

Pike County Agriculture and Natural Resources

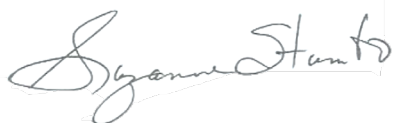
2024

Happy New Year

A message from your ANR agent:

I tell everyone that “I do my best farming in January”, especially when the seed catalogs have just arrived. You know how I preach “**keep a calendar and write everything down**”. This is the time of year to do some serious thinking about your garden/lawn/farm/etc. Go back to your calendar and look at when you started items and how well they did. Rarely is everything perfect for the whole year. What went right? What went wrong? How can I make improvements this coming year? What varieties did well? What new items do I want to try? There are a million details to plan for in the upcoming year. Take a really serious look at the seed catalogs. What do you want to try new? What didn’t do well and what would you like to replace it with? Other than tending to a few crops that will grow most of the year or in a tunnel, you should have time to spend thinking and planning. What grows best early in the season? What grows best mid-season? What makes a good fall crop? If you like a certain crop, you may simply need to plant different varieties to match the time of the year you are going to harvest it.

This is the time of year to dream and plan for the 2024 season!



Suzanne Stumbo

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Forecasting Winter Storms - What a Headache!

Tony Edwards – National Weather Service Charleston, WV



When I was a child - probably by around 7 years old - I knew I wanted to be a meteorologist. I was infatuated with the weather. To my mother's dismay, The Weather Channel was a mainstay on our TV and I even kept a log of the weather each day. My uncle worked for the Department of Highways and had to drive a snow plow each winter. I loved winter, he hated it. I remember one conversation with him distinctly. He told me that when I grew up to be a meteorologist, he wanted me to get all of the meteorologists in the area on the same page with forecasting winter storms. He was so tired of watching the different "opinions" of how much snow we were going to get on each evening TV weather broadcast. For him, the differing opinions made it very hard to do his job. I'm sure many others around our region also wonder "why is it so hard to forecast how much snow is going to fall?"

Forecasting snow amounts is one of the hardest things we have to do as meteorologists. First off, we have to get the temperature forecast right. Not just the temperature at the surface, where there's plenty of thermometers, but we also have to forecast the temperature accurately throughout the atmosphere up through the cloud layer. There are very few ways to get accurate temperature measurements above the ground, so we have to rely on imperfect computer models for this part of the forecast. The temperature and how it varies from inside the clouds down to the ground determines the consistency of the snow, or how wet and sticky vs. dry and fluffy it is. We also have to accurately forecast how much liquid will fall during the storm. For instance, 0.5 inches of liquid vs. 0.7 inches could make the difference of several inches of snow in some cases. This is probably the second hardest thing we have to do! Finally, we have to get the storm track correct. A low-pressure system tracking as little as 25 miles off course can mean the difference between a foot of snow or no snow for your location! All of these are important considerations for a forecast *just* featuring snow. It gets exponentially MORE complicated if the forecast includes other types of precipitation such as freezing rain or sleet. All of these variables create uncertainty in the forecast and, unfortunately, humans aren't the best at dealing with uncertainty.

It's been at least 30 years since I had that conversation with my uncle and unfortunately, I've failed him miserably! He still has to wade through differing opinions on how much snow is going to fall when he gets his forecast information. To be honest, the atmosphere is just too complicated and we may never be able to completely accurately forecast winter storms. Despite the complications, we can still plan for the possible impacts. Here's a few tips to help you be as prepared as possible when snow is forecast:

- When the weather forecast REALLY matters, don't rely on a phone app! Get your forecast from a local source, whether it be from the National Weather Service or your local TV meteorologist. The forecast from most apps is computer-model generated with no local human input. That's fine for figuring out if you need to wear a coat, but not for when your life could depend on it!
- If you see vastly different opinions on how much snow is expected for your location, then you can guess that it's just a complicated forecast and plan for the worst-case scenario you hear. If you flip through the channels and see all of the meteorologists having the same opinion on how much snow will fall and the timing, you can have more confidence in the forecast.
- Finally, put together an Emergency Kit for your home and automobile. You'll at least want 72 hours of food, water and prescriptions in your home kit and some basic tools and supplies for your automobile. Check out [Ready.gov](https://www.ready.gov) for some great ideas on what to include in those kits.

MASTER GRAZER

An educational program to improve grazing practices in beef, dairy, goat and sheep herds.

Winter Tips and Reminders

Tips for the Winter Season - The winter is a time of adaptation for farmers in Kentucky. We have to change the way we manage our livestock in order to sustain the animals as well as preserve our pastures for the coming spring. As forage becomes less available throughout the months of December, January, and February supplemental feed is the main alternative for most farmers. Some pastures become unavailable for grazing and careful thought should be put into how to efficiently maintain livestock. Here are just a few things to keep in mind as you prepare for the winter.

- Check hay quality before feeding
- Move cattle often to avoid compaction and destruction of pasture area
- Move cattle according to weather conditions to avoid heavy traffic on pastures
- If possible, feed cattle on an all-weather surface or feeding pads
- Consider feeding hay in feeders that don't allow much waste
- Plan for any changes to your grazing system that will be made in the spring
- If you are planning on frost seeding clover; the best time to seed is February-early March
- Apply fertilizer according to soil tests.
- Apply Nitrogen in February to promote early grass growth if needed.

Reminders for Winter Watering - Keeping watering systems from freezing during the winter months has been a challenge for as long as domesticated cattle have been raised in cold climates. Mature beef cattle can consume as much as 30+ gallons of water in a day, the amount will fluctuate depending on the weather, how much the cow is eating, distance to water, or if the cow is lactating. Hydration keeps the digestive tract functioning.

Below are ways to keep water available during the winter.

- Check waterers daily for any freezing that may occur.
- Be aware of location (if system is not in a building). Watering systems that aren't exposed to any sunlight will stay frozen much longer than those in a sunny area. Also pay attention to elevation as a lower elevation will stay at a lower temperature in the early part of the day.
- Check your watering system for contamination on a regular basis. Food particles often contaminate water as well as fecal material/urine.
- Utilize insulation: indoor watering sheds, insulated buckets/troughs, and insulated water tanks. Take advantage of buildings and terrain that are already available to you.
 - Avoid ball waterers if you have recently weaned calves in your herd. A calf is unable to push down the ball if it freezes and will not be able to access the water.
- Keep water pipes from freezing. Make sure any exposed pipe that is capable of freezing is insulated.
- Burying water lines is the most common way farmers utilize insulation, although some use hay or fabric and surround the pipe with these materials.
- Geothermal heating of troughs can be an alternative to conventional insulation, though this can take time to set up.
- If any heating elements are being used, check to see if they are keeping water at the desired temperature. While doing this make sure there is no electrical current in the water from a malfunctioning heating unit.

For more information visit grazer.ca.uky.edu.

Winter Watering of Livestock

As daily temperatures start to decline, most producers begin to focus on delivering stored forages to their livestock. Often, at this time the thought of an animal's water needs are discounted. However, even in colder temperatures, water requirements of livestock are critical to maintain optimum animal performance. Winter brings the challenge of providing water to livestock while battling frozen plumbing that delivers water.

Water Requirements

An understanding of how much water is required by animals during the colder parts of the year is needed when considering winter watering systems. Factors that affect water intake include: environmental temperature, feed moisture, body size, and level of milk production. A lactating beef cow in the summer on a 90°F day will drink 16 gallons of water, while during a 40°F day in December the same cow would consume less, approximately 11 gallons. Table 1 shows the water requirements of several classes of beef and dairy cattle at varying daily temperatures. Table 2 shows water requirements for different classes of goats and sheep.

Table 1. Daily water needs for cattle as influenced by temperature.

Class	Impact of Ambient Temperature on Water Intake (gallons/head/day)		
	40°F	70°F	90°F
Beef Cattle			
Growing, 600 lb	5	8	13
Finishing, 1000 lb	9	13	21
Wintering Pregnant Cow, 1000 lb	6	9	--
Lactating Cow, 900 lb	11	17	16
Bull, 1600 lb+	9	13	21
Dairy Cattle			
Dry Cow	6	9	9
40 lb Milk	16	22	27

80 lb Milk	26	34	45
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Adapted from 1996 Beef NRC and UK Publication ASC-151 Pasture for Dairy Cattle: Challenges and Opportunities

Table 2. Small ruminant water requirements

Class	Water Requirement (gallons/head/day)
Goats	
Mature	1-3
Lactating	3
Sheep	
Rams	2
5-20 lb lambs	0.1-0.3
Lactating Ewes	3
Feeder Lambs	2

Adapted from Meat Goat Nutrition, Langston University and MWPS-3 Sheep Housing and Equipment Handbook

During cold periods, livestock energy requirements increase to maintain body temperature. To meet the increased energy requirements, animals increase dry matter intake (DMI) if they physically can consume more feed. Water intake affects animal DMI and if it is limited due to a frozen, inaccessible water source, animals will not be able compensate for the colder environmental temperatures. Excessively cold water temperature will also decrease water intake, as well as increase energy requirements by lowering body temperature.

Methods to Deliver Water in the Winter

What is the best method for providing water to livestock during the coldest days of the year? Depending on several factors, different options rise to the top of the list. First, what is the actual water source? Will a pond or stream be used? Are waterers going to be installed? Is rural water available? Surface water sources, like ponds and streams, require a lot of management, especially during freezing temperatures. If water is flowing, such as a spring-fed stream, this task is not as labor intensive. However, if surface water sources are used, one must take steps to ensure that the water quality downstream is maintained and that streambank quality is preserved. For more information on environmental concerns with grazing near these water

sources follow the link to the UK publication "[Pasture Feeding, Streamside Grazing, and the Kentucky Agriculture Water Quality Plan](http://www2.ca.uky.edu/agc/pubs/aen/aen105/aen105.pdf)".

(<http://www2.ca.uky.edu/agc/pubs/aen/aen105/aen105.pdf>)

Large stock tanks with greater capacity are another option that can be considered. These also need to be checked often to allow livestock access to water. To limit the amount of ice accumulating, a continuous flow valve could be installed to prevent freezing. This also requires an overflow directing water away from the tank to prevent mud.

Is electricity available at the winter feeding site? If so, the number of watering options increases. An electric heater to keep water thawed can be added to almost any watering system. In some cases, this simply might involve adding a plug-in heater that installs through the drain plug of a stock tank. Also, the addition of plug-in heat tape affixed to interior pipes and water bowls of automatic waterers are options that could be considered.

Another option to provide water to livestock when electricity is not available is through the utilization of geothermal heat. A variety of watering systems have been developed to harvest geothermal heat from the ground below the tank, keeping water thawed and available to livestock even in the coldest of environments. Most of these waterers use heat tubes buried deep into the ground, allowing for geothermal heat to rise and keep water supply lines and the drinking trough thawed. While these systems do a good job of keeping pipes and floats from freezing they are not ice-free. Depending on the amount of animal traffic using the waterer and environmental temperature, there is often a thin layer of ice over the drinking area on very cold days that must be removed.

Producers who continue to rotationally graze throughout the winter months face an even greater challenge in providing water to several locations for their livestock. The frequent moving of animals complicates the use of permanent watering sites from an economic standpoint. With that in mind, grazers must become quite creative to provide water to their animals while maintaining their rotational program. Bill Payne, a producer from Knob Lick and NRCS Technical Service Provider for grazing plans, rotationally grazed dairy replacement heifers extensively throughout the entire year and developed a watering system that allowed him to rotationally graze through the winter. Bill installed a network of two inch waterline to service 80 watering points that are housed below ground in water meter boxes. By utilizing quick couplers at the watering points, he was able to quickly move his water trough to different paddocks as the herd moved. To keep his water trough from freezing, Bill utilized a ball valve installed in a riser pipe above the float valve. When opened, the valve allows water to continuously flow and thus keeps the trough from freezing. He also installed a drain near the top of the trough with a 1 ½" drain hose leading away from the trough to limit mud around the watering area. Bill said that the key to the system is overflow management. As temperatures drop, the ball valve needs to be opened more to prevent water from freezing by allowing more water to flow out of the system. Pictures of the system components are shown in Figure 1, with a schematic of the water trough design in Diagram 1.

No matter which method is used, a clean and consistently available water source is critical. Proper evaluation of where and how to winter livestock could make providing water easier during the coldest part of the year depending on available water sources. For additional information, contact your local NRCS and UK Extension offices.



Figure 1. Bill Payne's temporary winter watering system.

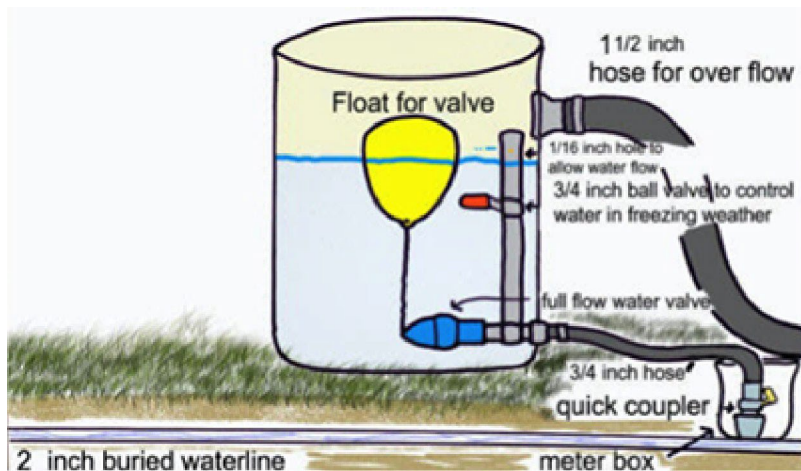


Diagram 1.

For more information visit grazer.ca.uky.edu

Categories: [Winter \(/categories/winter/\)](/categories/winter/)

[Animal Management \(/categories/animal-management/\)](/categories/animal-management/)

**2024 KENTUCKY
FRUIT & VEGETABLE
CONFERENCE**

Jan. 3rd-4th, 2024
Pre-conference events Jan. 2nd

**Sloan Convention Center
Bowling Green, Kentucky**

KENTUCKY FRUIT & VEGETABLE CONFERENCE OVERVIEW

Tuesday, January 2 — Pre-Conference Sessions

3:00–9:00 p.m.	Registration	Front Foyer
4:00–6:00 p.m.	Bringing the Farm To School Grower Training	Salon B
4:00–7:00 p.m.	Farmers Market Short Course	Meeting Room 1&2
4:00–6:00 p.m.	Farm Food Safety Plan Writing Workshop	Meeting Room 3&4
6:00-9:00 p.m.	Urban & Small Farms Meet & Greet	Hotel Bar Area
6:30-7:30 p.m.	Vegetable Meet & Greet	Meeting Room 5
7:30-8:30 p.m.	Tree & Small Fruit Meet & Greet	Meeting Room 5
3:00-9:00 p.m.	Exhibitor Set-up	Foyers, Ballroom D

Wednesday, January 3 — Conference Sessions

8:00 a.m.	Exhibits and Registration Desk Open
8:45 a.m.	General Session, Ballrooms A & B
10:30 a.m.	Break
12:00 p.m.	Exhibitor/Grower Luncheon Ballroom C
1:30 p.m.	Concurrent Sessions Direct Marketing, Ballroom A Tree Fruit Production, Ballroom B Vegetable Production for Experienced Growers, Ballroom C Beginning Farmers, Meeting Rms 1&2 Greenhouse Production, Meeting Room 5
2:30 p.m.	Break
5:00 p.m.	Exhibits Close
5:20 p.m.	Kentucky Strawberry Association Meeting, Ballroom C
6:00 p.m.	AgVets Meet & Greet, Hotel Bar Area

Thursday, January 4 — Conference Sessions

8:00 a.m.	Exhibits and Registration Desk Open
8:30 a.m.	Concurrent Sessions Organic Production, Ballroom A Tree Fruit Production for Experienced Growers, Ballroom B Beginning Vegetable Production, Ballroom C Specialty Cut Flower Short Course, Meeting Rooms 1&2 Marketing & Business Management, Meeting Rooms 3&4 High Tunnel Production, Meeting Room 5
10:00 a.m.	Break
11:45 a.m.	Wednesday Luncheon Ballroom C
1:30 p.m.	Concurrent Sessions Funding Opportunities, Ballroom A Small Fruit Production, Ballroom B Urban & Small-Scale Farming, Ballroom C Specialty Cut Flower Short Course, Meeting Rooms 1&2 Specialty Crop Block Grant Project Reports, Meeting Rooms 3&4
3:00 p.m.	Exhibit Hall Closes
3:40 p.m.	Conference Concludes

If you plan to attend, contact your local ANR agent, **Suzanne Stumbo** at (606) 432-2534 or [sstum1@uky.edu](mailto:ssstum1@uky.edu).



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

OSU Sheep Team

Supporting Ohio sheep producers by providing educational information, sheep research conducted at Ohio State, resources, and contact information for leaders in Ohio's sheep industry.



Winter Management Tips for Sheep and Goats

Michael Metzger, Michigan State University Extension Educator

(Previously published on [MSU Extension, Sheep & Goat](#))

Posted by Braden Campbell

As cold weather approaches, it is important to consider the comfort of the sheep and goats we care for.

Winter can be a stressful time for livestock. As owners, we need to help to reduce that stress by providing proper care, feeding, and management practices.

Adjusting management practices will help to ensure that sheep under your care will thrive through the cold winter months.

Sheep

Sheep should be given some kind of shelter, even if it is just a tree line or wind block. Shelters can include barns or three-sided shed. Shelters should have adequate ventilation so that moisture does not build up and cause respiratory problems for the sheep. Hair sheep and wool breeds that have been recently shorn require more shelter than animals with longer wool. Ewes that are lambing during the cold winter months should be housed in a barn and check regularly. Newborns must be dried quickly after birth as hypothermia can set in quickly. Avoid damp, dark, or drafty barns, and wet muddy areas in or around buildings. Young lambs are able to withstand cold temperatures quite well, but drafts and dampness can lead to losses from baby lamb pneumonia. Heat lamps can be used to help keep lambs warm, although care must be taken to prevent electrocutions and/or barn fires.

Sheep require more energy in the winter to help them maintain body temperature. The highest quality hay should not be fed during gestation. Utilize average to good-quality hay during the early gestation period, when ewe nutrient requirements are low compared to late gestation and lactation. If high-quality hay, such as alfalfa, are fed during gestation, it is important to limit intakes as overfeeding is costly. Ewes up through 15 weeks of gestation should receive 4 lbs. of a good quality grass/legume hay daily. In the last 4 weeks of gestation, they should receive 4 lbs. of a good quality grass/legume hay plus 1 lb. of corn [or concentrate] daily. To prevent wool picking and other problems, ewes should receive a minimum of 1.5 lbs. of hay per day and one lb. of corn can be substituted for 2 lbs. of hay. Once ewes lamb and begin to lactate, they should receive 5 lbs. of good quality hay and 2 lbs. of 15% crude protein grain mix a day. Hay should be fed in feeders to help minimize waste and help prevent the spread of disease. Sheep should have access to fresh water at all times.





This may require changing water a couple of times a day to remove the ice or some other type of heated waterer. Michigan State University reminds producers to use caution with any type of electrical device with sheep and lambs may chew the cord. Salt and minerals formulated for sheep should also be available at all times.

Goats

Goats do not require elaborate housing during the winter months. The most important issues regarding housing is to block the harsh, cold north wind and to keep the animals dry. Goats that are properly cared for will have a thick coat of hair helping them to survive the winter with minimal housing. A three-sided structure with the opening facing the south provides protection from the cold wind and yet allows plenty of ventilation to keep moisture down in the barn or shed. Make sure there is plenty of clean, dry bedding available. Goats kidding in the cold weather will require more shelter because young kids will not be able to maintain their body temperature outside. A heat lamp may be required in these situations but should only be used with extreme caution because of the risk of barn fires or animals chewing electric cords.

Feeding and watering goats in the winter requires a little more planning than during the warmer summer months. Goats should have access to fresh water at all times. This may require changing water a couple of times a day to remove the ice or some other type of heated waterer. Use caution with any type of electrical device with goats as they may chew the cord. During the winter, goats need more energy to help maintain body temperature. They will also need roughage which can be supplied in grass, alfalfa, or mixed hay. Alfalfa hay can be a great source of both energy and protein, although care should be taken when feeding bucks and wethers because of urinary calculi. Salt and minerals should also be available.

Lice are more prevalent on goats during the winter months. They can be irritating to the goat and in some cases, heavy infestations can cause anemia, poor coat and/or skin quality. Michigan State University Extension recommends working with your veterinarian to develop a treatment plan for you goat herd to control lice and other parasites.

Keeping a herd of goats, or even a couple of animals as companions, can be a rewarding experience. With a little preplanning we can help our animals not only survive but thrive the cold winter months.

Pollinator Protection

Pesticides | Pollinator.org

About Pesticides

What is a pesticide? A pesticide is a substance used to control unwanted plants, insect pests, rodents, or plant diseases. Pesticides include herbicides, insecticides, rodenticides, and fungicides. Of the pesticides, we believe insecticides cause the greatest challenge to pollinators. Using proper application practices when applying any pesticide is very important in keeping pollinators (and people) safe. Over a 30-year history of SETAC workshops, many groups of renowned scientists have produced summaries that are valued by environmental scientists, engineers, regulators, and managers for their technical quality and comprehensive, state-of-the-science reviews.

For Garden

Everyone can contribute to promoting pollinator health and wellbeing in their community. One way is by creating an inviting habitat with abundant floral resources (pollen and nectar) so that pollinators can meet their nutritional needs and thrive.

You can help ensure bees and other pollinators have access to such resources by contributing to:

HABITAT

Pollinators need sustainable places to live, nutritious food to eat and clean water to drink. While land use and development can impact pollinator habitat options, you can provide support by:

- Leaving areas in the garden bare for ground-nesting, solitary species. Leaving hollow logs can also provide nesting habitat for cavity nesting bees.
- Providing a bee hotel or nesting box to serve as homes for solitary bees, such as mason bees or leafcutter bees. Bee hotels with replacement paper or reed tubes are available readymade or are also an easy do-it-yourself (DIY) project. These disposable tubes are important to keep nesting cavities free of fungal diseases and parasites.
- Providing a water source. Adding a bird bath or water feeder with a wet surface made of sand, soil or brick to your yard will allow pollinators to safely collect water without drowning. Providing wet soil, particularly loam or clay, helps some species of bees that collect mud to seal their nests.
- Adding or increasing flower bed areas. You might be surprised to learn which plants pollinators love to visit. Preferred blooms may be those of native plants with smaller and less showy flowers. For more information about which plants are best suited to pollinators in your area, visit websites available from your state's land-grant university extension office, non-profit organizations, state department of natural resources, or federal agencies. A general rule of thumb is to include native plants, or introduced but non-invasive species, with blue, yellow, or bright white flowers for optimal attraction, along with plants recommended by expert sources. Some good choices also include high pollen or nectar producing trees, fruit-bearing trees, hedgerows, and flowering shrubs. Bees will be more attracted to your garden if there are a variety of plants with different bloom shapes and sizes, particularly if such plants bloom in sequence to provide food throughout the growing season. Clustering flowers of one species can also help pollinators see flowering plants from far away.

NUTRITION

Pollinators need nutritious food to survive and thrive. A balanced bee diet includes nectar (sugars/carbohydrates) and pollen (protein and fat) from a diverse array of plants. Some bee species have different nutritional needs than others, so it is important to provide different types of plants for bees to visit. It is also essential to provide a variety of plants that bloom across seasons to provide a continuous food source.

Many pollinators are specialists (as opposed to generalists, like honey bees), or species that only forage on a single plant family. For this reason, it is best to check with your land-grant university's extension office, experts at your local retail nursery or garden center, or with a professional landscaper to learn about available plants that are good sources of pollen and nectar for specialist species unique to your area.

PLANT HEALTH

Planting gardens and containers to attract pollinators may also bring unwanted pests that can harm flowering plants and diminish resources for the pollinators you are working to attract. Pesticides may be one option you choose to control such pests, depending on the seriousness of your pest problem. Whether you are using a synthetic, natural, or organic product, always read and follow all label directions. This ensures safe use and effectiveness for target pests, and compliance with state and federal law.

When using any pesticide but particularly when using insecticides, avoid treating plants in bloom and apply products early in the morning (well before 9:00 a.m.) or in the evening when bees and other pollinators are usually not active or foraging. Pollinators will be most active when temperatures are warmer, so optimum pesticide application timing may change throughout the growing season. Lawn and garden product labels will tell you more, so be sure to read them thoroughly and follow all steps for safe

and effective application. Your local university extension office will also offer more information on treating your garden for local pests.

COMMUNITY

Individual efforts to attract and sustain pollinators in your yard can be scaled up to the community level. Talking with your local community leaders about establishing pollinator habitats in public spaces is one good first step to creating a pollinator-sustaining community. There are funding sources and detailed land management guides available to support these initiatives. Community-supplied bee boxes and planting of low-maintenance perennial flowering trees, hedgerows, shrubs, and perennial wildflowers are simple ways to beautify public and commercial spaces and to put out the welcome mat for pollinators.

For Home

Excerpts below taken from the Solving Your Pest Problems Without Harming Pollinators brochure

To purchase the printed versions, visit pollinator.org/brochures.



POLLINATOR-FRIENDLY PEST CONTROL STRATEGIES FOR YOUR HOME

Use Integrated Pest Management (IPM) around the home.

- Where possible, avoid pest problems in the first place by burying infested plant residues, removing pest habitat, and planting disease and pest-resistant plant varieties.
- Carefully diagnose your pest problem, and, before you apply a pesticide, make sure the pest population has reached a level where control is necessary.
- Carefully evaluate your pest control options, and use a combination of pest control techniques if appropriate – these may include beneficial insects, manual removal, traps, a pesticide, etc.
- Plant native flowering plant species to support pollinators, choosing species that are naturally resistant to insect pests.
- Many native pollinators such as bumble bees live in natural areas and also play an essential role in pollination. Be especially careful when trying to control pests in or near these areas. All butterflies start life as caterpillars, feeding on plants. Learn what type of insect is eating your plants before you inadvertently kill butterflies and other beautiful and beneficial insects.

IF YOU CHOOSE TO USE A PESTICIDE:

- Read and follow ALL label directions carefully – use the proper rate (not more or less) at the right time for the correct target pests, and avoid re-applying unnecessarily.
- Pay close attention to the Environmental Hazards statement and all pollinator information on the label to determine if special precautions must be taken to protect pollinators.
- The label will tell you if the pesticide should not be used on prebloom or blooming plants, and if the pesticide should only be used when bees and other pollinators are not actively foraging (for example, just before dark). Remember that “prebloom or blooming plants” includes ALL plants - garden crops, ornamentals, weeds, native species, etc. Some labels will indicate if application must be delayed until the blooms and pollinators are gone. If in doubt, do not spray.
- Dispose of unused pesticides properly. (see earth911.com for disposal sites).
- If you handle your pest issues by using pest control professionals, discuss solving your pest problems without harming pollinators.
- If you have questions contact your local extension office (<http://www.csrees.usda.gov/Extension/>), conservation district (<http://www.nacdnet.org/about/districts/directory/>) or visit pollinator.org/landscape-pests where you can get help.

For Farms

Excerpts taken from the *Pesticide Applicators brochure*. To purchase the printed versions, visit pollinator.org/brochures

POLLINATOR POISONING

Most pollinator poisoning occurs when pollinator toxic pesticides are applied to crops during the blooming period. Poisoning of pollinators can also result from:

- Drift of pesticides onto adjoining crops or plants that are in bloom.
- Contamination of flowering ground cover plants when sprayed with pesticides.
- Pesticide residues being picked up by foraging pollinators and taken back to the nest/colony.
- Pollinators drinking or touching contaminated water sources or dew on recently treated plants.



REMEMBER, YOU, THE PESTICIDE APPLICATOR, ARE CRITICAL TO REDUCING PESTICIDE RISK FOR POLLINATORS.

Use pesticides only when needed.

Check for “Bee Hazard” warnings and pollinator precautions in the Environmental Hazards statement and in the directions for use on the label. Consider the toxicity to pollinators when selecting a pesticide and formulation and when combining products.

Guard against drift of pesticides from ground or aerial applications.

Bloom is a key factor in pollinator exposure to pesticides. **When crops or ground cover plants are in bloom:**

- Apply non-ERT (“actively visiting”) pollinator-toxic pesticides in late evening to minimize exposure to pollinators.
- Do not apply ERT (“visiting”) pollinator-toxic pesticides.
- Avoid applying when lower temperatures will allow dew formation. Dew may re-wet pesticides and increase bee exposure.
- Avoid spraying areas where native pollinators live such as hedge rows and natural areas.
- Establish good relations and communication with commercial and local beekeepers.

How to Read a Pesticide Label

Produced by the North American Pollinator Protection Campaign (NAPPC) Pesticide Education Task Force

The “good bugs,” pollinators like bees, butterflies, beetles and more, are vital players in healthy ecosystems. Their protection is part of your responsibility when you use a pesticide, but also one of the reasons that precautions are put on the labels of products is that they may be particularly toxic to pollinators if misused. **Pay attention; read and follow the label; look for key words; try to prevent infestation.**

The US Environmental Protection Agency (EPA) regulates the information that must be included in the label of any pesticide product. EPA has a web site that will also give you further information about a product’s efficacy, label cautions, and more. These can be found at: <https://www.epa.gov/pesticide-labels> and <https://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1>.

Thank you in advance for taking extra care with any application and disposal of a household chemical!

Considering the Environment in the Maintenance of Your Kentucky Lawn

A SEASON BY SEASON APPROACH

Gregg Munshaw, Plant and Soil Sciences, and Paul Vincelli, Plant Pathology

“**G**oing Green” is a buzz phrase that is heard a lot these days. Everything from driving hybrid cars to recycling plastics can be considered going green. But can we go green when it comes to maintaining our lawns? The answer to that question is not all that simple. Most people do not realize the environmental benefits of lawns. Lawns are known to cool the air, reduce soil erosion, remove dust and pollutants (including CO₂) from the air, reduce run-off of water and pollutants, create oxygen for humans, and improve soils over time by supplying organic matter. Lawns are also important aesthetically and have been shown to improve human well-being. However, to be 100 percent environmentally friendly, we could never fertilize or water our lawns and only mow with a self-propelled reel mower. Or, we could get rid of our lawn altogether. Neither of these options are particularly appealing for most people. We can, however, have a high quality lawn and reduce our impact on the environment by doing some very simple things at the right times of the year. The following guide will walk you through a series of steps that are important for keeping your lawn looking thick and healthy and at the same time reducing pests and the need for chemicals and other inputs.

Winter

The best advice for managing your lawn during the winter is to just leave it alone. It is not growing at this time of year so there is no reason for inputs. As a matter of fact, walking on grass that has frost on it can cause damage to the leaves. These damaged areas may be slower to green up



in the spring and could result in increased weed pressure. Lawns in winter often remain wet, so reducing traffic is important because wet soils compact much more easily than dry soils. Compacted lawns will require additional inputs such as aerification to improve them. Snow seeding is an idea occasionally proposed as an activity for winter lawn care. Snow seeding involves grass seed being applied on top of snow and allowing the seed to trickle down into the lawn canopy as the snow melts. The seed may germinate in the spring but the new plants will be immature when the heat of the summer arrives so they may not survive. It is best to seed during late summer into early autumn (mid-August through September) if the lawn has thin areas that require seed. Winter is also the best time to get your lawn mower running properly. Gas lawn mowers are not fuel efficient, so anything you can do to improve efficiency will help the environment. Changing the oil and air filter can improve engine performance, which can save fuel and reduce emissions. Fuel left in a mower over the winter can get

water condensation in it and cause the mower to not start or to run poorly in the spring. If possible, run the mower out of gas after the last mowing in the fall or drain the mower and use the gas in your car. There are several alternatives to traditional gas-powered mowers. Self-propelled reel mowers are still readily available at big box stores. If kept sharp, these mowers will perform a quality cut and give you some exercise in the process. If the thought of pushing a reel mower does not sound appealing, there are other alternatives that are not as environmentally friendly as self-propelled reel mowers but are better than traditional gas mowers. Electric mowers have been around for many years but have gained acceptance in recent years due to environmental concerns. Electric options have various motor sizes and include the corded varieties that stay connected to an electric outlet on your home, battery powered options that must be charged before each use, and even solar types that operate on a hybrid sun/electric recharge system. Each type of electric mower has benefits and shortcomings that should be addressed prior to purchase. These



Figure 1. Dull mower blades increase mower fuel usage and potential for disease in grass plants.

mowers produce zero emissions, which reduces air pollution. The last option for reducing your environmental footprint with mowing is propane-powered mowers. These may be purchased from the manufacturer as propane mowers or may be converted to propane-powered mowers with conversion kits. Propane as a fuel source reduces air pollution and fuel spillage and increases engine life. Another important factor in mower maintenance is sharpening the blade. Depending on how often you mow, blades should be sharpened at least a couple of times each year. Dull lawn mower blades cause the engine to work harder as it takes more energy for the blade to cut through the grass (Figure 1). Furthermore, dull blades cause grass leaves to tear during mowing, which results in a ragged appearance and can increase the damage from turf diseases. Severe disease outbreaks may prompt homeowners to apply fungicides that could potentially have a negative effect on the environment.



When you Bag the Doo..



You protect human and animal health from diseases.



You keep pet waste pollution out of aquatic ecosystems.



You help sidewalks, neighborhoods, and furry friends stay clean.



2024 POSTER & ESSAY CONTEST

CALL FOR ENTRIES

THEME FOR 2024: "Agriculture for a Better Kentucky"

Kentucky Department of Agriculture announces annual poster, essay contest 'Agriculture for a Better Kentucky' theme reflects on importance of farming to the state

FRANKFORT (Nov. 27, 2023) - Kentucky students are invited to enter the Kentucky Department of Agriculture's (KDA) annual Poster and Essay Contest, Commissioner of Agriculture Dr. Ryan Quarles has announced.

The theme of the 2024 contest is "Agriculture for a Better Kentucky," encouraging contestants to illustrate in words, original artwork, or photographs how agriculture enhances life throughout the commonwealth.

"Going back to its earliest days, Kentucky was dependent on agriculture. Today, though things may look a little different, agriculture is still at the heart of Kentucky's roots and economy," Commissioner Quarles said. "Emphasizing the importance agriculture plays for Kentucky and its people reveals its importance in all we do and have. This year's contest allows students to give that knowledge greater thought."

Students in grades K-12 may submit a poster, an essay of 500 words or less, or a digital entry, which may be photos or original digital artwork. Each entry must include the actual written theme and be postmarked by Friday, March 8, 2024 and mailed to the Kentucky Department of Agriculture, c/o Elizabeth Gordon, 111 Corporate Drive, Frankfort, KY 40601. A completed entry form must be taped or glued to the back of each entry. If all information on the entry form is not completed the submission will be disqualified. Submissions can be sent in by individuals and through your child's school. Winners will be notified by Friday, April 19, 2024.

Winners will be notified by Friday, April 19, 2024. Winners in the poster and essay competitions will be selected in each grade. One statewide winner will be selected for digital artwork. Each winner will receive a \$100 award from Kentucky Agriculture and Environment in the Classroom and will be recognized at the 2024 Poster and Essay Contest Awards Ceremony next year. Winning entries will be displayed in Commissioner Quarles' Frankfort office and at the 2024 Kentucky State Fair in August in Louisville.

For more information, including complete contest rules and an entry form, go to <https://www.kyagr.com/marketing/poster-essay-contest.html> or contact Elizabeth Gordon, director of the KDA's Education and Outreach Division, at Elizabeth.Gordon@ky.gov or (502) 782-4125.

Upcoming Events

December	January	February	March	April
Office Closing: Pike County Cooperative Extension Office will be closed from December 25 th - January 1 st	2nd-4th Fruit & Vegetable Conference <i>Bowling Green</i>	5th Beekeepers Meeting <i>Pike County Extension Office</i>	4th Beekeepers Meeting <i>Pike County Extension Office</i>	6th Appalachian Seed Swap <i>Pike Central High School</i>
	8th Beekeepers Meeting <i>Pike County Extension Office</i>	9th CFA Farmers Market Annual Gathering <i>Lexington</i>	9th Master Gardener Seed Starting Workshop <i>Pike County Extension Office</i>	8th Beekeepers Meeting <i>Pike County Extension Office</i>
	25th - 27th OAK Conference <i>Frankfort</i>	16th - 17th EKY Farmer Conference <i>Morehead</i>	23rd Master Gardener Grafting Workshop <i>Pike County Extension Office</i>	24th CAIP Program Training <i>Pike County Extension Office</i>

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