

Forsyth Field Notes

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Forsyth County Cooperative Extension News

Hibernation is one strategy for coping with winter

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Winter officially started with the winter solstice in late December, but the lead-up to the season arguably begins in June. That's when the summer solstice marks the day of the year with the longest span of daylight. After the summer solstice, the time between sunrise and sunset gets a little shorter each day, until we hit the winter solstice, which is the shortest day of the year.

Those short days seem to sap my energy away, and cold winter nights make me want to huddle up under blanket with a cup of hot chocolate. These seasonal changes also affect plants and wildlife.

Winding down for winter

Shortening daylength and falling temperatures, signal many living creatures to make changes to help them survive the winter. Some plants slow growth and production to enter dormancy. Some birds, insects, fish, and marine mammals migrate to warmer habitats. And some insects, reptiles, and mammals hibernate at greater or lesser levels.

Hibernation is a winter coping strategy that helps animals conserve energy to survive cold weather and the loss of food resources. During the inactivity of hibernation, animals experience a reduction in metabolism, heart rate, and body temperature. This state may last for weeks in some species, while other species merely enter a state of daily torpor that lasts for several hours.

True hibernators tend to be animals that rely on stored body fat or stored food reserves to supply energy needs. The deep metabolic reductions don't persist for the duration of the season, however. Hibernating animals rouse periodically, sometimes eating stored food, and sometimes just elevating body temperature, perhaps to ward off hypothermia.



Some animals and insects use hibernation or daily torpor as a strategy to survive cold temperatures and reduced food resources of winter. [This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

Animals that cope with winter through daily torpor continue to forage for food outside of their dens, tunnels, or nests. These animals tend to be smaller mammals that can't build up stores of body fat as well as larger hibernating mammals such as bears.

In mild climates and during milder winters, animals utilize hibernation and daily torpor less than they do in harsher conditions. That's because the ambient temperature is warmer, and food is still generally available in the environment.

How animals hibernate

Bears give birth and care for their cubs during winter hibernation. Our North Georgia black bears enter a deeper torpor than their cousins in South Georgia do, but they still don't hibernate as deeply as [bears in Minnesota](#) do.

Diminutive bog turtles hibernate in groups or singly in borrowed mammal burrows, grassy tussocks, or mucky soil.

Throughout the fall, chipmunks gather and store nuts and seeds in their burrows to help sustain them during breaks in their winter torpor. On warmer winter days, they may emerge from their burrows to forage for food to resupply their pantries.



On warmer winter days, chipmunks will emerge from torpor and forage for nuts and seeds to resupply food stores. [This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Groundhogs are famous hibernators – or rather, famous for emerging from their dens in February after concluding their hibernation. Unlike chipmunks, groundhogs (also known as woodchucks) don't store food for the winter. They can use up as much as 50 percent of their body weight during hibernation.

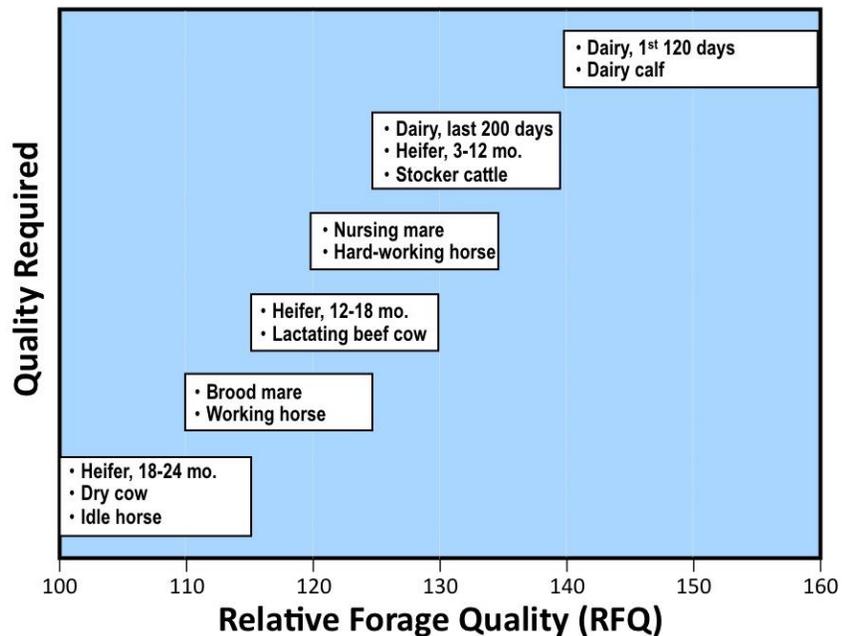
Mosquitoes utilize a type of hibernation called diapause to survive the winter. They can't function at temperatures below 50° F, but they can resume activities – including biting – on those pleasant winter days above 50° F that we've been experiencing. Wasps and some other insects also use diapause to help them overwinter.

Some species of frogs hibernate under water, resting on the bottom of ponds or streams and relying on the water to insulate them from freezing temperatures. In Canada and Alaska, however, [wood frogs actually survive the winter as frozen specimens](#). Ice crystals form around internal organs, but infusions of glucose from the frog's liver to its cells keep the individual cells from freezing and rupturing.



Wood frogs actually freeze during winter hibernation. Photo courtesy of the National Park Service.

A UGA lab analysis of a forage sample provides information about crude protein, total digestible nutrients, and fiber. That information is then distilled into one measure, Relative Forage Quality. RFQ helps you compare the nutrient value of different lots of forage and gives you an initial indication as to whether or not that forage will be a cost-effective base for a ration that will meet the energy needs of your animals.



Forage analysis starts with a good, [representative sample](#) of the hay or silage you plan to feed your livestock.

Animals at higher production levels have higher energy requirements, which are best met by feed and forage with a high relative forage quality. Image adapted from Undersander et al., 2011.

Because weather, maturity, and fertility influence the nutrient content of forage, it's a good idea to sample each lot, or separate cutting, even if they're taken from the same field.

Need help collecting your forage sample or understanding your analysis report? Please call our office at 770-887-2418.

Apply pre-emergent herbicide now to reduce lawn weeds later

At the Extension Office, we've lately been receiving calls and emails from people with questions about applying pre-emergent herbicides to their lawns. What kind of pre-emergent herbicide should I use? Should I apply it now? What about fertilizer?

As always when dealing with ecosystem matters, the answer is, "It depends." Things to consider include the grass species, soil temperatures, your equipment, and your lawn goals.

When to apply pre-emergent herbicide

A pre-emergent herbicide acts on plant seeds to halt the germination process. That's why it's important to apply the product to the lawn area before the season of growth begins. Simply stated, we have two seasons for annual weeds: cool season and warm season. Cool season (winter) weeds grow from late fall to early spring, and warm season



Timely applications of pre-emergent herbicide help keep lawns weed-free.



(summer) weeds grow from late spring to early fall. To control both, established lawns need a pre-emergent herbicide application twice each year.

Because warm season weeds can begin germinating when soil temperatures warm to 55° Fahrenheit, the window for applying a pre-emergent herbicide to prevent summer weeds is late-February to mid-March. To control winter weeds in North Georgia, apply a pre-emergent as early as late August but before the end of September. Pre-emergent herbicides continue working in the soil for several weeks. You can check soil temperatures in your area through the [Georgia Weather Network](#).

When NOT to apply pre-emergent herbicide

Since pre-emergent herbicides have long residual activity that effectively halts germination of all types of seeds, you'll need to carefully consider the timing of application – or forego it altogether – if you're planning to reseed or over-seed your lawn. Most pre-emergent herbicide products also caution users not to apply the product to newly or recently sprigged lawns.

Which pre-emergent herbicide should I use?

As with post-emergent herbicides, the pre-emergent product you use depends on the species of lawn grass you're growing. Certain active ingredients can damage some types of turfgrass. Refer to the [Georgia Pest Management Handbook, Homeowner Edition](#) for weed control product recommendations for different types of lawns.

Also consider the type of equipment you have available to apply the herbicide, as well as the size of your lawn. Pre-emergent products come in both granular and liquid forms. The [Georgia Pest Management Handbook](#) shows the form of each product, the application rate per 1,000 square feet of lawn, and other information such as allowable frequency of application and recommended interval between applying the herbicide and reseeding the lawn.

When using herbicides and other pesticides, always follow the directions that are printed on the product label. Application rates are legal limits that encompass the minimum amount at which the product is effective and the maximum amount at which the product is safe to use for you, your plants, and the environment. Also use the specified personal protection equipment indicated on the label of each product.

To fertilize or not to fertilize

“Weed and feed” products offer the convenience of preventing weeds and fertilizing lawns at the same time. But the combination isn't always timely.

Lawn grasses and other plants should only be fertilized when they're actively growing. If your lawn is tall fescue, a cool season grass, a weed and feed type of pre-emergent herbicide is fine to use in February-March, because tall fescue also needs fertilizer (the “feed” part) at that time. For the late summer application of pre-emergent herbicide, however, it's still a little early to fertilize fescue.

For warm-season turfgrasses such as bermudagrass, zoysiagrass, and centipedegrass, weed-and-feed products are never a good idea. Active growth of these lawns begins in April or May, well



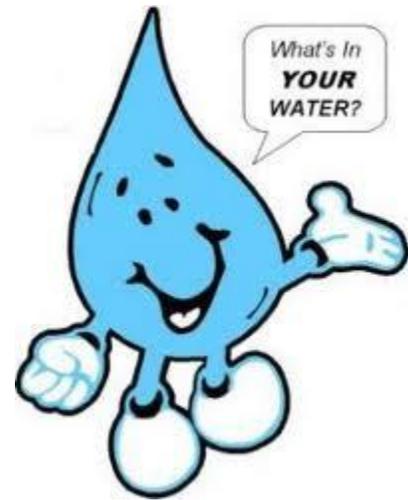
after the fertilizer has left the root zone. In late summer, warm-season grasses need to prepare for winter dormancy. Applying fertilizer at that time disrupts that process, and it can set up conditions for Spring Dead Spot in the following year.

You can find lawn care calendars for the different types of lawn grasses on the [Forsyth County Extension website](#).

Let's test: Recommended annual tests for well water

If your drinking water comes from a private well, UGA and CDC recommend annual testing to assure quality and safety. The recommended tests for wells throughout the state are the basic test (W-1) to determine pH and levels of dissolved minerals, a test for bacterial contamination (W-35), a test for total nitrates and nitrites (W-32), and testing of color (W-30) and turbidity (W-31).

In addition, for well owners in North Georgia, we recommend testing for radon. Radon is a colorless, odorless, and tasteless gas that comes from broken-down uranium in the granite bedrock of Georgia. It occurs naturally, but when it seeps into well water or the air in homes, it presents a health hazard. In the past few months, several Forsyth County wells have tested positive for radon. Fortunately, you can remove radon from your home – but only if you know it's there. That's why we're encouraging everyone to take action and test their homes and wells for radon using a kit available through your county Extension office. [Learn more](#).



Along with annual testing, inspect your wellhead frequently for damage and distance to potential sources of contamination, such as manure piles, septic tanks, and stored chemicals.

Learning with Extension – Events and Opportunities

Getting the Best of the Pests – March 13, 8:15-10:30 a.m.

Webinar for Green Industry professionals. Pesticide applicator CEUs awarded.

Session 1 (8:30-9:30) – Insect and Fungal Pests in Urban Trees, presented by Dr. David Coyle, Department of Forestry and Environmental Conservation, Clemson University

1 CEU in Categories 21, 23, 24, or Private

Session 2 (9:30-10:30) – Getting to the Root of Urban Tree Health, presented by Dr. Barbara Fair, Department of Horticulture, North Carolina State University

1 CEU in Categories 23 or 24

[Register here](#) and view from the comfort of your home or office.

Pasture Renovation Workshop using Novel Tall Fescue – March 15, 8:30 a.m. - 5 p.m., Calhoun



This workshop will provide you with the tools and information you need to renovate toxic tall fescue pastures and establish novel-endophyte tall fescue varieties. Register online at <http://bit.ly/TallFescueRenovationWorkshop>. For more information, contact Cathy Felton at 706-310-3464 or feltonc@uga.edu

Cloverleaf Project Achievement (CPA)

CPA is a great opportunity for 4th-6th graders to practice and build their public speaking skills. 4-H'ers create a 3-5 minute presentation on just about any topic that they find interesting and present it for judges. They are scored on presentation skills and accuracy of information. Anyone placing first, second, or third in their category will have the chance to compete at District Project Achievement (DPA) on Saturday, March 23rd in Douglasville, GA. From Douglasville, all competitors can come to a free overnight trip to Fortson 4-H Center where we will have a night full of recreation and activities, including a dance, and will spend Sunday morning taking hands-on environmental education classes before returning home at lunchtime. For more information or to register, contact Mr. Jack at jlowery2@uga.edu.

Date: Tuesday, March 5th | Time: 6:00pm-8:00pm
Location: Shiloh Point Elementary School
8145 Majors Road Cumming

4-H Poultry Judging

If you want to learn about chickens, egg production, and the poultry industry, then this is the right competition for you! Work together as a team and compete against other counties in Georgia 4-H. The first weekly practice is Thursday, March 7th, and the season ends at the area contest on April 23rd. Email Mr. Jack at jlowery2@uga.edu for more information about Poultry Judging or to sign up!

Date: Thursdays beginning March 7th | Time: 5:45-7:00pm
Location: Forsyth County Extension Office
(875 Lanier 400 Parkway, Suite 158 Cumming, GA 30040)

Summer Camp Sign Up

Forsyth County 4-H is offering some great summer camp opportunities! Space for all camps is limited, and they are filling up fast! Bring your camp application and deposits to the Extension/4-H office or mail them to our camp mailing address to sign up. Check out the flyers/applications on our website linked below for more information about all of the camping opportunities. Cloverleaf Camp is open to all 4th-6th graders in Forsyth County. All other camps (Junior, Marine Resources, Wilderness Challenge, Senior, and Senior Extreme) are only available to active 4-H'ers. For information about being deemed active, contact the 4-H Staff.

For a full list of camp opportunities, downloadable applications, pictures, and videos of camp, visit our website at <http://extension.uga.edu/county-offices/forsyth.html>