

Pike County Agriculture and Natural Resources



A message from your ANR agent:

It's been years since we have had cold weather for multiple days and damage along with it. Due to the recent weather, we are emphasizing seasonal preparedness in this newsletter. Listening to farmers and homeowners, many have had freezing problems in their homes and farms. This newsletter is to remind you where and what to do/check for safe operation of your home and farm.

Adding a little fun with info on herding dogs and getting you motivated for the 2024 gardening season (as if you need motivation).

Everyone gets excited and looks forward to starting a garden. Part of this newsletter includes a few pages from ID-128, which is pretty much the "Holy Grail" for gardening. It is included to help you plan for maximum stress-free gardening. We also have several other gardening booklets and info that is university researched. Please come by our office or call for your copy.

Good luck and plan now before everything becomes very hectic!

Suzanne Stumbo

Pike County ANR Agent

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Seasonal CRD Preparedness Tips

January: Extreme Weather Preparedness

As winter storms are becoming more prevalent within this season, there is higher risk for car accidents and extreme cold. Blizzards can bring extreme temperatures, high winds, and freezing rain/snow. See the following tips to stay safe in this winter season:

1. Learn the types of winter storms

Winter Weather Advisory:

- Issued during snow, freezing rain, freezing drizzle, and sleet

Could lead to life-threatening situations if ignored

Winter Storm Watch:

- Are usually issued 12 to 48 hours before the beginning of a Winter Storm
- Issued for: blizzard, heavy snow, heavy freezing rain, or heavy sleet

Winter Storm Warning:

- Issued typically 12 to 24 hours before the event is expected
- Issued for: heavy snow, heavy freezing rain, or heavy sleet



2. Practice car safety during winter storms

Stay off roads if at all possible

If you must go out, then let someone know your route and times

If your car skids:

Remain calm, ease your foot off the gas and turn your wheels in the direction you want the front of the car to go

If trapped in your car, then stay inside:

Run the motor about 10 minutes each hour for heat.

While running the motor, open the window a little for fresh air to avoid carbon monoxide poisoning.

Be visible to rescuers by turning on your dome light at night, tie a bright colored cloth to your antenna/door, and raise your hood (after snow stops)

3. How to handle extreme temperatures

Limit your time outside: If you need to go outside, then wear layers of warm clothing and watch for frostbite and hypothermia

Frostbite: causes loss of feeling and color around the face, fingers and toes

- Signs: Numbness, white or grayish-yellow skin, firm or waxy skin.
- Actions: Go to a warm room, soak the area in warm water, use body heat to warm, and do not massage or use a heating pad.

Hypothermia: An unusually low body temperature

A body temperature below 95 degrees is an emergency

- Signs: Shivering, exhaustion, confusion, fumbling hands, memory loss, slurred speech or drowsiness.
- Actions: Go to a warm room. Warm the center of the body first (chest, neck, head and groin). Keep dry and wrapped up in warm blankets, including the head and neck.

Reduce the risk of a heart attack:

- Avoid overexertion when shoveling snow and walking in the snow
- Passing out in the snow (without help) is deadly

Sources:

<https://www.ready.gov/winter-weather>

<https://www.weather.gov/safety/winter-during>

<https://canva.com>

Mudbound: Feeding Horses in Muddy Pastures

By Kentucky Equine Research Staff



When it comes to horse care, mud makes everything harder. How can horse owners deal with sloppy mud and still provide wholesome meals to their horses? Here are some tips.

Keep hay off the ground. That's not as easy as it sounds, is it? In a perfect world, every horse will consume every stem and every leaf of every flake of hay ever offered. In reality, horses are prone to wasting hay. When it's muddy, it seems the waste is even more abundant. What to do? Hay feeders that stand off the ground are one option. Horses will yank hay from these feeders, sometimes vigorously, so some hay still hits the ground, but less is wasted. Some of these feeders can hold more than one bale of hay, which can make feeding multiple horses more efficient.

For owners that feed round bales, specially designed feeders can keep hay tidy. Be sure to use feeders intended for horses. Feeders engineered for cattle are sometimes not appropriate for horses. Because of height differences between species, small horses and ponies can become trapped in them.

One resourceful owner placed old stall mats over a stone base to create a sizeable area in a paddock. She fed hay out of an old, cracked water trough that was anchored to fence posts. Any hay that landed on the mats stayed dry and clean, and fallen hay remained palatable and was easily retrieved by horses. A hose and a stiff-bristled broom was all that was needed to scrub the mats when they became dirty.

If the horse is in a pasture or paddock with lots of grass and only areas around feeders are muddy, toss hay into different grassy areas each day. This will keep areas from becoming too churned up from excessive traffic.

Provide concentrates in feeders. Many horse owners cringe when horses fling or drop grain onto the stall floor. The same owners wince when horses try to gather dropped grain from muddy ground. How can this be avoided?

Deep, weighted feeders are the best bet. Some horsemen have fashioned feeders from old tires by securing a bucket or pan inside the tire. Horses have difficulty overturning a tire even with aggressive pawing. Soft rubber pans are popular, but they are easily flipped or stomped. The deeper the feeder, the harder it is for the horse to sling grain from it.

Consider feed form. Certain feed companies provide some formulations as large, easy-to-feed pellets or cubes, measuring about 0.5 inch (1.25 cm). These cubes are convenient for outdoor feeding situations because they can be easily picked up from the ground by horses if dropped. Some managers feed these large cubes directly off grassy ground.

Consider pecking order. When feeding a group of horses, be aware of who's boss and who's not, and tailor feeding programs to keep mealtimes as peaceful as possible. This is doubly important in mud, as horses will be unable to retreat from aggressive horses as quickly and injuries may occur.

One suggestion: place feeders or hay piles far from one another to keep a dominant horse from attempting to control more than a single feeding station. Thirty to forty feet of space between feeders will generally deter even the most determined alpha horse from seizing more than his fair share.

Do you have a question about how to best nourish your horse?

Contact your local ANR Agent, Suzanne Stumbo, at (606) 432-2534.



Starting Your Garden ID-128

Plans and Preparations

Before You Begin

Every aspiring gardener should follow seven steps to have a successful gardening season:

1. Plan your garden on paper before you begin.
2. Select a good gardening site that is:
 - a. in full sun for at least eight hours each day,
 - b. relatively level,
 - c. well-drained,
 - d. close to a water source,
 - e. dries quickly from morning dew.
3. Prepare the soil properly, conduct a soil test, and add fertilizer and lime according to U.K. test result recommendations.
4. Plan only as large a garden as you can easily maintain. Beginning gardeners often overplant, and then they fail because they cannot keep up with the tasks required. Weeds and pests must be managed, water applied when needed and harvesting done on time.
5. Grow vegetables that will produce the maximum amount of food in the space available.
6. Plant during the correct season for the crop.
7. Choose varieties recommended for Kentucky.
8. Harvest vegetables at their proper stage of maturity. Store them promptly and properly if you do not use them immediately.

Planning Your Garden

A garden plan helps you grow the greatest amount of produce with the least amount of effort. To use your plan you must expect to harvest each crop as soon as it matures. Then put old plants in the compost pile and plant a new crop. This approach is called succession planting.

Grow only those vegetables that your family will eat. A well-planned and properly kept garden should produce 600 to 700 pounds of produce per 1,000 square feet (Table 1) and may include many different crops. Consult *Vegetable Cultivars for Kentucky Gardens* (ID-133) for the latest recommendations on home vegetable varieties.

Draw a scale model of your garden space when planning where to plant. There are also a number of computer programs that can be used to plan your garden. Plant perennials like asparagus, rhubarb, chives and horseradish along one side of the garden since they may produce for six to 12 years. Tall plants such as sweet corn, tomatoes and pole beans should be planted on the north or west side of the garden where they will not shade smaller vegetable crops. However, summer lettuce should be grown in a partially shaded area if possible.

Table 1. Average vegetable yields and amounts to plant per person.

Vegetable	Yield per 10 ft of row	Planting	
		Fresh	Store/Can/Freeze
Asparagus	3 lb	10-15 ft	10-15 plants
Beans, snap bush	12 lb	15-16 ft	15-20 ft
Beans, snap pole	15 lb	5-6 ft	8-10 ft
Beans, lima bush	2.5 lb, shelled	10-15 ft	15-20 ft
Beans, lima pole	5 lb, shelled	5-6 ft	8-10 ft
Beets	15 lb	5-10 ft	10-20 ft
Broccoli	10 lb	3-5 plants	5-6 plants
Brussels sprouts	7.5 lb	2-5 plants	5-8 plants
Cabbage	15 lb	3-4 plants	5-10 plants
Cabbage, Chinese	8 heads	3-10 ft	---
Carrots	10 lb	5-10 ft	10-15 ft
Cauliflower	10 lb	3-5 plants	8-12 plants
Celeriac	6 lb	5 ft	5 ft
Celery	18 stalks	10 stalks	---
Chard, Swiss	7.5 lb	3-5 plants	8-12 plants
Collards and Kale	10 lb	5-10 ft	5-10 ft
Corn, sweet	1 dozen	10-15 ft	30-50 ft
Cucumbers	12 lb	1-2 hills	3-5 hills
Eggplant	10 lb	2-3 plants	2-3 plants
Garlic	4 lb	---	1-5 ft
Kohlrabi	7.5 lb	3-5 ft	5-10 ft
Lettuce, head	10 heads	10 ft	---
Lettuce, leaf	5 lb	10 ft	---
Muskmelons (cantaloupe)	10 fruits	3-5 hills	---
Mustard	10 lb	5-10 ft	10-15 ft
Okra	10 lb	4-6 ft	6-10 ft
Onions (plants or sets)	10 lb	3-5 ft	30-50 ft
Onions (seed)	10 lb	3-5 ft	30-50 ft
Parsley	3 lb	1-3 ft	1-3 ft
Parsnips	10 lb	10 ft	10 ft
Peas, English	2 lb	15-20 ft	40-60 ft
Peas, Snow	2 lb	10-15 ft	30-40 ft
Peas, Southern	4 lb	10-15 ft	20-50 ft
Peppers	6 lb	3-5 plants	3-5 plants
Potatoes, Irish	10 lb	50-100 ft	---
Potatoes, Sweet	10 lb	5-10 plants	10-20 plants
Pumpkins	10 lb	1-2 hills	1-2 hills
Radishes	10 bunches	3-5 ft	---
Salsify	10 lb	5 ft	5 ft
Soybeans	2 lb	50 ft	50 ft
Spinach	4-5 lb	5-10 ft	10-15 ft
Squash, summer	15 lb	2-3 hills	2-3 hills
Squash, winter	10 lb	1-3 hills	1-3 hills
Tomatoes	10 lb	3-5 plants	5-10 plants
Turnip greens	5-10 lb	5-10 ft	---
Turnip roots	5-10 lb	5-10 ft	5-10 ft
Watermelons	4 fruits	2-4 hills	---

Choosing a Site

Your garden site should provide a sunny exposure, adequate moisture and fertile soil. Because of your property's limitations, however, you may be forced to select a less than ideal location. As much as possible, let the following suggestions guide you in choosing your garden site:

Avoid putting the garden in a low spot, at the bottom of a hill or at the foot of a slope bordered by a solid fence. Such areas, where frost settles because of lack of air drainage, are slow to warm up in the spring. High ground will enable the vegetables to escape "borderline" freezes for an earlier start in the spring and longer harvest in the fall.

If possible, choose an area with a southern or southeastern exposure which warms up faster in the spring and receives the maximum amount of sunlight throughout the growing season. Midsummer vegetables, other than lettuce, should not be located on the north side of a building or on a northern slope of a hillside.

Plant your vegetables away from buildings, trees and other objects which would shade them. Your plants need at least eight hours of direct sunlight each day. You can grow lettuce in the shade if you must locate part of your garden in a partially shaded area.

Your garden needs water from rainfall or other sources. However, too much water can be just as damaging as too little.

- Examine your garden site to see how it drains and avoid areas that stay soggy after a rain. To evaluate how your site drains, dig a small diameter hole to a depth of two feet and look for grey colors in the soil. These grey colors indicate that the soil is poorly drained. Consider moving the garden to a different area or installing raised beds.
- Avoid heavy clay soils in favor of loamy soil.
- Improve sandy soils by adding large amounts of organic matter. Adding organic matter can often solve minor drainage problems; however, if the poor drainage is caused by underlying layers of rock or hard clay (hardpan), correcting the drainage could involve the labor and expense of subsoiling with an excavator, laying tile or of building raised beds.

- Locate your garden away from trees as much as possible. Tree roots can compete with your vegetables for water and nutrients.
- Look for a site which supports lush vegetative growth, even if it is dark green, sturdy weeds. Although you can improve poor soil over a period of years, you can save much time and work if you begin with naturally rich soil.
- Make sure to use contour rows or terraces for hillside gardens.
- Avoid windy locations.

Finally, the closer the vegetable garden is to your back door, the more you will use it.

You can see when your crops are at their peaks and can take maximum advantage of their freshness. Also, keeping up with planting, weeding, watering and pest control will be easier.

Organic Gardening

In 1990 Congress passed the Organic Foods Production Act, which mandated the creation of the National Organic Program (NOP) and the passage of uniform organic standards. This action was followed by over a decade of public input and discussion, which resulted in a National Organic Program final rule implemented in October 2002. These national standards set out the methods, practices and substances used in producing and handling all certified organic crops and livestock. The standards include a national list of approved non-synthetic and prohibited synthetic substances for organic production.

Organic production is based on a system of farming that maintains and replenishes soil fertility without the use of toxic and persistent pesticides and fertilizers. Organically produced foods also must be produced without the use of antibiotics, synthetic hormones, genetic engineering and other excluded practices, sewage sludge, or irradiation. National organic standards require that organic growers and handlers be certified by third-party state or private agencies or other organizations that are accredited by USDA.

Home gardeners will have no need to concern themselves with the many rules and requirements that go along with organic certification. However garden-

ing organically in your home garden in Kentucky is just as easy as gardening using "conventional" techniques and inputs once you master some simple management practices like scouting your garden often to watch for pest or disease problems, choosing plant varieties that will thrive under organic management, and paying close attention to soil management by adding organic matter to your garden, using compost, practicing crop rotation, and utilizing cover crops. Throughout this guide, organic alternatives to certain conventional practices or inputs are included to give gardeners a choice in how they raise vegetables.

Preparing the Soil

An ideal garden soil has a 10- to 12-inch loamy surface layer overlying a well-drained subsoil. This type of soil can retain large amounts of water but still drains well after a rain. After spring preparation, it stays crumbly and workable without becoming hard and crusted. It should have enough minerals for optimum growth, and the pH should be between 6.2 and 6.8.

Few sites available for the home vegetable garden will match the ideal in all respects. However, most soils can be modified to provide more favorable growing conditions. Soil improvement is really a long-term process, often taking several years. The poorer the soil, the longer it will take to get optimum production from it. However, vegetable crops will tolerate variable soil conditions and still produce fairly well.

After a fertile garden is established, continue amending the soil so that it will stay fertile and workable. Since most gardens must be in the same location year after year, building up a rich soil is essential.

The Soil Test

After deciding on your garden site, take a soil sample and have it tested, preferably in October or November. Use the soil test as a guide as you try to establish a satisfactory fertility level. The standard test measures soil acidity (pH), available phosphorus, potassium and, if requested, calcium, magnesium and zinc. The test results help determine fertilizer and lime requirements.

To take a soil sample, push a spade 7 inches into the soil and throw the soil aside. Take another 1-inch slice of soil from the back of the hole the full depth of the hole. Remove all the soil but the center 1- to 2-inch-wide core. Place this core of soil in a clean bucket (Figure 1).

Repeat the procedure in different spots to get a representative sample of the whole garden and to get about 1 pint of soil. Mix the composite sample well and put it on some paper to dry for about two days at room temperature. Then take it to your county Extension office to submit for analysis. The cost of the soil test, which varies with the number of elements tested, will be returned to you many times over in savings of fertilizer and in the production of high yields and quality produce.

Soil pH—Why Is It Important?

The term pH stands for the relationship of hydrogen ions (H⁺) to hydroxyl ions (OH⁻). A soil pH reading indicates on a logarithmic scale the concentration of ions held to soil particles and organic matter. A pH scale ranges from 0 to 14, with pH 7.0 being neutral. Readings below 7.0 indicate a soil is “acid,” and readings above 7.0 indicate “alkaline” soil conditions. Most of the plants we grow in our home gardens require a soil which is slightly acid.

The soil's pH is very important because it directly affects soil nutrient availability (Figure 2). Plant roots can only absorb nutrients after they have been broken down into certain ion forms. Only at certain pH ranges can sufficient amounts of these nutrients be broken into these ion forms. When the soil's pH is out of this range, the nutrients are “tied up in the soil.” By adjusting the pH, we make sure that the plants we grow can use the fertilizers and available nutrients in the soil to their fullest potential. Most vegetables in a garden prefer growing in soil with a pH between 6.2 and 6.8.

Autumn is an excellent time to have your soil tested. You can then make any adjustments of pH needed with limestone or sulfur applications. Also, getting test results in the fall helps you plan your fertilizing needs for the coming year's garden. Contact your Cooperative Extension office about soil testing.

Figure 1. Taking a soil sample.

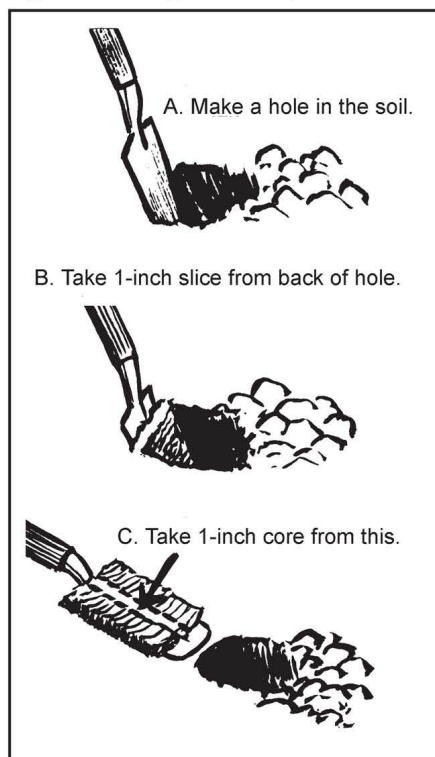


Figure 2. Effect of change in pH on the availability of plant nutrients.

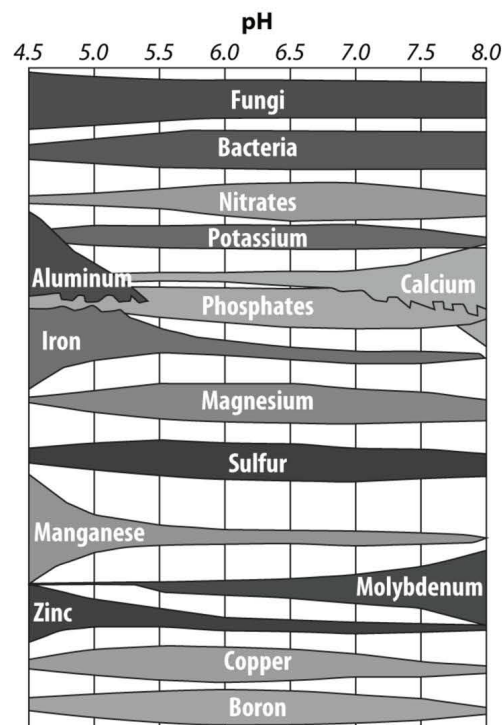


Table 2. Rate (lb/1000 sq ft)¹ of agricultural limestone needed to raise soil pH to 6.4.

Water pH of Sample	Buffer pH of Sample								If Buffer pH is Unknown
	5.5	5.7	5.9	6.1	6.3	6.5	6.7	6.9	
4.5	320	300	280	250	220	180	150	130	180
4.7	320	300	280	240	200	170	140	120	170
4.9	310	290	260	230	190	150	130	110	160
5.1	310	290	260	220	180	130	100	80	150
5.3	300	280	240	210	160	120	90	70	130
5.5	290	270	230	190	140	100	70	60	120
5.7	280	260	220	170	120	90	60	50	100
5.9	---	240	200	150	100	80	50	40	80
6.1	---	---	180	120	80	60	40	40	60
6.3	---	---	---	90	60	40	40	30	40

¹ See AGR-1 for limestone rates needed expressed in Tons/Acre.

Adjusting pH

If soil test results indicate that your soil's pH falls out of the ideal range of 6.2 to 6.8, you may need to add lime or sulfur, depending on your soil's pH value. If the pH is too low, then your soil is too acid and you should either add calcitic or dolomitic limestone (Table 2). If the pH value is too high, your soil is too alkaline and you need to add sulfur (Table 3). Applying lime or sulfur in the fall before planting is best because you have a longer soil reaction time. Lime rates shown in Table 2 are in terms of agricultural limestone. By regulation in Kentucky, aglime must have a purity equivalent to 80% or higher pure calcium carbonate.

It must be ground finely enough so that 90% will pass through a 10-mesh screen and 35% will pass through a screen size of 50-mesh. The purity (% calcium carbonate equivalent) is an index of the amount of active ingredient per unit weight, while particle size of the liming material is an index of how rapidly the material will dissolve when mixed with soil. The more finely ground the liming material, the faster it dissolves.

Use of Wood Ashes

Wood ashes have some use as a liming material, although they are relatively scarce. Their rather low neutralizing value ranges from 30% to 70%, ex-

Table 3. Suggested application of ordinary powdered sulfur to reduce the pH of an 8-inch layer of soil, as indicated in pt/100 sq ft.¹

Original pH of Soil ²	Pints of sulfur for 100 sq ft to reach pH of:									
	4.5		5.0		5.5		6.0		6.5	
	Sand	Loam	Sand	Loam	Sand	Loam	Sand	Loam	Sand	Loam
5.0	2/3	2	---	---	---	---	---	---	---	---
5.5	1 1/3	4	2/3	2	---	---	---	---	---	---
6.0	2	5 1/2	1 1/3	4	2/3	2	---	---	---	---
6.5	2 1/2	8	2	5 1/2	1 1/3	4	2/3	2	---	---
7.0	3	10	2 1/2	8	2	5 1/2	1 1/3	4	2/3	2

¹ Although aluminum sulfate often is recommended to gardeners for increasing the acidity of the soil, it has a toxic salt effect on plants if it is used in large amounts. Small amounts are not very effective. About seven pounds of aluminum sulfate are required to accomplish the same effects as one pound of sulfur.

² Based on water pH value.

pressed as calcium carbonate. The ash of hardwoods, such as maple, elm, oak and beech, contains about one-third more calcium mainly as the oxide, but, on exposure to moisture, they are largely in the carbonate form by the time they are applied to soil.

Coal ash has little or no liming value. Do not use it on garden soils because it contains a fairly high concentration of heavy metals and other toxic compounds which may be taken up by the plants.

For organic gardeners, only powdered or prilled elemental sulfur can be used for lowering pH, while aluminum sulfate, a synthetic product, is not allowed. Powdered sulfur should take at least one year to oxidize and reduce soil pH, and prilled sulfur will take slightly longer. Organic growers should be conservative in the application of soil sulfur by splitting the total application between the fall and spring as sulfur has both fungicidal and insecticidal action and can detrimentally affect soil biology if overused. Organic gardeners can use any type of agricultural limestone to increase pH.

Master Gardener Seed Starting Workshop

Hands-on seed starting along with information on how to maintain good early growth and successfully transplant to your outside garden!

\$10
registration
fee

*Registration required,
limited participants!*

Saturday, March 9th at 10 a.m.

Pike County Extension Office

148 Trivette Dr. in Downtown Pikeville, KY

To register call (606) 432-2534 or email
emilydavis00@uky.edu

Stay tuned for more upcoming Master Gardener Workshops!

Helpful Herders: Three Brief Herding Dog Histories

Dogs have been used in agricultural capacities for thousands of years

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This Border Collie is taking part in a herding contest. The first herding trial is believed to have been in 1873 in Wales as a competition testing herding dogs' abilities. (moonjazz, Public Domain via Flickr)

GREENWICH, N.Y. — Dogs are everywhere. From busy cities to sparsely populated towns you can find “man’s best friend.” The farm is no exception. Dogs can be found happily cruising in the back of pick-up trucks, inspecting barnyards, or dutifully protecting the farmhouse. One of roles that dogs have played in agriculture is helping farmers and ranchers herd livestock. Read on to learn a little bit about the history of some famous herding dog breeds.

To begin, dogs have been used in agricultural capacities for thousands of years. Ancient Mesopotamians used dogs for guard purposes and later the Ancient Greeks and Romans used dogs for guarding livestock and hunting. Dogs also appear in artwork and written sources in ancient Egypt, China, India, and Mesoamerica, though not always in agricultural uses.

As time went on dogs continued to be used for various needs and were bred in specific ways to fulfill certain needs. In the field of agriculture droving and herding became jobs that dogs fulfilled. Droving dogs helped move livestock from fields to markets. Working from the back of

flocks, these dogs helped handlers keep big herds of livestock moving throughout the course of their journeys. Breeds like the Rottweiler and the Old English Sheepdog originated to serve this purpose. Herding dogs were faster and more agile and used to help corral and move cattle or sheep that could be scattered over acres of land on a farmer's property.

While there are many herding breeds to choose from, below are brief histories of three recognizable herding dog breeds.

Border Collie

Perhaps the most famous of herding dogs, the Border Collie originated in the British Isles. In 43 A.D. the Romans invaded Britain and would eventually come to control what is present-day England and Wales until 410 A.D. As the Romans moved into the region, they brought their agricultural practices with them including their larger herding dogs.

After the fall of Rome, the next major invasion of the region came by way of the Vikings beginning in 793. At first, the Vikings just plundered places and returned to their home region of Scandinavia, but eventually they started to settle the area bringing their dogs with them. The Vikings were owners of small spitz dogs, comparable to today's Norwegian Buhund and Icelandic Sheepdog which are believed to be Viking-descended dogs. These herding dogs were smaller, nimbler, and faster than the Roman variety of herding dog. Centuries of cross breeding between the Roman and Viking dogs eventually created Border Collies and other collies. These dogs had the frame and agility to handle the rugged highlands of England, Scotland, and Wales.

The name Border Collie is thought to be derived from two sources. The word "collie" is a Gaelic word meaning "useful." The moniker was given to anything that proved to be that, including the dogs which helped farmers handle their large herds. The "border" part of the name likely came from the Northumberland region which sits along the border of England and Scotland and was a region where these dogs were abundant. In addition to their speed and dexterity, the Border Collie became a premier herding dog due to its unique technique of moving livestock with their eyes. Border Collies stare at livestock to get them to move in a direction that they want them to go, in addition to running in sweeping motions to round up animals. This innate herding ability made them appealing and essential to livestock farmers.

The Border Collie as we know it today can trace its lineage back to a single dog named Old Hemp who was born in 1893. Bred by a man named Adam Telfer, Old Hemp possessed an intense focus and herded sheep quietly, unlike many herding dogs at the time which relied on their bark to move animals. Because of Old Hemp's agreeable nature and herding abilities, he was bred greatly fathering 200 offspring throughout his life. He is considered the founding sire of the breed. Still commonly used on farms through the 18th and 19th centuries, farmers started putting on friendly competitions to test their border collies' and other dogs' skills in events called "herding trials." The first event was held in Wales in 1873. In 1906 the International

Sheep Dog Society was founded and held large events to determine the best sheep dog in the world. By that time Border Collies had spread outside the farm becoming popular amongst a wider range of the populace thanks in part to Queen Victoria who became fond of the breed and owned many Border Collies throughout her life. The breed eventually made its way to the U.S. and other countries sharing its herding expertise in other parts of the world. Today, the breed remains popular for work and companion purposes and is considered to be one of the most intelligent dog breeds.

Australian Shepherd

Despite its name, the Australian Shepherd is considered an American dog! Known for its energy, intelligence, herding abilities, naturally docked tail and characteristic blue and red merle coats the Australian Shepherd's origins remain under debate. The prevailing theory holds that Australian Shepherds trace their roots to the Pyrenees Mountains that separate France and Spain. This region was and still is home to the Basque people who became expert shepherds working in the mountainous and wooded region. Alongside these shepherds were often Pyrenean Shepherd dogs.



Ranch hand Kyle Conlin and his Australian Shepherd herd cattle for grazing in the Gravelly Mountain Range, Montana in this photo from 2018. (USDA, Public Domain)

In the 19th century many Basque people immigrated to other parts of Europe, the U.S. and Australia. For those that went to Australia, many worked as shepherds in the sheep industry which was growing in the country. Bringing their dogs with them, Pyrenean dogs comingled with British herding dogs like collies leading to a dog close to the Australian Shepherd. In the late 1800s and early 1900s the west coast of the U.S. became a popular spot for raising sheep and flocks of sheep were shipped from Australia to the United States. Coming with these flocks were Basque shepherds and their dogs.

Assuming these dogs originated in Australia since that is where they were coming from, American ranchers started calling them Australian Shepherds and the name has stuck ever since. In the U.S. the breed continued to develop into what it is today while working sheep and cattle in the American west. The dogs became the companion of cowboys on ranches and were popular as performers at rodeos.



This blue heeler, Australian cattle dog, named Koda lives at the Kindness Ranch Animal Sanctuary, near Hartville, Wyoming. (Library of Congress)

Australian Cattle Dog

Also called the Blue Heeler and the Queensland Heeler, the Australian Cattle Dog came about from breeding efforts in Australia in the early 1800s. In the 1820s British Australians started to settle grassland areas that are found on parts of inland Australia. This was ideal pastureland for beef cattle production and the Australian cattle industry was started around this time. However, the English-descended herding dogs that were using had difficulty adjusting to the hot and dry climate of the continent and handling the untamed Australian cattle that ranchers raised.

Breeding efforts commenced to solve this issue and in 1825 breeder Thomas Simpson Hall was able to cross an English cur with the Australian dingo. This combination produced a dog with the herding abilities of the cur with the grit of the dingo. The dog was called Hall's Heeler and became the foundation for the Australian Cattle Dog. Other developments in the breed occurred a little later through the work of breeder George Elliot who bred collies and dingoes. Using Elliot's cattle dogs two brothers named Jack and Harry Bagust added dalmatian to the mix to create an Australian Cattle Dog that closely resembles what is known today.

Sporting a unique double coat that featured a variation of patches of blue, red, tan, or black, the Australian Cattle Dog was comfortable around humans and horses, able to herd the wild cattle, and work well in the climate satisfying the needs of Australian ranchers. The dogs are sometimes called "heelers" because they often bite at the heels of difficult cattle to help them move. The breed is still used on ranches in Australia and other parts of the world today. In fact, the breed may be more recognizable today thanks to the popular children's television show *Bluey* which is about a family of Australian Cattle Dogs.

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Winter weather pushes livestock cold stress into emergency category

Animals have a higher requirement for energy in the colder months.

By Aimee Nielson, Published on Jan. 6, 2022

Livestock producers should make sure animals have adequate shelter, water, dry bedding and feed to make it through cold periods.

LEXINGTON, Ky.— It took longer for winter to truly arrive this year, but it's making up for lost time with a blast of measurable snow across much of Kentucky. With significant accumulations expected and temperatures dipping into the single digits and low- to mid-teens, conditions will push the livestock cold stress index into the emergency category.

"The combination of cold air and wind create wind chills that cause dangerous and emergency-category periods of livestock cold stress," said Matt Dixon, agricultural meteorologist for the University of Kentucky College of Agriculture, Food and Environment's Ag Weather Center. "The wind chills for the overnight of Jan. 6 into Jan. 7 will be near or below zero in many areas."

Livestock producers should make sure animals have adequate shelter, water, dry bedding and feed to make it through cold periods. Pet owners should bring pets indoors. Animals have a higher requirement for energy in the colder months, which means they need high-quality grains and forages.

"The average horse, with a lower activity level, should eat between 1.5% and 2% of its body weight in feed per day to maintain its weight," said UK equine specialist Bob Coleman. "That feed requirement goes up in the winter, as horses use more calories to keep warm."

He recommended providing extra hay and making sure horses have shelter to get out of windy, damp weather. Horses must have access to clean, unfrozen water. Coleman said to check often to make sure water sources are open. A decrease in water intake affects dry matter intake.

Ambient temperatures can impact the amount of dry matter cattle eat, providing an opportunity to compensate for increased maintenance energy needs. Producers either need to increase their animals' feed intake or increase the energy density of the diet by feeding higher quality hay or adding more grain or fat to the grain mix, UK beef specialist Jeff Lehmkuhler said.

Lehmkuhler recommended that producers continue to monitor cows during the wintertime and make sure to maintain the animals' body condition.

"Poor quality hay may not provide adequate energy to maintain gestating cows that are entering the third trimester," he said. "Consider having the hay tested to determine if you need to supplement during times of possible cold stress, especially for the enduring cold spells."

Producers should consider separating younger and thinner cows that may not have the same internal insulation as conditioned older cows and supplement them accordingly or offer them higher quality forage if available. Coleman said equine owners can employ similar strategies and separate animals according to body condition score.

"Producers should move cows to fields with natural windbreaks or provide man-made windbreaks, which are not the same as a barn," Lehmkuhler suggested. "Poorly managed barns combined with poor ventilation may actually hamper efforts to improve the environmental conditions. Energy or calories are critical. If the protein level in the forage is adequate, do not make supplement decisions based on protein level; rather purchase the most affordable calories. Stay warm and keep the waterers flowing." The hair coat acts like home attic insulation—trapping air and enhancing the insulating value. Wet, muddy hair reduces insulating value and increases heat loss.

As little as 0.1 inch of rain can immediately impact cold stress severity by matting the hair down reducing its insulating ability. Acclimation time, hide thickness, fat cover and other factors will also influence the degree of cold stress that animals experience.

The lower critical temperature value for cattle is the lowest temperature or wind chill at which no additional energy is required to maintain core body temperature.

“As the temperature declines below this lower critical value, the maintenance energy value for the animal is increased to maintain core body temperature,” he said. “Animals maintain core body temperature by increasing their metabolism, resulting in greater heat production, as well as other heat conservation strategies, such as reducing blood flow to the extremities, shivering and increased intake.”

Lehmkuhler said both external and internal insulation influences the lower critical temperature. External insulation is the depth and thickness of the hair coat, condition of the hair coat and thickness of the hide. Thin-hided breeds such as some dairy cattle tend to have a lower insulating factor than thick-hided breeds like Herefords. The condition of the hair coat is extremely important as an external insulation barrier. Dairy producers should make sure cows’ teats are dry before turning animals out when temperatures fall below 25 degrees Fahrenheit.

“If you turn out an animal with a wet udder or teats, frostbite is almost a certainty,” said Michelle Arnold, UK extension veterinarian. “Treat signs of frostbite immediately, since damage to the teat ends can quickly lead to damage of the keratin seal and that can allow mastitis-causing bacteria to enter the udder.”

The key is to give animals a draft-free place to get out of the wind during extreme wind chill conditions.

“The challenge is to make that space available and still provide enough ventilation to allow fresh air to circulate,” she said.

Dry bedding is also very important. If cows, goats or sheep lie in wet bedding, frostbite is a big risk. Producers also need to make sure the animals’ hair coats are kept dry and as clean as possible.

“Perhaps the most important thing producers can do is to take care of themselves in extreme cold,” Arnold said. “If you get into trouble, you can’t be the caregiver your livestock need. Keep an extra set of clothes and a blanket in the truck. An extra pair of dry boots is a great plan as well.”

Dixon said this event will be a short round of extreme cold with a warmup expected over the weekend. “It’s a good practice run for our farmers and livestock producers to make sure they are ready for another blast,” he said. “Even with the warmup, we’re expecting another rainfall event right on the heels of this snow event that could lead to minor flooding.”

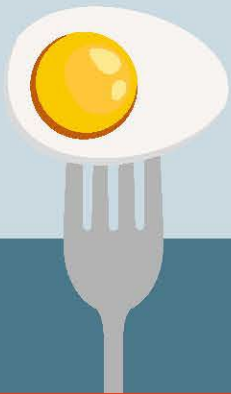
WINTERIZE Your Home



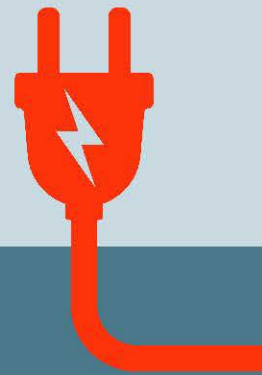
*Your home isn't the only one that can be winterized.
Your neighbors and those most vulnerable might need your help too!*

weather.gov





Eat Safe Food after a Power Outage



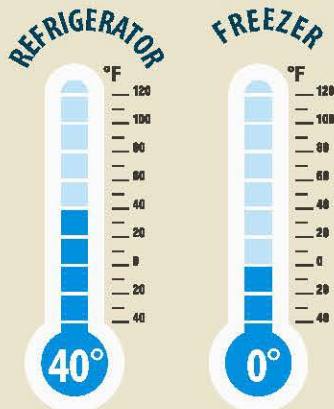
Refrigerated or frozen foods may not be safe to eat after the loss of power. Find out what you can do to keep food safe during a power outage, and when you need to throw away food that could make you sick.

Before

Keep appliance thermometers in your refrigerator and freezer.

The refrigerator should be at 40°F or below.

The freezer should be at 0°F or below.

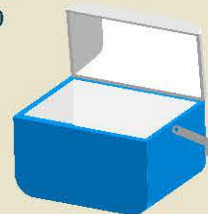


Prepare for emergencies or natural disasters



Freeze containers of water and gel packs to help keep your food at 40°F or below.

Have a cooler handy.



Buy dry ice or block ice to keep food cold in the refrigerator if the power might be out for a long time.

During

KEEP
Refrigerator
& Freezer Doors
CLOSED



4
Hours
in a
Refrigerator



48
Hours
in a
FULL
Freezer



24
Hours
in a
HALF-FULL
Freezer

After 4 hours without power, put refrigerated perishable foods in a cooler. Add ice or another cold source to keep them at 40°F or below.

After

Never taste food to determine if it is safe to eat. When in doubt, throw it out.

- **Throw out perishable food** in your refrigerator (meat, fish, cut fruits and vegetables, eggs, milk, and leftovers) **after 4 hours without power** or a cold source.
- Throw out any food with an **unusual odor, color, or texture**.
- **Check temperatures of food** kept in coolers or your refrigerator with a cold source. Throw out food above 40°F.
- If you have an appliance thermometer in your freezer, check to see if it is still at 40°F or below.
- You can **safely refreeze or cook** thawed frozen food **that still contains ice crystals** or is at 40°F or below.



www.cdc.gov/foodsafety

BE PREPARED FOR A POWER OUTAGE

Extended power outages may impact the whole community and the economy.



FEMA

FEMA V-1008/May 2018

A power outage is when the electrical power goes out unexpectedly.



May disrupt communications, water, transportation



May close retail businesses, grocery stores, gas stations, ATMs, banks, and other services



Can cause food spoilage, water contamination



Can prevent use of medical devices

PROTECT YOURSELF DURING A POWER OUTAGE

Keep freezers and refrigerators closed.



Disconnect appliances and electronics to avoid damage from electrical surges.

Only use generators outdoors and away from windows.



Use alternate plans for refrigerating medicines or power-dependent medical devices.

Do not use a gas stove to heat your home.



If safe, go to an alternate location for heat or cooling.



Check on neighbors.

HOW TO STAY SAFE WHEN A POWER OUTAGE THREATENS

Prepare NOW

Take an inventory now of the items you need that rely on electricity.

Talk to your medical provider about a power outage plan for medical devices powered by electricity and refrigerated medicines. Find out how long medication can be stored at higher temperatures and get specific guidance for any medications that are critical for life.

Plan for batteries and other alternatives to meet your needs when the power goes out.

Sign up for local alerts and warning systems. Monitor weather reports.

Install carbon monoxide detectors with battery backup in central locations on every level of your home.

Determine whether your home phone will work in a power outage and how long battery backup will last.

Review the supplies that are available in case of no power. Have flashlights with extra batteries for every household member. Have enough nonperishable food and water.

Use a thermometer in the refrigerator and freezer so that you can know the temperature when the power is restored.

Keep mobile phones and other electric equipment charged and gas tanks full.

Survive DURING

Keep freezers and refrigerators closed. The refrigerator will keep food cold for **about four hours**. A full freezer will keep the temperature for **about 48 hours**. Use coolers with ice if necessary. Monitor temperatures with a thermometer.

Use food supplies that do not require refrigeration.

Avoid carbon monoxide poisoning. Generators, camp stoves, or charcoal grills should always be used outdoors and at least 20 feet away from windows. Never use a gas stovetop or oven to heat your home.

Check on your neighbors. Older adults and young children are especially vulnerable to extreme temperatures.

Go to a community location with power if heat or cold is extreme.

Turn off or disconnect appliances, equipment, or electronics. Power may return with momentary “surges” or “spikes” that can cause damage.

Be Safe AFTER

When in doubt, throw it out! Throw away any food that has been exposed to temperatures 40 degrees or higher for two hours or more, or that has an unusual odor, color, or texture.

If the power is out for more than a day, discard any medication that should be refrigerated, unless the drug’s label says otherwise. If a life depends on the refrigerated drugs, consult a doctor or pharmacist and use medicine only until a new supply is available.

Take an Active Role in Your Safety

Go to **Ready.gov** and search for **power outage**. Download the **FEMA app** to get more information about preparing for a **power outage**.





BE PREPARED FOR A WINTER STORM

Winter storms create a higher risk of car accidents, hypothermia, frostbite, carbon monoxide poisoning, and heart attacks from overexertion.



FEMA

FEMA V-1014/June 2018

Winter storms and blizzards can bring extreme cold, freezing rain, snow, ice, and high winds.



Greater risk



Can last a few hours or several days



Can knock out heat, power, and communication services

IF YOU ARE UNDER A WINTER STORM WARNING, FIND SHELTER RIGHT AWAY

Stay off roads.



Use generators outside only.

Stay indoors and dress warmly.



Listen for emergency information and alerts.

Prepare for power outages.



Look for signs of hypothermia and frostbite.



Check on neighbors.

HOW TO STAY SAFE WHEN A WINTER STORM THREATENS



Know your area's risk for winter storms. Extreme winter weather can leave communities without utilities or other services for long periods of time.

Prepare your home to keep out the cold with insulation, caulking, and weather stripping. Learn how to keep pipes from freezing. Install and test smoke alarms and carbon monoxide detectors with battery backups.

Pay attention to weather reports and warnings of freezing weather and winter storms. 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.

Gather supplies in case you need to stay home for several days without power. Keep in mind each person's specific needs, including medication. Do not forget the needs of pets. Have extra batteries for radios and flashlights.

Create an emergency supply kit for your car. Include jumper cables, sand, a flashlight, warm clothes, blankets, bottled water, and non-perishable snacks. Keep the gas tank full.

Learn the signs of and basic treatments for frostbite and hypothermia. For more information, visit: www.cdc.gov/disasters/winter/staysafe/index.html.



Stay off roads if at all possible. If trapped in your car, stay inside.

Limit your time outside. If you need to go outside, wear layers of warm clothing. Watch for signs of frostbite and hypothermia.

Avoid carbon monoxide poisoning. Only use generators and grills outdoors and away from windows. Never heat your home with a gas stovetop or oven.

Reduce the risk of a heart attack. Avoid overexertion when shoveling snow.

Watch for signs of frostbite and hypothermia and begin treatment right away.

Check on neighbors. Older adults and young children are more at risk in extreme cold.



Frostbite causes loss of feeling and color around the face, fingers, and toes.

- **Signs:** Numbness, white or grayish-yellow skin, and firm or waxy skin.
- **Actions:** Go to a warm room. Soak in warm water. Use body heat to warm. Do not massage or use a heating pad.

Hypothermia is an unusually low body temperature. A temperature below 95 degrees is an emergency.

- **Signs:** Shivering, exhaustion, confusion, fumbling hands, memory loss, slurred speech, and drowsiness.
- **Actions:** Go to a warm room. Warm the center of the body first—chest, neck, head, and groin. Keep dry and wrapped up in warm blankets, including the head and neck.

Take an Active Role in Your Safety

Go to **Ready.gov** and search for **winter storm**. Download the **FEMA app** to get more information about preparing for a **winter storm**.



Upcoming Events

February	March	April	May
5 th -Beekeepers	4 th -Beekeepers	1 st -Beekeepers	6 th -Beekeepers
9 th -CFA FM Annual Gathering	9 th -MG Seed Starting Workshop	6 th -Appalachian Heritage Annual Seed Swap	9 th -Master Gardener meeting
16 th -17 th - EKY Farmers Conference	12 th -Appalachian Roots	11 th -Double Dollars Training	14 th -Appalachian Roots meeting
24 th -EKWRHA Annual Meeting & Banquet	12 th -EKWRHA Meeting	16 th -Double Dollars Training	14 th -EKWRHA meeting
27 th -Master Logger Class	14 th -MG meeting	17 th - Hosting D1 ANR	18 th -Master Gardener Garden in a Pot Workshop
	23 rd -MG Grafting & Pruning Class	24 th -Hosting CAIP Training for Eastern Kentucky	
To be scheduled soon			
FM Safety Training	Home Based Processing	CAIP training for farmers	Queen Breeding Workshop
MG Tour	Grafting/Pruning	Shiitake Workshop	Wine Cap Workshop

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