CNY STORMWATER COALITION

Gardens and Gutters

A Central New Yorker's Guide to Managing Stormwater Runoff

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Autumn Guide for a Healthy Lawn and Garden

Many Central New Yorker homeowners will soon be spending their weekends raking leaves and preparing their lawns and gardens for winter. This issue of *Gardens and Gutters* is designed to make this process a bit easier. The list found below and the articles on the following pages provide some helpful tips and guidance so that you can make the best of your time outside.

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Photo source: Thundafunda.com

- Instead of raking and removing autumn leaves from your yard, consider mulching them with your lawn mower and leaving the pieces in place to decompose. This process returns nutrients and important organic matter to your soil that will improve plant growth.
- If you fertilize only once a year, many experts believe that a single application in the fall is the best time. But don't fertilize during an "Indian Summer", a warm period following a hard frost. This may cause excessive top growth of plants, reduce root storage, and increase the likelihood of winterkill. Also, don't apply any lawn fertilizer between December 1 and April 1.
- Controlling broadleaf weeds like dandelions and clover is best done in the fall. If hand pulling or digging is not practical for your lawn and large areas are infested with a wide variety of broadleaf weeds, a herbicide treatment may be necessary.
- Keep up the regular frequency of mowing in the fall and be sure to keep lawn clippings and tree leaves out of roadways or drains. Without proper protection, leaves can blow or wash away and can pollute local lakes and streams with phosphorus. Shred fallen leaves with a mulching mower or collect leaves and compost them before the first snowfall.
- After a frost, avoid walking on the grass until the frost burns off. Foot traffic can easily injure or kill frosted plants.
- This is a good time to maintain your lawn mower, including sharpening the blades.
- Reduce or eliminate all standing water. Empty and store pails, tires, cans, flower pots, or similar water-holding containers. Turn over wheelbarrows and wading pools so that they don't collect precipitation and snow during the winter.
- Clear roof gutters, remove leaf debris from yards and gardens, and clear vegetation and debris from the edge of ponds.
- Winterize your rain barrel by removing the water and storing the barrel in a dry location.

Leaf Mulching and Soil Health

Leaves are often raked or blown into piles on the street, or placed into bags and left for municipal pickup. On occasion, the leaves are blown around and create a safety hazard for drivers or they wash into the storm drains, clogging storm sewers. Leaves decaying on the street also release nutrients such as phosphate and nitrogen that eventually wash into nearby rivers, lakes and streams. But many landscapers and horticulturalists now see leaves as a valuable resource that shouldn't go to waste.

2015 was declared the "International Year of Soils" by the United Nations. Soils play a crucial role in food security, hunger eradication, climate change adaptation, and sustainable development. The health and preservation of soils world-wide and the impacts on wildlife, clean air and clean water has been a shared focus for researchers, policy makers, farmers, landscapers and homeowners.

The recent focus on soils has emphasized the benefits of leaf mulching for lawns, flower beds and vegetable gardens. As an alternative to composting, consider leaving whole leaves in place in wooded areas and scrubby margins. Maintaining some leaves along the edges of the yard provides over-wintering areas for many important beneficial insects and small animals.

In a recent article, the National Wildlife Federation (NWF) wrote that "You shouldn't feel obligated to rake up every last leaf in your yard this fall. Leave leaves on the ground — they have a lot of benefit to wildlife and your garden." The article goes on to state that "the leaf layer is its own mini ecosystem! Many wildlife species live in or rely on the leaf layer to find food and other habitat, including salamanders, chipmunks, box turtles, toads, shrews, earthworms, and many insect species. Many butterfly and moth species overwinter as pupae in leaf litter."

In a related posting, the NWF outlined six excuses to avoid yard work this fall. Leaf mulching and leaving leaves alone in margin areas can provide the following benefits:

* Provide habitat for wildlife
* Provide nutrients for organisms
* Reduce waste
* Increase fertility of your soil
* Reduce pollution
* Save time

The practice of leaf mulching is also covered in the New York Times. "They have been burned, blown into piles, raked into bags and generally scorned by homeowners everywhere. Fall leaves — so pretty on the trees, such a nuisance when they hit the ground — have long been a thing to be discarded. But now some suburban towns are asking residents to do something radical: Leave the leaves alone." Check out the full NYTimes.com article by Lisa W. Foderaro, posted Nov. 24, 2013

Photo source: blogatomictemplates.com

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Leaf Mulching and Soil Health, *con't*

The trees, shrubs, perennials and annuals in your garden and landscape plantings are very gradually responding to the shorter days and cooling temperatures of autumn. Many plants are forming flower buds that will bloom next spring. Some are starting to reveal their fall colors, and others are just starting to look a bit tired. Homeowners also respond to these conditions by putting our pruners, rakes and blowers to work moving leaves, stems, spent flowers to the street so our municipal workers can take it away.

Research conducted at numerous universities over the past thirty years has shown that leaves shredded by lawnmowers and left on lawns will improve the vigor and appearance of lawns by returning organic matter and nutrients to the soil.

Mulching or shredding the leaves in-place is a simple solution and can saves you time and money. The Cornell Waste Management Institute reports that mulching leaves in place will help in the following ways:

Save money: Shredding your leaves helps keep your taxes down by reducing municipal leaf pickup and disposal. Landscapers can also save operating costs by needing smaller crews and avoiding dumping fees.

Save effort: Many homeowners and landscapers find that mulching leaves in place is easier than raking, bagging, or blowing them to the curb.

Keep your property healthy: Leaf mulch recycles nutrients into your soil to feed your plants, improves soil health, and helps retain moisture, reducing the need for watering in dry spells.

Help the planet: Transporting and disposing of leaves from your curb wastes energy and contributes to pollution. Leaving them in place helps reduce greenhouse gas emissions in your local community.

Tree and Shrub Maintenance Calendar

OCTOBER

* Keep plants properly irrigated
* Purchase plant wraps and protectors in preparation for the cold weathers
* This is a good time of year to transplant trees and shrubs
* Winterize lawn equipment before storage
* Place protection around the base of fruit trees to prevent damage due to mouse and rabbit activity
* Before bringing your houseplants inside for the winter, check them for pests such as whitefly and mealybug
* Adult stage ticks can still carry disease and may still be present. Continue to check for ticks after nature walks and yard work
* Collect a soil sample and have it tested to determine soil nutrient and pH needs for the coming year
* Perform Fall fertilization

NOVEMBER

* Tie up limbs of arborvitae and juniper to prevent damage from excessive snow loads
* Begin dormant season pruning
* Wrap or cover plants with mulch to protect them from winter freezing, wind and salt damage
* Make sure soil for evergreen plants is moist as the temperatures approach freezing
* Make sure outdoor water pipes and irrigation systems are shut off and drained to prevent freezing damage

(Source: Bartlett Tree Experts newsletter)

Autumn Care Guide For Your Perennials

Winterizing a perennial garden doesn't have to be a big job, especially if you take little steps all year to prepare your plants for whatever nature gives us. Some plants are less hardy than others and need extra attention. It's a great time of year to be out and enjoy the sights, sounds and smells of fall. Relax and enjoy the task. It's the one chance you have to do a cleaning job that stays in place for six months.

Is there anything I can do during the summer to make my plants hardier? There are several practices you can follow to help your plants. Grow them lean, giving them only the fertilizer they need. Avoid fertilizing bulbs any later than mid-August. Plants growing in soggy areas usually have a harder time in winter, so add plenty of organic matter to improve drainage.

Photo source: doorgarden.com

What are the pros and cons of using leaves as mulch? Leaves from various trees and shrubs make excellent mulch when shredded. You can shred your leaves by running over them repeatedly with a lawn mower or using a leaf shredder. Avoid walnut leaves. Leaves are inexpensive and usually readily available. They offer good insulation and compost readily.

When should I cut back my perennials? Most perennials should be cut back after a killing frost in the fall. It is important to clean off all plant debris after the frost to help minimize soil-borne diseases.

What kind of protection should I provide? Most perennials need a good layer of mulch applied late in the fall. Mulching will protect the crowns of the plants from the alternate freezing and thawing that occurs late in the fall and in early spring. It is important that the ground be allowed to get cold before mulching the plants. Ideally an inch or two of frost in the ground is best.

Are some mulches better than other for perennials? Straw, hay and leaves are the most common mulches. Straw is the stems of wheat or oat plants and is usually a bright golden-yellow in color. Hay includes the leaves of plants, usually grasses such as Timothy. The advantages of straw are that it doesn't compress like hay and leaves and it insulates well. The disadvantage of straw is that it takes a long time to break down in the compost pile. Hay is a good insulator and will break down readily when composted. It does tend to pack down and may have a few weed seeds.

How much mulch should I use? A layer 4-6 inches deep is best for most perennials.

Should I continue to water in the fall, even after a killing frost? Making sure your perennials stay well watered until the ground freezes is important to successful wintering. If the soil is dry an inch or two below the surface, give the area a thorough soaking.

Can I divide or move my perennials in fall? Many perennials can be divided or moved in fall. Generally if a perennial blooms in spring or early summer, it can be divided or moved in fall. If it blooms in late summer or fall, it is best divided or moved in spring. There are a few exceptions, of course. Irises and daylilies prefer to be divided in August and a few plants with taproots don't ever want to be disturbed.

When can I remove the mulch in the spring? Wait until all the frost is out of the ground before removing the mulch. If it gets very warm early, pull back part of the mulch but leave at least 2-3 inches. Some gardeners leave mulches in the beds, just pulling them back away from the crown of the plants. This adds organic matter and helps suppress weeds. Mulches that have been removed can be composted.

*(*adapted from "Winterizing Your Perennials")

Freeze Dates: What to Expect in Central New York

Around this time of year, many gardeners start wondering how long into the autumn their gardens will continue to produce flowers, fruits or vegetables. A handy reference is the Old Farmer's Almanac. Average frost dates for a given area are normally based on historical weather information. 30-year data sets are compiled by the National Climatic Data Center from over 5,800 weather monitoring stations throughout the United States. The weather monitoring station for Central New York is located at the Syracuse Hancock International Airport.

Syracuse has approximately 167 days in the average growing season. According to the Old Farmer's Almanac, the last spring frost date for Syracuse is April 28 and the average first fall frost date is October 13. The dates are normal averages for a light freeze or frost (32^0F), but slight variations can be attributed to local wind and topography.

Weather monitoring stations are usually positioned four to six feet above the ground. During clear, calm, and cold nights the temperature at ground level where your garden is located can become much colder and your plants may freeze even if the weather station indicates a warmer temperature.

Terminology is an important consideration when interpreting climate information, but the terms used by different groups can vary. A **freeze day** for the National Climate Data Center for example, is any day in the year that the temperature reaches 32°F or below. A **frost day** is any day in the year that the temperature reaches 36°F or below.

Just as there may be variations in the year to year freeze dates within a given location, there are also variations in the terminology used by differing data sources. The Farmer's Almanac classifies frost as light, moderate or severe.

Light freeze: 29°F to 32°F – will kill tender plants but there will be minimal effect on other vegetation.

Moderate freeze: 25°F to 28°F – this will cause wide destructive effects on most vegetation, with heavy damage to fruit blossoms and tender and semi-hardy plants.

Severe freeze: 24°F and colder temperatures will cause damage to most plants.

The National Weather Service, on the other hand, provides the following definitions:

Frost occurs when there is a solid deposition of water vapor from the air. Frost will form when solid surfaces are cooled below the dew point. An air temperature of at least 33-36° along with very light winds are usually needed to initiate frost formation. Minor damage is possible to some plants. One must keep in mind that a frost is not guaranteed at these temperatures if moisture in the air is lacking and/or winds are breezy.

Freeze occurs when the air temperature drops to 32° or lower. A freeze will result in significant damage to many unprotected plants, especially if the temperature remains at the freezing mark for a few hours.

Hard Freeze occurs when the temperature reaches 28° or lower for at least a few hours. It usually means that many types of plants and most seasonal vegetation will be destroyed.

You may hear these additional terms that are used by our local meteorologists.

Freeze Watch: A 50% or greater chance of minimum temperatures at or below 32°F during the growing season - issued up to 48 hours in advance.

Frost Advisory: An 80% or greater chance of a significant frost with minimum temperatures of 33°F - 36°F - issued up to 24 hours in advance.

Freeze Warning: An 80% or greater chance of minimum temperatures at or below 32°F during the growing season - issued up to 24 hours in advance.

A Guide to Starting and Maintaining a Compost Bin

Composting organic materials such as leaves, garden cuttings, or food is a simple way to make the best use of your kitchen and yard waste. After plants and animals die, bacteria and fungi work to decompose the remains. The compost bin is the area where the yard and kitchen waste is placed.

Once decayed, the original material turns into a rich, dark, soil-like substance which can then be applied to your garden. There are many advantages to compost. It adds nutrients to the soil, improves soil structure, adds beneficial soil micro-organisms, attracts earthworms, suppresses certain plant diseases, reduces the need for fertilizers and pesticides, and helps prevent soil erosion and nutrient run-off.

Plants will thrive when compost is added to the soil in the fall. Your fertilizer costs will also be lower and you'll keep chemicals and pesticides out of the groundwater supply.

Photo source: ian.umces.edu

Mulch placed around the base of your plants will help to retaining moisture so you don't have to water as much. Composting organic materials from your home and yard also reduces the amount of waste that ends up in landfills or combustion facilities.

According to the Onondaga County Resource Recovery Agency (OCRRA), 24% of our community's waste is material that could be used to enhance the soil of lawns and gardens instead of being discarded. For people that are reluctant to start a compost bin of their own, OCRRA encourages households and businesses to bring yard and food waste to OCRRA's compost sites. The waste is then turned into 'Pride of New York' compost. This ready-to-use material is available for sale at many local retailers throughout the area.

Compost piles and bins come in many different shapes and sizes. There is no right one to make or buy, although some have advantages that will suit your specific needs. You can construct a compost bin or a start a compost pile on your own, but if you'd rather buy one, refer to the comprehensive list (including pictures, pros and cons, and instructions on how to construct them) which is available at Cornell University's Waste Management Institute website.

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A Guide to Starting and Maintaining a Compost Bin, *cont.*

According to the NYS DEC, a compost bin will thrive with the following ingredients

Food*:* A good working compost pile has a mixture of high nitrogen, moist materials called "greens" and drier, carbon-rich materials called "browns".

Greens: include food scraps (such as fruit and vegetable peels, coffee grounds, tea bags and old bread), fresh grass clippings, fresh weeds and manure.

Browns: include fallen leaves, dry weeds, shredded paper, wood chips and straw. Add greens and browns in layers. Every time you add food scraps, cover them with browns or with partially degraded materials to deter unwanted creatures from your compost pile or bin.

Microorganisms: Bacteria and fungi do most of the work in a compost pile. They eat the food and turn it into compost. Having enough food, air and moisture will help the microorganisms to thrive.

Air*:* Compost microorganisms need oxygen. While not necessary, turning (or mixing) the pile twice a month will add more air and speed up breakdown.

Moisture*:* Composting works best with the right amount of moisture. If the pile is too wet, add some leaves, shredded newspaper or sawdust. If it's too dry, add some water. How do you know if the pile is too dry or too wet? Take a handful of material from the center of the pile and squeeze it. Just a few drops should come out.

Be sure to keep the following materials out of your compost pile:

Cat litter and dog waste: These materials may contain disease organisms that remain after composting.

Meat, fish, poultry, bones, or fatty foods such as cheese and oils: These attract animals and do not compost well in a home system.

Dairy products: They attract animals and do not compost well in a home system.

Don't Forget Your Trees!

A common problem associated with tree health is the lack of proper nutrients in the soil. Inadequate soil conditions make it difficult for trees to grow and withstand pollution and unpredictable weather during the winter months. Fertilization is an important proactive measure that you can take to care for your trees this season and to prepare them for the cold weather. Soil fertilization in the fall dramatically improves growing conditions and provides the nutrients required for tree root development.

Soil testing around the base of your trees in the fall should be done by a laboratory that routinely performs soil nutrient analysis testing. A soil lab will interpret the test results and provide recommendations. Tests generally cost in the $10 to $20 range (in 2015). Soil may also be tested using a home test kit, but these tests tend to be less accurate and do not come with fertilizer recommendations. Contract your local Cooperative Extension office for advice on sample collection methods and laboratory locations.

Fertilizer labels have three bold numbers, e.g. 22-0-15. The number in the middle is the percentage of phosphorus in the product. Use of products with a phosphorus level of 0.67 or lower is allowed for trees.

CNY STORMWATER COALITION

The CNY Stormwater Coalition was formalized in 2011 in order to establish a regional approach for stormwater management and water resource protection. The Coalition is made up of 28 local governments and the NYS Fairgrounds. Each member operates a Municipal Separate Storm Sewer Systems (MS4). Through the Coalition, members are working together to meet regulatory requirements while improving water quality.

CNY STORMWATER COALITION MEMBERS

Camillus Town	Baldwinsville Village
Cicero Town	Camillus Village
Clay Town	Central Square Village
DeWitt Town	East Syracuse Village
Geddes Town	Fayetteville Village
Hastings Town	Liverpool Village
LaFayette Town	Manlius Village
Lysander Town	Marcellus Village
Manlius Town	Minoa Village
Marcellus Town	North Syracuse Village
Onondaga Town	Phoenix Village
Pompey Town	Solvay Village
Salina Town	Syracuse City
Van Buren Town	Onondaga County
	NYS Fairgrounds

The CNY Stormwater Coalition is staffed and coordinated by the Central New York Regional Planning & Development Board. For more information, visit the CNY Stormwater website at www.cnyrpdb.org/stormwater

Central New York Regional Planning & Development Board

Come join us at the *SYRACUSE CRUNCH HOME OPENER!*

Stop by the CNY Stormwater Coalition booth at the **Syracuse Crunch 2016-17 Home Opener** presented by Upstate University Hospital

It will be held at the War Memorial Arena on 7:00 PM on Saturday, October 15, 2016

The upcoming season will mark the Crunch's 23rd American Hockey League campaign.
Come on out and join the excitement!

Stay Up To Date with the CNY Stormwater Coalition

The CNY Stormwater Coalition meets quarterly throughout the year. Meetings are held on Tuesday afternoons from 1:00 to 2:00 at various municipal buildings around the region. All meetings are open to the public, and your attendance and participation are always welcomed! The next meeting will be scheduled in November 2016. The location and date will be announced on the CNY Stormwater Coalition's website at www.cnyrpdb.org/stormwater

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