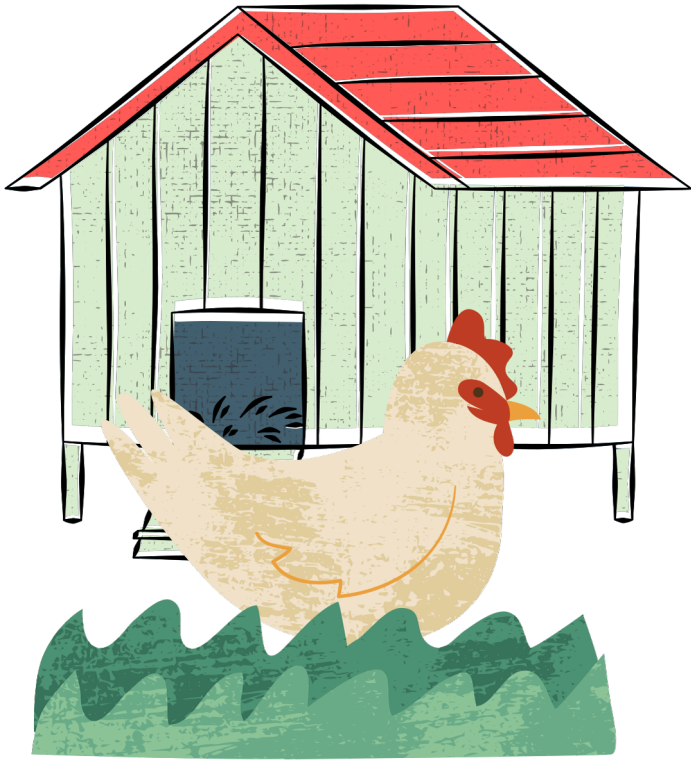
Livestock Skill-a-thon: Beef, Swine, Sheep, Goats

Livestock Showing: Beef, Swine, Sheep, Goats, Chickens, Rabbits

Livestock Projects: Beef, Swine, Sheep, Goats, Chickens, Rabbits

Youth must receive 6+ hours of education to tag or compete

IMPORTANT DATES



Shows & Fairs
Calendar for other
statewide events
(individual participation)



Educational Hours due by April 15th for
showing & June 1 for judging & s k i l l a t h
Western Rivers

Club Events:

Livestock Judging Clinic – May TBA
Western Rivers Livestock Expo – June TBA
Calloway County Fair – June TBA

2025 WINTER AG CONFERENCE

JANUARY 31ST @ LOWRY FARMS

5183 ST. RT. 94 W, WATER VALLEY, KY 42085

REGISTRATION OPENS - 7AM

SCHEDULE HIGHLIGHTS INCLUDE:
**MAXIMIZING CANOLA YIELD: BEST PRACTICES
FOR GROWTH AND MANAGEMENT**

CANOLA DISEASE UPDATE

**BUNGE CHEVRON AG RENEWABLES-
MARKETING WINTER CANOLA**

EXPERINCED PRODUCER PANEL

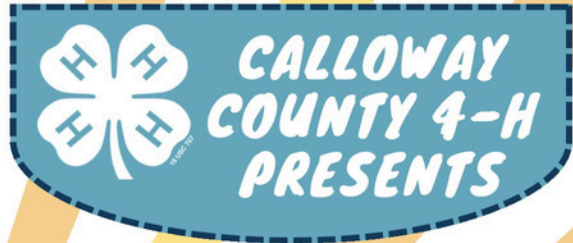
******Sponsored Lunch and Product Vendors on Site******
KY & TN Pesticide and CCA CEU's are pending

***TO REGISTER, CALL YOUR LOCAL
COUNTY EXTENSION OFFICE***





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



4-H Summer CAMP

**REGISTRATION FORM
FOUND HERE**



**GET READY FOR A
GREAT ADVENTURE!**

\$275

JUNE 2-5, 2025

OVERNIGHT SUMMER CAMP FOR YOUTH AGES 8-15 AT WEST KY 4-H CAMP IN DAWSON SPRINGS, KY. SPACES ARE LIMITED, FIRST COME FIRST SERVED, AND BASED OFF HOW MANY ADULT CHAPERONES CAN ATTEND. 8YR OLD CAMPERS MUST BE ENTERING 4TH GRADE TO ATTEND, AND YOUTH AGES 16-17 CAN GO AS TEEN COUNSELORS FOR HALF-PRICE. AGE IS DETERMINED BY THE FIRST DAY OF CAMP.

STAY IN AIR-CONDITIONED CABINS WITH FRIENDS! TAKE DIFFERENT CLASSES EVERY DAY. AFTERNOON RECREATION: GAGA BALL, POOL PARTIES, MEGA RELAY, NIGHTLY DANCES, AND MORE!

**CALLOWAY
CARLISLE
CHRISTIAN
GRAVES
HICKMAN**

SAMPLE CLASSES: CANOEING, NATURE, ARCHERY, RIFLE, ARTS AND, CRAFTS, SWIMMING, FISHING, ROPES AND ROCK WALL, AND MANY MORE!

REGISTRATION FORMS & \$50 DEPOSIT DUE TO THE CALLOWAY COUNTY EXTENSION OFFICE ASAP TO HOLD YOUR SPOT. FORMS FOUND AT:

[HTTPS://CALLOWAY.CA.UKY.EDU/4H-CAMP](https://calloway.ca.uky.edu/4h-camp)

ALL PAPERWORK AND FULL PAYMENT DUE MAY 19, 2025

EACH CAMPER AND A GUARDIAN MUST ATTEND ONE CAMP ORIENTATION. DATE OPTIONS ARE MAY 19TH @ 12PM OR MAY 22ND @ 5PM AT THE EXTENSION OFFICE MEETING HALL

SCHOLARSHIPS AVAILABLE-APPLICATION DUE MARCH 7, 2025

**Cooperative
Extension Service**

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

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Disabilities
accommodated
with prior notification.



Cook Wild Kentucky is a partnership project between the University of Kentucky Cooperative Extension Service, The Ky Dept. of Fish and Wildlife, the Kentucky Department of Agriculture and the University of Kentucky School of Human Environmental Sciences. This project provides healthy, great tasting recipes using Ky's wild game for the people of Kentucky. The recipe cards on the next page are examples of the ones available at your local extension office and online. These can serve as excellent marketing pieces for your farm stand especially when marketing new or non-traditional produce.



Catfish Fillets in Ginger and Soy

Ingredients:

- 1.5 lbs. catfish steaks,
- $\frac{1}{4}$ cup olive oil
- 1 garlic clove, minced
- 8 ounces fresh white mushrooms
- 3 tablespoons soy sauce
- $\frac{1}{4}$ cup white wine vinegar
- $\frac{1}{2}$ teaspoon ground ginger
- 1 green onion, thinly sliced

Directions:

Preheat oven to 350 degrees Fahrenheit. Mix olive oil, garlic, mushrooms, soy sauce, vinegar, and ginger in a bowl. Place fish in a shallow, greased baking dish. Pour mushroom mixture evenly over fish. Pull foil around baking pan and seal tightly. Bake for 30 to 35 minutes or until fish flakes easily. Add thinly sliced green onions on top of fish before serving.

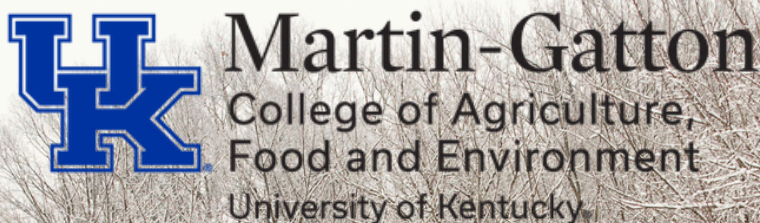
Ingredients:

- 4 medium potatoes, peeled and diced
- 1 cup cooked rabbit or chicken, cubed
- 1 cup cooked venison or beef, cubed
- 1 cup cooked squirrel or pork, cubed
- 1 cup cooked lima beans
- 1 cup whole kernel corn
- 3 $\frac{1}{4}$ cups chopped tomatoes
- 1 $\frac{1}{2}$ cups cabbage, shredded
- $\frac{1}{4}$ cup Worcestershire sauce
- 2 tablespoons vinegar
- 1 teaspoon sugar
- 1 teaspoon salt
- $\frac{1}{2}$ teaspoon ground pepper
- 3 cups water



Directions:

Wash potatoes with a clean vegetable brush under running water before preparing. Combine all ingredients in a 6-quart slow cooker. Stir to blend. Cover with lid and cook on low for 8 hours.



Keep in touch



Please scan this link and complete the survey to receive updates on new programs.

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the UK Office of Equal Opportunity, 13 Main Building, University of Kentucky, Lexington, KY 40506-0032 or

US Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410.