



# Why YardScape?

**A healthy, natural lawn is more resistant to weeds, bugs, disease, and drought!**

## **When you YardScape, you are:**

- **Saving** money, time, and effort!
- **Creating** and maintaining a healthy yard that's safe for children, pets, and the environment.
- **Reducing** the use of fertilizers and eliminating your use of weed & bug killers.
- **Planting** smart by selecting native or native-friendly plants and placing them where they want to grow.
- **Protecting** our water! Yard care products like fertilizers and pesticides can enter water and make it unsafe to drink, fish, and swim in.



## **Follow these seven easy steps:**

- 1. Mow better.** Cut high (3 inches) for strong roots and to shade out weeds. Leave clippings behind for a natural source of nutrients.
- 2. Test your soil.** Before applying fertilizers or lime, check how much it needs (if any).
- 3. Build your soil.** Aerate and topdress your lawn with compost.
- 4. Add new grass.** Overseed with native shade-tolerant grass varieties (fescues and perennial ryegrasses).
- 5. Feed your lawn.** Follow the recommendations from your soil test to give your lawn exactly what it needs. Fertilize in the fall, if at all! Lawns older than 10 years need only clippings. Younger lawns need nitrogen. Look for 10-0-0 slow release fertilizers.
- 6. Got pests?** Overseed with insect-resistant fescue grasses or use beneficial nematodes, fungi, or bacteria.
- 7. Water wisely.** If needed, water deeply once or twice a week (1-1.5 inches).

**For more information visit [www.cumberlandswcd.org](http://www.cumberlandswcd.org) and click on the ducky!**





# Mow Better

**Taller grass has deeper, healthier roots, giving you a stronger plant. If you want grass resistant to disease, weeds and drought, three inches is the rule.**

## Mow High

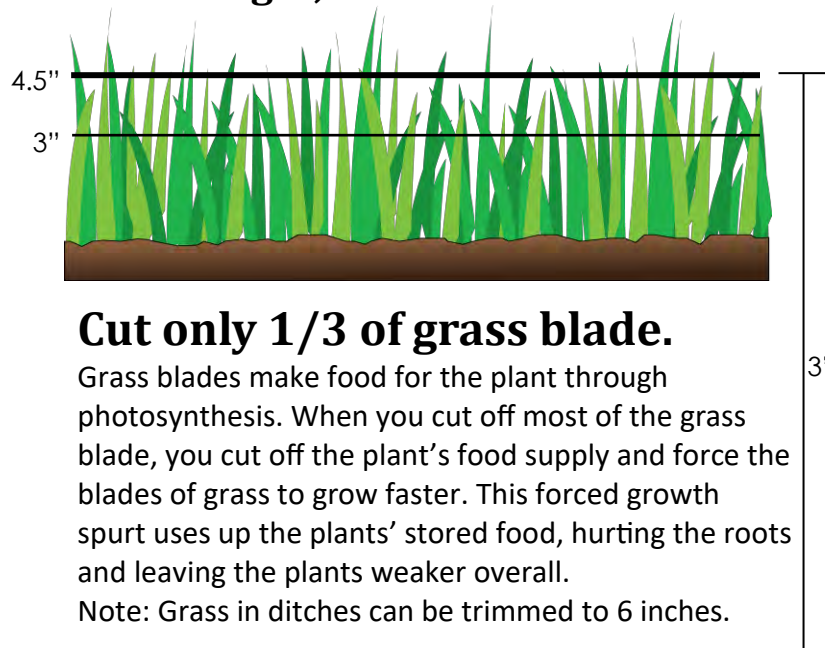
- Results in healthier grass roots.
- Quickly leads to thicker grass.
- Increases drought resistance.
- Taller grass shades out weeds.

## Use Sharp Blades

- Dull mower blades rip and tear grass, leaving the plants at risk of disease.
- Sharp blades make clean cuts, and clean cuts heal faster.

## Leave the Clippings

- They do not cause thatch.
- Clippings are a free source of fertilizer; leaving them in place saves time and money!



## Cut only 1/3 of grass blade.

Grass blades make food for the plant through photosynthesis. When you cut off most of the grass blade, you cut off the plant's food supply and force the blades of grass to grow faster. This forced growth spurt uses up the plants' stored food, hurting the roots and leaving the plants weaker overall.

Note: Grass in ditches can be trimmed to 6 inches.

## More Tips!

### • Mow the right way at the right time of day.

Mow in early evening, after the heat of the day, and before the dew settles. Lawns should be cut down to 2 inches twice a year – in the fall to prevent snow mold and in early spring to help stimulate growth and green up.

### • Vary the mowing pattern.

Varying the mowing pattern every time you mow prevents soil compaction. This will keep your soil and grass healthier.

### • Tune up your lawnmower.

Did you know that one gas powered mower puts out the same emissions as 40 new cars? Save gas and have your mower run more efficiently by changing your spark-plugs, air-filter, and oil every year.

As Mowing Height Decreases →



Depth of Rooting Decreases →

→ And Maintenance Increases







# Aerate

**A core aerator removes plugs of soil from your lawn. Applying synthetic fertilizers and weed and bug killers increases thatch and the need for aeration.**

## Benefits of aeration

- Loosens the soil so that air, water, and nutrients reach the roots.
- Makes existing nutrients more available to the grass, reducing need for additional fertilizers.
- Improves root growth and thickens the turf.
- Reduces thatch.
- Reduces water runoff and increases drought resistance.

## Healthy lawns need healthy soil

- Over time soil becomes compacted, especially with heavy mower and foot traffic.
- Heavy clay soils are especially prone to compaction.
- When the top four inches of the soil is compacted, the grass becomes stressed and weeds have the advantage.
- Aeration is part of the solution!



## When to aerate

- Aerate twice a year (in the spring and fall) in heavy soils, high use areas or where thatch is over one inch thick.
- Aerate once a year in moderately used areas.
- Aerate every other year once the soil is improved.
- Aerate when the soil is moist, but not wet. (Aerating wet soil causes further soil compaction.)

## Rent with a neighbor!

- Core aerators are very affordable to rent for a few hours or an entire day, especially if you split the cost with a neighbor or two.

## Next steps

- Once you are finished aerating your soil, consider topdressing it with compost. Topdressing with good compost improves your soil.
- Overseed! Now is the perfect time.

**The plugs left behind after aerating improve your lawn. They contain microorganisms that help decompose thatch.**





# Topdressing

**Healthy lawns need healthy soil.**

**Most homeowners do not have enough good soil to grow a healthy lawn.**

## Why use compost?

- Contains organic matter and nutrients.
- Improves soil structure and health (lawns need 6-inches of good soil to thrive.)
- Enhances root development.
- Reduces need for fertilizers.
- Increases soil's ability to retain water.



## Just a few easy steps

1. Have the compost delivered to your home and dumped in a convenient location. (Make sure the dump truck does not drive on the lawn!)
2. You'll need a wheel barrow, metal rake and lawn rake.
3. Dump wheel barrow loads of compost all over the lawn, 3-4 feet apart.
4. Push and fan out these piles with the flat end of a metal rake.
5. Lightly rake, fanning out with the lawn rake so the grass blades poke through.

**Most lawn care professionals will topdress for you.**

## Important note

Topdressing is not recommended if you live next to a waterbody.

## When is the best time?

- Late summer or late spring.
- If you have little topsoil: twice a year for 1-2 years.
- If you have 6 inches of quality soil there is no need to topdress.
- If aerating: topdress afterward.
- Dry weather is always best. If the compost is dry and lightweight, your job is much easier.

## Know how much you need

- 1/4 to 3/8 inch layer of compost spread over the lawn.
- 1,000 square foot area needs roughly 0.75 cubic yards of compost.

## Find the right compost

- Find finished compost: it should smell earthy and sweet and **should not** be steaming hot.
- Food waste and shellfish-based compost has higher amounts of nitrogen; manure-based composts has higher amounts of phosphorous. Check your soil test results to see which will help your soil more.



## Next steps

- Overseed with a low maintenance grass seed.
- Apply compost tea.







# Overseed

**Overseeding is the process of spreading seed over an existing lawn to rejuvenate the grass, fill in thin areas and incorporate low maintenance seed mixes that require less water and fertilizer.**

## Benefits

- Rejuvenates lawn.
- Thickens grass.
- Crowds out weeds.

## Timing

- You can overseed at any time during the growing season.
- Best time is mid-August through mid-September.
- Next best time is in May, after spring cleaning your lawn.

## Best methods

- Overseeding is the ideal next step after aerating and topdressing your lawn.
- For best results, spread 1/4 to 1/2 the normal seeding rate recommended on the bag.
- Lightly water to ensure seed to soil contact.
- Keep soil lightly watered for the next three weeks. Make sure the soil is moist but not soggy.

## Don't seed in the shade

- Grass needs 6 hours of daily sunlight to thrive.
- Don't waste time and money trying to get grass to grow in the wrong place.
- Try shade tolerant native groundcovers that require little or no maintenance.

## Use a low maintenance mix

- Mixes mainly comprised of fescues and perennial ryegrasses are best suited to tough Maine summers and winters. Most varieties of shady mixes contain a good blend of these grasses.
- An ideal low-maintenance mix will contain roughly 60-70% fescues and 30-40% ryegrasses with at least two varieties of each species.
- Look for "endophyte enhanced" for natural insect resistance.



Overseeding can be done by hand or with a broadcast spreader. A great time to overseed is just after topdressing with compost.

Many of our partner stores stock low maintenance seed mixes. Look for some of the following:

- YardScaping or BayScaping Mix
- TuffTurf Mix
- Cottage Mix
- Shady Mix

**Adding 5% white clover to your seed mix will increase nitrogen in your soil to naturally fertilize your lawn!**





# Water Wisely

**A healthy lawn needs water. How much you water and when you water can have an effect (positive or negative) on your lawn.**

## Water is essential!

- Without water, grass can't grow.
- Most perennial grasses will go dormant (turn brown) during dry spells. Brown grass is still very much alive and can survive for weeks until moisture returns.
- Note: allowing grass to brown will provide an opportunity for weeds to take root.

## How much water do I need?

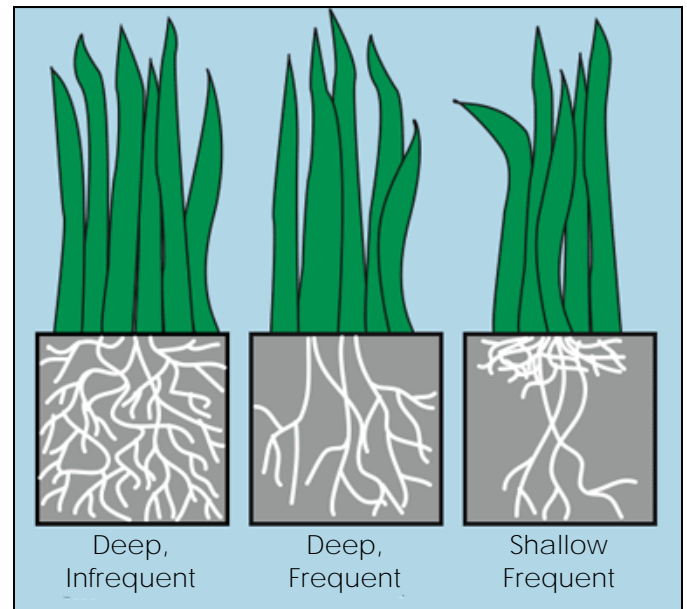
- Lawns need 1 to 1.5 inches of water per week during the growing season (May to October).
- Buy a rain gauge - they are inexpensive and are available at local hardware stores.
- Monitor rainfall and only apply what is needed to equal 1 to 1.5 inches of water.
- Watering too much wastes time and money and creates a weak, stunted root structure.



**Tip:** Determine your sprinkler output by placing cans on the lawn and timing how long it takes for them to fill with an inch of water.

## How often should I water?

- Only once or twice a week (depending on the rain).
- If you water twice a week, be sure to only apply half of the lawn's weekly needs (0.5 to 0.75 inches at each watering).



## Water deeply and infrequently

- If you've been mowing high, then your lawn's root system has grown deep and strong.
- Allowing water to seep into the ground will help the grass stay healthy.

## When should I water?

- Between 6:00 a.m. and 10:00 a.m. is ideal.
- The afternoon is too hot and sunny; most of the water will evaporate.
- Watering at night increases the risk of fungal diseases.







# Soil Test

**Test your soil to know what your lawn needs!**

## What is a soil test?

An easy and inexpensive way to determine your soil's level of nutrients, pH, and organic matter.

## Why should I test my soil?

Healthy soil is the key to a great looking lawn, but it is impossible to know what your soil needs without doing a soil test. Levels of pH, nutrients, and organic matter all impact plant growth. For example, nutrient levels that are too low will slow plant growth, and levels that are too high can pollute our waterways and may inhibit plant growth. A soil test will save you time and money by telling you to **add only what your soil needs**.

## What will my soil test tell me?

- Soil pH
- Levels of the nutrients phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and sulfur (S)
- Amount of organic matter
- If there is lead contamination
- Fertilizer and lime needs

## When & how should I test my soil?

A soil test should be done at least every three years and before you decide to add any fertilizer or lime to your lawn. The ideal time of year to test your soil is mid to late spring or early fall. Free soil test kits are available from county extension offices or your local Soil and Water Conservation District.



## How do I collect my soil sample?

1. Using a clean spade or trowel, take several samples in different locations on your lawn. Try to remove any large leaves, roots, and sticks from your sample.
2. Mix the samples in a clean container.
3. Label the sample box with your name, address, and sample identification (e.g. front lawn) and fill with soil. If you are sending multiple samples, each must be placed in a separate sample box.
4. Complete the accompanying form (Note: the crop code for existing lawns is 201; the crop code for new lawns is 211). The form will accommodate up to 10 samples. Remove the top copy and send to the lab with your sample; keep the remaining copies for your records.
5. Place the sample box(es), form, and payment in a mailing container and send it to the soil testing service at the address on the form.

**Your results should arrive in two to three weeks.**

Information contained in this fact sheet adapted from University of Maine Cooperative Extension Bulletin #2286, Testing Your Soil.





# Amending Soil

Are you wondering what your soil needs to grow healthy grass?

Follow these tips to get great results at a lower cost to you and our environment.

## Start with a lab soil test

- You don't know what your lawn *needs* without one! Free soil test kits are available from county extension offices or your local Soil and Water Conservation District.

## Fertilizer basics

- For free fertilizer, leave your mowed grass clippings.
  - Lawns older than 10 years often need only clippings!
- Save money by following recommendations from your lab soil test. You might not even *need* fertilizer!
  - Most lawns just need nitrogen. Look for 10-0-0 on the bag (e.g. corn meal gluten).
  - If phosphorous or potassium are recommended, start with 1/3 of the amount recommended on the bag label. Monitor and apply more *only if the lawn needs it*—up to a total of 2 pounds of nitrogen per 1,000 square feet.
- If an unfertilized lawn is acceptable, then don't fertilize!

## When should I fertilize?

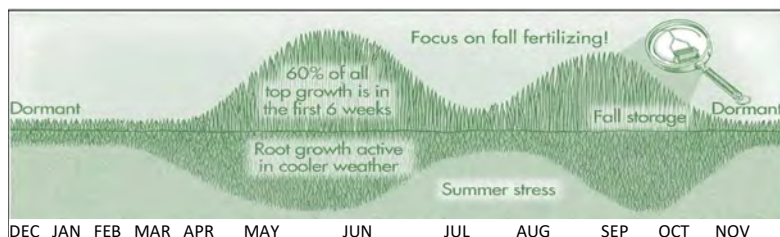
- The best time to fertilize is **between August 15th and September 15th**.
  - Grass is actively growing during this time and storing nutrients for winter.

## Use slow release organic fertilizer

- This helps build healthy soil and fertility and many come from sustainable, renewable resources.
- Slowly releasing nutrients feeds your lawn at a slower rate where plants are able to absorb most nutrients. Excess nutrients will wash away into our streams, rivers, and groundwater.

## Alternative sources of nutrients

- **Plant white clover**—clover takes nitrogen from the air and releases it into the soil where other plants can use it!
- Instead of applying fertilizer, try **compost topdressing or compost tea**.



Graphic adapted from *Lawn Care Without Pesticides* by Frank Rossi.

## Soil pH

- Grass likes a soil pH between 6 and 7 (slightly acidic).
- Follow recommendations from your lab soil test to raise or lower your pH.
- If your soil pH is **greater than 7**, add sulfur to lower it.
- If your soil pH is **lower than 6**, add lime or wood ash to raise it.
  - In most instances, use **calcitic lime**. The pelletized form is easier and safer to spread.
  - Use **dolomite lime** if your soil is low in magnesium.

## When should I lime?

- The best time to lime is in the **fall before the first frost**.
- Lime works faster when its mixed into the soil. Spread lime **after aerating** or lightly water the lime into the soil to prevent grass burn.
- Do not apply lime when your grass is dormant or unhealthy (brown in color).

## Other tips

- Choose cool-weather grasses such as **ryegrasses and fescues** that require less fertilizer and water.
- Keep road salt and sand out of areas you would like grass or other plants to grow.







# Compost Tea

**Applying compost tea is the most effective way to quickly transition to a safe, healthy, and self-sustaining lawn.**

## What is compost tea?

- Compost tea is compost that has “steeped” in room temperature water.
- This process grows populations of beneficial microorganisms and suspends nutrients in water so that they are immediately available for the grass.
- Compost tea is very concentrated and **must be diluted** when applied to prevent burns.

## The many benefits

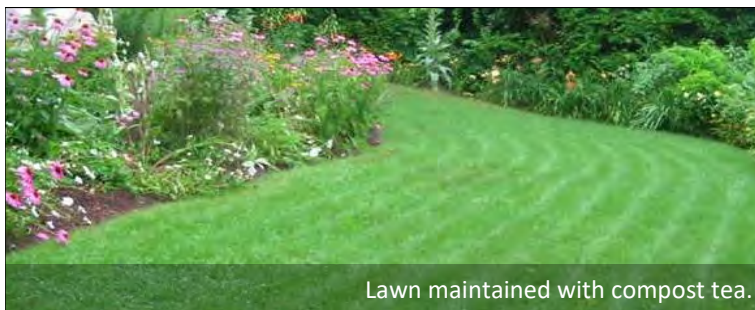
- Immediately greens up the lawn.
- Improves soil health.
- Protects against insects and disease.
- Can be applied as often as you like without harming the grass or our water bodies.
- Best way to transition a lawn from conventional methods to a natural system.

## When can you apply it?

- Whenever your grass is growing!
- Follow the water wisely tips and apply in the morning.

## Hire a lawn care professional

- More and more professionals are using compost tea.
- Some offer high quality brews tailored to your soil's needs.



Lawn maintained with compost tea.

## Home brewing? Here's what you'll need:

- |                         |                          |
|-------------------------|--------------------------|
| 1. Mesh bag or stocking | 4. Aquarium pump & tube  |
| 2. High quality compost | 5. Aeration stone        |
| 3. 5 gallon bucket      | 6. Garden sprayer & hose |

You can buy a full kit from the  
Cumberland County Soil & Water Conservation District. Call  
(207) 892-4700.

## Easy to Make

1. Fill the bucket with water (allow water to sit for 24 hours if it is chlorinated).
2. Fill the mesh bag with compost and submerge it in the water.
3. Attach tube to air stone and sink into bucket.
4. Connect tube to aerator and turn on pump. Allow to bubble for 24-36 hours.
5. Mix in one heaping tablespoon of molasses 2 hours before applying.



## Easy to Apply

- Fill lawn sprayer with compost tea.
- Attach sprayer to hose.
- Spray lawn!

**Note:** One full lawn sprayer container (1 quart) of compost tea will cover a 1,000 square foot lawn! Extra compost tea can be used on vegetable gardens, flowers, trees, and shrubs!





# Pets & Our Lawns

**Pets enjoy healthy lawns just as much as we do! Here are some tips to keep lawns healthy when pets are using them and to keep our lawns safe for our pets to enjoy.**

## Scoop the Poop!

- The average dog produces 3/4 of a pound (or 340 grams) of waste a day— that's 274 pounds a year!
- One gram of pet waste (the size of a pea) contains 23 million fecal bacteria (like *E. coli*) and can also transmit other pathogens like parasites and viruses.
  - Leaving pet waste in your yard leaves you and your family susceptible to contracting these pathogens.
  - Two to three days of pet waste from 100 dogs can close 20 miles of waterway to swimming and shell fishing due to high bacteria and nutrient levels.<sup>1</sup>



Dog urine can have high concentrations of nitrogen that can burn your grass.

## Dog Urine Spots

- Do you have round brown dead spots surrounded by healthy lawn? This can be caused by dog urine (typically female dogs).
- Talk to your vet about dietary supplements.
- Dilute the area with a garden hose.
- Train your dog to visit other locations of your yard.
- Use fescues and perennial ryegrasses which are more tolerant of dog spots than other grasses.

## Help! My dog ripped up my lawn.

Reseed the affected areas with "high traffic/play area" grass seed mixes that contain perennial ryegrasses and tall fescues.

## How do I keep my pets safe from lawn products?

- Understand the risks and proper uses of lawn chemicals by reading the labels.
- Use the least toxic product available to control your pest.
- Keep your pets off treated areas.
- Start YardScaping to reduce your use of lawn chemicals by improving soil health and growing stronger, more pest-resistant lawn! Visit [www.cumberlandswcd.org](http://www.cumberlandswcd.org) for more information.



## What should I do if my pet has been exposed to lawn chemicals?

If you suspect your pet has been exposed to lawn chemicals (after being on a lawn your pet is having difficulty breathing, acts strangely, is excessively salivating, appears lethargic, or has tremors or seizures) immediately contact your veterinarian or call:

- National Pesticide Information Center: 1-800-858-7378
- ASPCA Animal Poison Control Center: 1-888-426-4435
- The 24-hour emergency contact number listed on the product label (not available on all products).

<sup>1</sup> USEPA. 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*.





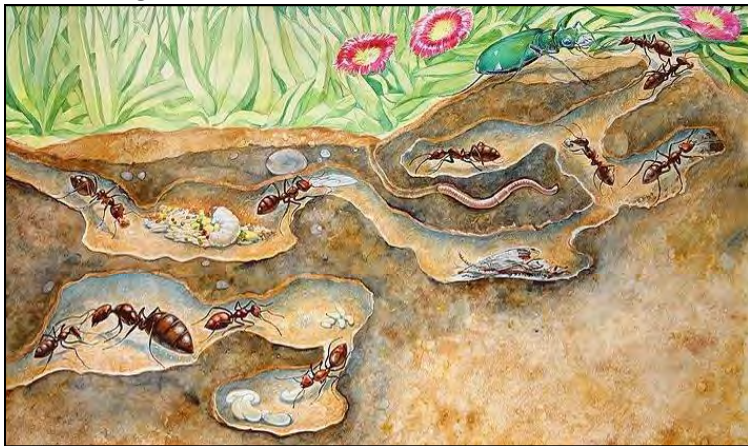


# Ants

**Ants are a natural part of a healthy lawn ecosystem.  
Keep ants out of your house but not out of your lawn.**

## Ants are your lawn's friend!

Ants prey on the larvae of flies and fleas and naturally aerate soil. They should only be considered a problem if they are getting into your house or if they are European Fire Ants, which sting.



## Keeping ants outside

To keep ants from moving into your house there are a variety of things you can try:

- Use silicone caulking to seal cracks and crevices that could provide access. Check around baseboards, moldings, pipes, outlets, ducts, sinks, toilets, etc.
- Keep the kitchen as clean as possible. Any food that is not sealed in an airtight container or in the fridge could attract ants.
- Clean up all spills right away, bring compost outside daily, and store garbage in airtight containers.
- Ants could be attracted to pet food as well, so don't leave pet dishes out and full of food constantly.
- Replace rotten wood and keep moist areas well ventilated to deter carpenter ants from establishing colonies.

## Indoor control methods

- **Use an ant-specific bait** (sweet or grease/protein) with boric acid. This method can take weeks to months to kill the colony.
  - Follow all safety instructions. Keep traps away from children and pets.
- **Use diatomaceous earth** outside around nests, along foundations, or inside the house to form perimeter barriers. Diatomaceous earth is made of crushed shells and controls crawling insects by cutting through their exoskeleton and dehydrating them.
  - Follow all safety instructions. Use a respirator mask to prevent breathing in the dust.

### If you discover an indoor nest:

- **Vacuum up all visible ants** (use a HEPA filter). Seal and dispose of the bag immediately
- If possible, **clean the area with soapy water** to remove their trails
- **Spread diatomaceous earth.** Monitor the area for additional ants.
- **Continue vacuuming** up any additional ants and the diatomaceous earth after several days.
- **Repeat** if needed.
- **Be patient!**





# Grubs

**Grubs (larval beetles) feed on grass roots. Some grubs are a natural part of all lawns, but too many can create a problem. Improving soil health and building your lawn's root system will help ward off grub infestations.**

## Do I have a grub problem?

Use a shovel to cut a 1 foot by 1 foot square of turf and pull it back. If you count more than 10 grubs in that area then you have a grub population that is large enough to damage your lawn.

The most common grubs to cause lawn damage are non – native varieties including the European Chafer, Japanese beetles, and Asiatic Garden beetles.



A lawn with characteristic grub damage.

## Don't attract adult beetles

Using Japanese beetle traps can attract more adult beetles to visit and lay eggs in your yard.

Remove undesired beetles from plants and put them in soapy water. Beetle-damaged plants emit chemicals that attract more beetles!

Prevent beetles from reaching your plants by covering them with fine netting (don't do this when plants are in bloom and need pollinators to reach them).

Plant natives—beetles are less attracted to many of our native plants.



Left to right: Japanese beetle, European Chafer, June bug.

## Fight back

The best way to naturally combat grubs is by using **beneficial nematodes** which feed on grubs. Nematodes need to be special ordered and used quickly. They will eat any type of grub but they must be applied under the right conditions to work.

**Prep to apply:** Rake up dead grass and thatch to help nematodes enter the soil.

**Apply nematodes when grubs have recently hatched:**

- For European Chafer and/or June grubs, apply nematodes the **first week of July**.
- For Japanese and/or Asiatic Garden grubs, apply nematodes in **mid-July**.

**Keep nematodes wet!**

- Apply early morning or on a cloudy day.
- Water them in with half an inch of water.

**Reseed** areas damaged by grubs.

Carefully follow package instructions when applying nematodes to ensure maximum effectiveness. Keep in mind that nematodes are living creatures and can not be used at the same times as pesticides. This will kill them before they can get rid of the grubs.

Treating for grubs should not be something that you do forever.

As your soil becomes a healthy and diverse ecosystem your lawn will be less susceptible to grub damage!





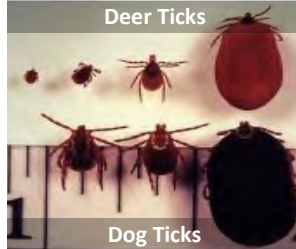


# Ticks

**Managing exposure to ticks in your yard includes personal protection strategies and landscape modifications.**

## Common Maine Ticks

- **Deer tick (blacklegged tick)-**  
Nymph deer ticks cause 98% of Lyme disease and are present in summer months.
- **American dog tick (wood tick)-**  
Not thought to transmit Lyme disease



## Personal Protection

**A few simple precautions can reduce your exposure to ticks.**

- **Perform tick checks**—Examine gear and pets before returning indoors. Conduct a full body tick check and carefully remove any found. Tumble clothing in dryer on high heat for one hour to kill any attached ticks.
- **Avoid direct contact with ticks**—Walk in the center of cleared trails and avoid brushing up against vegetation. Ticks grasp passing hosts from leaf litter and tips of grass.
- **Dress appropriately**—Wear light-colored clothing so ticks are easier to see. Wear long pants tucked into socks or boots to keep ticks on the outside of your clothes.

## Landscape Modifications

**Create a “tick-free zone” on your property**

- **Create open space** in your yard by trimming or removing trees to let in more sunlight. Sunny areas are less likely to harbor ticks.
- **Mow lawns** and clear leaf litter, tall grasses, and brush.
- **Create a barrier** between the woodland habitat where ticks & tick hosts live and the recreational areas of your yard (fencing, a woodchip, or gravel barrier).
- Maintain 9 feet of lawn **between the barrier and high-use areas** such as patios, gardens, and playsets.
- **Move woodpiles and birdfeeders** away from your home as they attract small animals carrying ticks.

Maine Native Deer Resistant Plants	
Trees	Shrubs
Red & Sugar Maple	Arrowwood Viburnum
Paper & Yellow Birch	Downy Serviceberry
Green Ash	Common Witch-hazel
White Spruce	Northern Bayberry

<https://extension.umaine.edu/publications/2500e/>  
<https://njaes.rutgers.edu/deer-resistant-plants/>

- **Discourage activity of tick hosts** (deer and small animals).
- **Plant native deer resistant plants** or **install fencing** to exclude deer from your yard. Avoid plants that are deer favorites such as Rhododendron and Arborvitae.
- **Increase yard biodiversity** by including butterfly gardens, vegetable and herb gardens, wildflower meadows, and hardscapes.



<http://www.maine.gov/dacf/php/gotpests/bugs/factsheets/ticks-ct.pdf>





# Mosquitos

**Tired of being swarmed in your own yard by mosquitos? There are some easy ways to help you enjoy you outdoor space without them.**

## Personal Protection

Pick mosquito resistant clothing when possible:

- Long-sleeved shirts
- Long pants and socks
- Veils
- Mosquito netting worn around the head



## Discouraging Mosquitos in Your Yard

### Eliminate Breeding Sites (Beginning Late April)

- Mosquitos breed in standing water. Prevent water from gathering in rain gutters, buckets, plastic covers, toys, or any other container.
- Put a screen over your rain barrels.
- Refresh water weekly in wading pools, birdbaths, and animal water dishes to eliminate larvae.
- Keep swimming pool water treated and circulating.



### Eliminate Adult Resting Sites

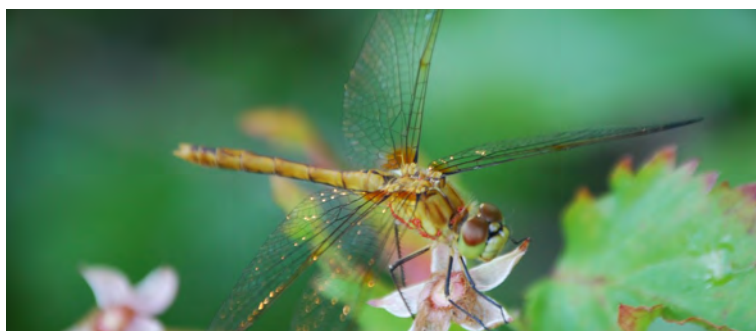
- Remove or trim dense brush and vegetation around windows and doors.
- Keep grassy areas mowed to 3 inches.

### Use of Burning Wicks

- Candles containing pyrethrum or citronella may provide some relief in limited areas, provided there is no wind.
- Expensive, commercial traps that use carbon dioxide as attractants can be effective, however, proper placement of commercial traps is critical.

## Encourage Natural Predators

- Predators such as dragonflies, bats, birds, frogs, and mosquito-eating fish all eat mosquitos and lower the amount in your yard. Providing housing or habitat for these predators can attract them to your yard.



## Structural Barriers

- Install and maintain tight fitting window and door screens.
- Keep outside lighting to a minimum.
- Use fans to create breezes.

**Note:** Unfortunately, just growing “mosquito repellent plants” like lemon thyme, basil, lemongrass, lavender, and others, will not deter the mosquitos. The oils inside the plants are what help deter the mosquitos, so you need to crush the leaves to release the oils. This will work for short term relief but not for all-day protection.







# Timeline

These are the general seasons for when to do each recommended YardScaping practice.

Depending on the existing conditions of your lawn, you may want to do some steps multiple times a year until conditions improve. After your soil conditions improve, steps like aeration and topdressing only need to be done once every few years as maintenance.

## Spring (April-June)

- Remove weeds
- Aerate (if soil is very compacted or heavy in clay)
- Topdress
- Overseed
- Sharpen mower blades
- First mow to 2 inches
- Mow to 3 inches, leave clippings
- Water deeply but infrequently
- Take soil test

## Fall (August-October)

- Aerate (if not done in spring or if still needed)
- Topdress
- Overseed
- Mow to 3 inches, leave clippings
- Water deeply but infrequently
- Follow soil test results (adjust nutrients & pH)
- Final mow to 2 inches

## Summer (June-early August)

- Water deeply but infrequently
- Apply compost tea if desired
- Mow to 3 inches, leave clippings
- Apply Nematodes early to mid July to address a grub problem
- Take soil test (if not already done)

## Winter (November-April)

- Avoid piling snow on lawn
- Sweep up sand & salt from driveways & walkways
- Plan for spring!





# Partner Stores

## **Biddeford**

Home Depot

## **Cumberland**

Skillins Greenhouses

## **Falmouth**

Allen, Sterling & Lothrop

Ace Hardware

Skillins Greenhouses

## **Freeport**

Freeport True Value

## **Gorham**

Ace Hardware

O'Donal's Nursery

## **Portland**

Home Depot

Maine Hardware

Paris Farmers Union

## **Saco**

Moody's Nursery & Garden Center

## **Scarborough**

Flaherty's Family Farm

## **South Portland**

Broadway Gardens

Home Depot

Shopper's True Value

## **Westbrook**

Broadway Gardens

Sportsman's True Value

## **Windham**

Aubuchon Hardware

Blue Seal Feeds & Needs

Home Depot

## **Yarmouth**

Coastal Hardware

Estabrook's





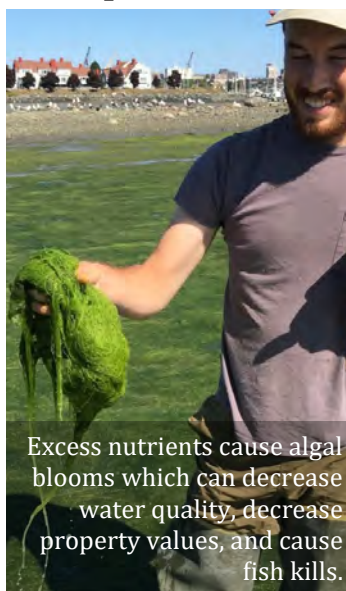


# Protect Our Water

**The things we do on our lawn can cause problems for the health of our water. No matter where you are in your watershed, stormwater runoff from your property can carry harmful pollutants to the nearest body of water.**

## Waterbodies

- Are anything with water-lakes, ponds, rivers, streams, marshes, swamps, bogs, and oceans!
- Can be very sensitive to the types of pollutants we put into them, especially bacteria and nutrients.
- Can be closed for use when too much bacteria and/or nutrients are found (too much bacteria in the water is unsafe to come in contact with).

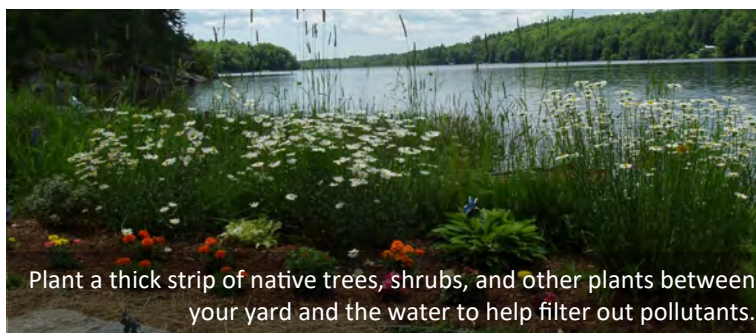


## Storm Drains

- Are found on roads, parking lots, and other places with lots of pavement to prevent flooding during storms.
- Send water from these areas to the nearest waterbody.
- Capture water during rain and snow storms, it is not cleaned, filtered, or treated before it enters our waterways. What goes in, goes out!

## How do I help protect our water?

- Never dump anything down a storm drain!
- As stated in Maine State Law, do not apply fertilizer or pesticides within 25 feet of the normal high-water level of a waterbody.<sup>1,2</sup> Check with your municipality for additional restrictions.
  - If applying lawn chemicals, don't let them land on hard surfaces (like sidewalks or driveways). Use a drop spreader or sweep them back onto the plants.
- Increase the amount of "soft" surfaces (like plants, gravel, and mulch) on your property that will allow water to soak into the ground.
- Clean up pet waste in your yard and either flush it or put it in the trash.
- Keep wildlife wild-don't feed them.
- If you have a septic tank, make sure it is regularly pumped and functioning properly.
- Keep ditches clear of large woody plants and trimmed to 6 inches.



<sup>1</sup><https://legislature.maine.gov/statutes/38/title38sec418-B.html>

<sup>2</sup>[https://www.maine.gov/dacf/php/pesticides/documents2/rules/BPC\\_Rules\\_11-13-15.pdf](https://www.maine.gov/dacf/php/pesticides/documents2/rules/BPC_Rules_11-13-15.pdf)







# Groundcovers

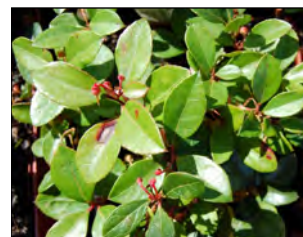
**Grass needs at least 6 hours of sunlight to thrive. For very shady areas where grass won't grow, consider these perennial groundcovers.**



## Wintergreen

*Gaultheria procumbens*

Grows up to 6 inches and spreads 4 to 6 inches annually. Favors well-drained, acidic soils with average moisture. Grows in partial to full shade. Leaves are evergreen and red berries remain on the plant all winter. Young leaves and berries have a wintergreen flavor. NATIVE



## Pachysandra

*Pachysandra procumbens*

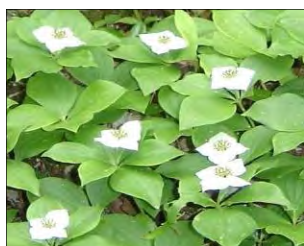
Medium-sized herbaceous perennial evergreen groundcover. Fragrant, white flowers develop in the spring. Grows best in deep shade and prefers moist, well-drained, acidic soil. Slow growth rate; grows to 10 inches tall and forms a mat on the ground.



## Sweet Woodruff

*Galium odoratum*

Shade to partial shade; fast growing; quick to establish; beautiful, white spring flowers and attractive foliage through to snow. Is seldom bothered by pest or disease. Prefers moderately acidic soil (pH around 5.0), and moist, well-drained soil in the shade. DEER RESISTANT.



## Bunchberry

*Cornus canadensis*

Grows approximately 6 inches in height and spreads easily. Favors moist, rich, acidic soils. Grows best in partial to full shade. Larger white bracts surround small green flowers. A red berry is produced in the fall and is attractive to birds. NATIVE.



## Lily of the Valley

*Convallaria majalis*

Grows from 0.5 to 1 foot high with a spread of up to 1 foot. Not the best choice for perennial bed but good for ground cover as it spreads easily and may need thinning. Small, white, bell-shaped flowers bloom in early spring and are fragrant. Prefers rich soil with medium moisture and partial to full shade.







# Moss

**Moss can be an excellent yard groundcover, especially in areas of heavy shade and where grass is unable to grow.**

However, if you would like to remove moss from your yard, use this table to make conditions better for grass to grow.

✓	Why is moss growing?	How to transition moss to grass.
	Moderate to heavy shade	<ul style="list-style-type: none"> <li>Trim branches</li> <li>Rake up moss and plant preferred shady groundcover</li> </ul>
	Compacted or poorly draining soil (like clay)	<ul style="list-style-type: none"> <li>Aerate area</li> <li>Amend soil with mix of sand, loam, and compost</li> <li>Regrade the area to allow drainage</li> <li>Rake up moss and plant with preferred groundcover</li> </ul>
	Heavy traffic areas	<ul style="list-style-type: none"> <li>Aerate area</li> <li>Install walkway</li> <li>Rake up moss and reseed with a “high traffic/play area” mix of perennial ryegrasses, tall fescues, and Kentucky bluegrasses</li> </ul>
	Low organic matter in the soil	<ul style="list-style-type: none"> <li>Test soil</li> <li>Aerate area</li> <li>Amend soil by topdressing with compost &amp; loam.</li> </ul>
	Low soil pH (acidic soil)	<ul style="list-style-type: none"> <li>Test soil</li> <li>Add lime or wood ash to soil test recommendations</li> </ul>
	Overall poor soil conditions	<ul style="list-style-type: none"> <li>Increase depth of healthy soil</li> <li>Test soil and follow recommendations</li> <li>Aerate and topdress</li> <li>Apply compost tea</li> </ul>





# Common Weeds



## Chickweed (annual)

- **Appearance:** Mat forming; pairs of yellowish green leaves on trailing, slender stems
- **Soil Indications:** Low calcium, phosphorus; high nitrogen, potassium, magnesium, organic matter
- **Removal:** Pull by hand; overseed with grass seed late in the summer before weed reestablishes



## Crabgrass (annual)

- **Appearance:** Coarse textured, yellow-green grass with reddish, branched stems
- **Soil Indications:** Low calcium, phosphorus; high nitrogen, potassium, magnesium, organic matter
- **Removal:** Pull by hand; overseed with grass seed late in the summer before weed reestablishes



## Broadleaf Plantain (annual)

- **Appearance:** Broad oval, leaves in a rosette; stock rising from the center; deep taproots
- **Soil Indications:** High calcium, potassium, phosphorus; poor drainage; hardpan; acidic
- **Removal:** Add lime, compost, compost tea; dig deep, aerate with a core aerator



## Curly Dock (perennial)

- **Appearance:** Often confused with dandelion; long serrated leaves; taproot
- **Soil Indication:** Low calcium, bacteria; pH; high phosphorus, potassium, magnesium, poor drainage
- **Removal:** Add calcitic lime, compost, compost tea, dig by hand



## Chicory (perennial)

- **Appearance:** Leaves resembling dandelions at base, deep taproots
- **Soil Indications:** Low calcium, nitrogen, hummus; high potassium, sulfur, anaerobic
- **Removal:** Add calcium, nitrogen, compost, compost tea, dig deeply to get full root system



## Hawkweed (perennial)

- **Appearance:** Bright orange and yellow flowers on leafless stems; also called Indian paintbrush
- **Soil Indications:** Low calcium, nitrogen, phosphorus, hummus, bacteria, pH
- **Removal:** Add calcium, nitrogen, compost, compost tea, calcitic lime



## Creeping Charlie (perennial)

- **Appearance:** Low-growing, creeping plant with scalloped leaves and small, purple flowers
- **Soil Indications:** Low nitrogen, bacteria; high calcium, iron, sulfur; poor drainage
- **Removal:** Add nitrogen, compost, compost tea; dethatch



## Violet (perennial)

- **Appearance:** Common ground cover with heart shaped leaves; purple or white flowers in the spring
- **Soil Indications:** Low calcium, pH
- **Removal:** Add calcitic lime; hand remove as much of root system as possible







# Invasive Plants

**There are many plants not native to Maine but co-exist with our native plants. Other plants, considered invasive, are not from Maine and can cause harm to the economy, environment, and human health.**

**Managing Invasive Plants–Caution:** If not removed properly, they can spread!

1. **Positively identify the plant(s).**
  - Contact your local Soil & Water Conservation District or UMaine Cooperative Extension office for help identifying.
2. **Measure the invaded area(s) & decide whether you can DIY or need a professional.**
  - Companies that offer pesticide-alternative invasive control can be found here: <https://tinyurl.com/NoPesticidesRemoval>
  - Animals (like goats) eat certain invasive plants and look cute doing it! Rent a herd to help clear larger areas.
3. **Follow proper removal or management methods.**
  - Each species has specific recommendations for removal to ensure it is done properly.
  - Sometimes it is better to just prevent the invasive plant from spreading instead of trying to completely remove it.
4. **Contain all removed plant material (leaves, branches, berries, vines, stems, roots) in containers or tarps and allow it to dry out and die (preferably where you just removed it to reduce risk of spreading while moving).**
5. **Check with your municipality for allowed methods of disposal after the plant is dead (burning, transfer station, etc.).**

**Contact your local Soil & Water Conservation District or UMaine Cooperative Extension office for more management information about a specific invasive plant.**

## Common Invasive Plants

There are 33 invasive plants that are illegal to import, export, buy, sell, or intentionally transplant in Maine. An additional 91 plants are being monitored and discouraged from spreading. Common invasive plants in yards include:

### Japanese Knotweed

Spreads through its roots. Tall hollow stalks with wide leaves, late summer blooms. Remove manually, cover with thick material to prevent new growth.



### Autumn Olive

Spreads by seeds. Shrub can grow to 15 feet with slim silvery leaves. Branches have large thorns. Manually remove, with persistent cutting.



### Japanese Barberry

Spreads by seeds found in red berries. Branches can grow roots. Shrub grows to 6 feet tall, small rounded leaves. Remove manually, continue to cut new growth.



### Multiflora Rose

Spreads through seeds and rooting branch tips. Serrated leaflets, pale flowers in spring. Manually remove, with persistent cutting.



### Asiatic Bittersweet

Spreads by seeds and through roots. Woody vine with pointed leaves and red berries in fall. Manually remove with persistent cutting.



### Burning Bush

Spreads by seeds and roots. Rough pointed leaves turn bright red in fall. Manually remove, with persistent cutting or mowing.



For more information, visit the Maine Natural Areas Program <https://www.maine.gov/dacf/mnap/index.html>





# NATIVE PLANTS

**Native plants help beautify your property, create habitat, and protect our lakes, rivers, and streams.**

Native plants are more resilient to our climate and are best suited for property stabilization and filtering stormwater runoff in a vegetative buffer or in a rain garden. Contact CCSWCD for assistance with these practices.

## Small Shrubs (less than 6 feet tall)

**Bush Honeysuckle (*Diervilla lonicera*)** Also called American Fly Honeysuckle. (Do not confuse with European Fly Honeysuckle which is invasive.) Grows 2 to 5 feet high. A straggling shrub with handsome red berries. Sun to shade. Sandy, dry soil. Drought tolerant. Found in cool, rocky woods. Zones 3-7. ○●●≡

**Fragrant Sumac (*Rhus aromatica*)** Available in standard and 'Gro-Low' varieties. Dwarf grows 2 to 3 feet with a 6 to 8 foot spread. Has small, fragrant, yellow flowers in spring, followed by red fruit. Excellent orange to red fall color. Leaves are aromatic when crushed. Sun to part shade. Dry, sandy to rocky soil. Good as bank covers and in mass plantings. Dwarf variety used as a ground cover. Zones 3-9. ○●≡

**Sheep Laurel/Lambkill (*Kalmia angustifolia*)** Grows from 1 to 3 feet high with a greater spread. Grows best in moist, organic, cool, acidic soils but can tolerate a variety of soil types. Prefers full sun to partial shade. Bright pink flowers bloom in early summer. As the name suggests, it is poisonous to livestock. Zones 1-6. ○●≡💧

**Snowberry (*Symphoricarpos alba*)** Grows 3 to 6 feet high with similar spread. Spreads by suckering so will form thickets, if allowed. Good for erosion control. Blue-green foliage, pink spring flowers, and ornamental white berries in fall. Rapid growth. Sun to part-sun. Moist to dry soil. Good for birds. Zones 3-7. ○●💧≡

**Highbush Blueberry (*Vaccinium corymbosum*)** Grows from 6 to 8 feet high with a spread of 8 to 12 feet. Prefers moist, well-drained, acidic soil. Sun to partial shade. White bell-shaped flowers bloom in the spring and are followed by edible dark blueberries. Leaves turn red in the fall. Zones 5-7. ○●≡💧

**Mapleleaf Viburnum (*Viburnum acerifolium*)** Grows from 4 to 6 feet high with an equal spread. Grows best in well-drained, mildly acidic soil with average moisture but can tolerate drier soils. Prefers shade to partial shade. Similar to other viburnums, a cluster of small white flowers gives way to dark blue/black fruits that are enjoyed by birds and other wildlife. Zones 4-8. ●●≡💧

## Plant Identification Key

- Full Sun—more than 5 hours of direct sun per day
- Partial Sun—2 to 5 hours of direct sun per day or full day of dappled sun
- Full Shade—Less than 2 hours of direct sun per day
- 💧 Wet Soils—Soils that are wet most of the year and/or poorly drained soils
- ≡ Dry Soils—Soils that are dry year round and/or well-draining soils



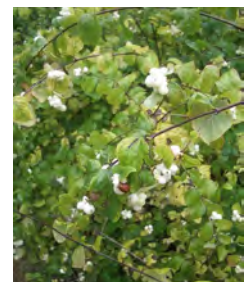
Bush Honeysuckle



Fragrant Sumac



Sheep Laurel



Snowberry



Highbush Blueberry



Mapleleaf Viburnum





**Bog Rosemary (*Andromeda polifolia*)** Grows from 6 to 30 inches high with a spread of 3 feet. Leaves are narrow, evergreen and leathery with a blue-green color. Some resemblance to the culinary herb. Typically found in northern bogs and marshes. Flowers are small, pink, and bell-shaped. Grows best in very moist, acidic soil in cooler climates. Zones 2-6. ●●●



Bog Rosemary



Button Bush

**Buttonbush (*Cephalanthus occidentalis*)** Grows 6 to 10 feet with a similar spread. Darkish-green, glossy leaves. Large, showy, spherical flower heads (pom-poms) in summer, followed by spherical fruits that persist into winter. Sun to part-sun. Wet soil. Grows in up to 3 feet of water. Flood tolerant. Found along lakes and streams. Zones 4-11. ○●●

**Summersweet (*Clethra alnifolia*)** Also called Hummingbird Clethra or Sweet Pepperbush. Grows 3 to 8 feet high with a 4 to 6 foot spread. Attractive, deep-green foliage and very fragrant, white or pink flowers in summer. Sun to shade. Moist to wet soil. Zones 4-8. ●●●



Summersweet



Labrador Tea

**Labrador Tea (*Ledum groenlandicum*)** Grows to approximately 3 feet high with a spread of 3 feet. Typically found growing in bogs and swamps. Clusters of white flowers bloom in the spring. Grows best with full sun to partial shade. Prefers a wet, acid soil. Leaves are evergreen with a silvery underside. Zones 2-5. ●●●

**Sweetfern (*Comptonia peregrina*)** Grows 2 to 4 feet high with similar spread. Not a true fern but has somewhat leathery fern-like foliage which has a nice, pungent, spicy smell. Brown catkins in early spring and a bur- like nut in the fall. Full sun. Moist to dry soil. Grows well on poor, sandy, rocky soil. Deep, good root system. Good for road banks and steep, dry areas. Zones 2-6. ○=



Sweetfern



Rhodora

**Rhodora (*Rhododendron canadense*)** Grows from 1 to 3 feet high with a similar spread. Typically found near bogs and marshy areas. Grows best in wet, acidic soils with full sun to partial shade. Bright pink/purple flowers bloom in spring. Very hardy. Zones 2-6. ●●●

**Meadow Rose (*Rosa blanda*)** Grows from 3 to 4 feet high and spreads easily. Grows best in rich soil with medium moisture and full sun or light shade. Showy, attractive flowers are white to pink in color. Stems only have very small prickles at base of stem. Often called the "thornless rose". Zones 3-7. ●●●

**Canadian Yew (*Taxus canadensis*)** Grows 1 to 6 feet high and spreads to 6 feet. Grows best in moist, loamy, alkaline, well-drained soils. Prefers partial to full shade. A popular food for moose and deer. Zones 2-6. ●●●



Canadian Yew



Common Juniper

## Tall Shrubs (greater than 6 feet tall)

**Common Juniper (*Juniperus communis*)** Grows to a height of 3 to 10 feet with an equal spread. Form can be variable from low and spreading to an erect shrub. Cones are berry-like. Leaves are evergreen needles but can turn light brown during the winter. Grows best with full sun. Zones 2-6. ●●=

**Gray Dogwood (*Cornus racemosa*)** Grows to 10 feet high with a spread of 10 to 15 feet. Can form thickets. Tolerant of a wide range of soils and city air pollution. Grows best in medium wet soil with full sun to partial shade. Small white clusters of flowers bloom in late spring. Zones 3-8. ○●●



Gray Dogwood



Black Chokecherry

**Black Chokeberry (*Aronia melanocarpa*)** Can grow up to 8 feet high with a spread of 8 feet. Grows best in moist, well-drained, acidic soils but will tolerate drier sandy soils or wet clay ones. Particularly good for soil stabilization. Prefers full to partial sun. White flowers bloom in the spring with black berries appearing in the fall and lasting through the winter. Zones 3-8. ○●●=



Northern Bayberry



Chokecherry



Staghorn Sumac



Nannyberry



Downy Serviceberry



Shadblow Serviceberry



Allegheny Serviceberry



Redosier Dogwood



Common Witchhazel



Winterberry

**Northern Bayberry (*Myrica pennsylvanica*)** Typically grows from 5 to 6 feet high but can reach 10 feet. Spreads easily and forms colonies. Often found in coastal areas. Foliage is semi-evergreen aromatic. Will grow well in dry, acidic soils. Grows best in full sun but will tolerate partial shade. Zones 2-6. ○●☯≡

**Chokecherry (*Prunus virginiana*)** Grows from 25 to 30 feet tall with a spread of 20 feet. Grows best in moist soil but will tolerate drier conditions. Partial to full sun. White flowers bloom in the spring and are followed by bright red berries. Flowers have a strong sweet fragrance. The fruit has an astringent taste but does attract birds. Zones 2-6. ○●☯≡

**Staghorn Sumac (*Rhus typhina*)** Grows from 10 to 25 feet tall with a spread of 15 to 20 feet. Tolerates a wide range of well drained soils. Grows best in full sun to partial shade. Clusters of fuzzy berry-like fruits are produced in the fall. A popular ornamental shrub due to its showy autumn colors. Zones 3-8. ○●☯≡

**Nannyberry (*Viburnum lentago*)** Grows from 14 to 16 feet with a spread of 6 to 12 feet. Grows well in medium wet to average soil but is tolerant of drier soils. Prefers full sun to part shade. Clusters of white flowers turn into blue/black berry like fruit. Supposedly the fruit is attractive to nanny goats, hence its name. Zones 2-8. ○●☯≡

**Downy Serviceberry (*Amelanchier arborea*)** Grows from 10 to 25 feet high with a spread of 12 feet. Sun to part sun. Prefers rich loamy soil but will grow well in clay or any soil that has moderate moisture. White showy flowers bloom in early to mid spring and turn into dark red to purple edible berries. Zones 4-9. ○●☯

**Shadblow Serviceberry (*Amelanchier canadensis*)** Grows from 25 to 30 feet high with a spread of 15 to 20 feet. Grows best in medium wet, well-drained soil but will tolerate a wide range. Prefers partial shade to full sun. Clusters of white flowers are followed by edible red/purple berries in late summer. Zones 4-8. ○●☯

**Allegheny Serviceberry (*Amelanchier laevis*)** Grows to approximately 25 feet high with a spread of 20 feet. Grows in shade and partial shade and prefers moist soils. A hardy serviceberry species that will tolerate more moisture and light than some other varieties. White flowers and purple/black edible berries are typical. Zones 4-8. ○●☯☯

**Redosier Dogwood (*Cornus sericea*)** Grows from 6 to 9 feet high with a spread of 8 to 12 feet. Grows best in rich medium to wet soil. Typically found in bogs or swamps and will tolerate a wide range of soils. Young branches are bright red. Small white clusters of flowers bloom in late spring and are followed by fall fruits which are attractive to birds. Prefers full sun to part shade. Zones 2-7. ○●☯

**Common Witchhazel (*Hamamelis virginiana*)** Grows 10 to 15 feet high with an equal spread. Prefers moist, acidic soil and grows best with full sun to partial shade. Small clumps of yellow flowers bloom in early fall and have a pleasing fragrance. Zones 3-8. ○●☯☯

**Winterberry (*Ilex verticillata*)** Grows 6 to 10 feet high with a similar spread. Grows best in moist well-drained soils but will tolerate wet, swampy areas. Prefers full sun to partial shade. Bright red attractive fruits last into winter. Male and female plants are needed to produce berries. Zones 3-9. ○●☯≡☯



**Witherod (*Viburnum cassinoides*)** Also called wild raisin. Grows 6 to 10 feet high with a lesser spread. A slender, upright shrub with glossy, green leaves. Round clusters of feathery, white to pink flowers in late spring and whitish fruit turning blue-black in the fall. Red fall color. Sun to shade. Moist to wet soil but tolerates drier conditions. Good for birds. Zones 3-8. ○●●●



Witherod

**Beach Plum (*Prunus maritima*)** Grows 6 to 8 feet high with a spread of 6 feet. Grows best in well-drained soil but is adaptable to a range of soil types. Prefers full sun. White flowers bloom in the spring and are followed by edible purple fruits. Typically found along the coast and tolerant of salt. Zones 3-7. ○≡●



Beach Plum

## Trees

**Sugar Maple (*Acer saccharum*)** Grows up to 75 feet with a 40 foot spread. Stunning orange-red fall color. Full sun, but tolerates some shade. Moist, well-drained soil. Does not tolerate wet or compacted soil. Zones 3-8. ○●≡



Sugar Maple

**Eastern White Pine (*Pinus strobus*)** Can grow to 100 feet with a 40 foot crown. Large, open tree with horizontal branching. Long, soft, blue-green needles. Can be pruned to hedges or windbreaks. Rapid growth. Sun to partial shade. Tolerates dry soil. Does not tolerate salt or flooding. Zones 3-7. ○●≡



Eastern White Pine

**Eastern Hemlock (*Tsuga canadensis*)** Can grow up to 80 feet with a 30 foot spread in ideal conditions. Large, irregular, pyramidal tree. Small, deep-green needles with a loose, feathery appearance. Small, interesting cones. Also available in dwarf forms. Sun to shade. Does best in cool, moist, well-drained soil. Tolerates shade and some flooding. Zones 3-7. ○●●●≡



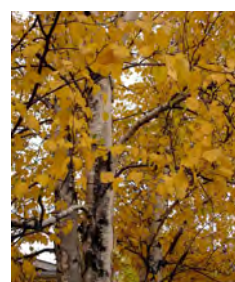
Eastern Hemlock

**Balsam Fir (*Abies balsamea*)** Grow up to 50 feet high and 20 feet wide. Narrow, pyramidal tree; typical Christmas tree shape. Needles are short, dark green, aromatic, and blunt. Small, light brown cones. Sun to shade. Moist to wet soils. Zones 3-5. ○●●●



Balsam Fir

**Yellow Birch (*Betula alleghaniensis*)** Can grow up to 80 feet with a 50 foot spread. Attractive golden, peeling bark on older specimens. Leaves are alternate, 3-5 inches long, turning yellow in fall. Part-sun to shade. Moist soil. Found near streams. Zones 3-7. ●●●●



Yellow Birch

**Green Ash (*Fraxinus pennsylvanica*)** Grows to 60 feet. Rapid growth. Rounded crown. Leaves turn bright yellow in fall. Bark has narrow, interlacing ridges. Sun to partial sun. Does best in rich, moist soil. Zones 3-9. ○●●●



Green Ash

**Swamp White Oak (*Quercus bicolor*)** Grows to 60 feet with a similar spread. Produces many acorns. Leaves irregularly lobed, about 6 inches long, shiny, dark green above and light below. Bark on large trees ridged and furrowed. Moist to wet soil. Tolerates swampy, poorly-drained conditions. Zones 4-8. ○●●●



Swamp White Oak

**White Cedar (*Thuja occidentalis*)** Also called Arborvitae. Grows to 60 feet and 25 feet across. A dense tree with flat, green aromatic foliage. Often sheered and shaped for landscaping purposes, but has an attractive shape on its own. Sun to part sun. Moist soil best, tolerates flooding, and occasional drought. Found in wet soils and swampy areas. Zone 3. ○●●●



White Cedar

**Ironwood (*Carpinus caroliniana*)** Also known as American hornbeam. Grows up to 30 feet. Somewhat shrubby appearance. Very shade tolerant; often an understory tree. Prefers moist soils, but tolerates periodic flooding or dry soils. Thin, smooth, gray to bluish gray bark; trunk is fluted heavily, resulting in a muscular appearance. Dark red fall foliage. Zones 3-9. ●≡



Ironwood



Red Oak



Red Pine



Larch



Bearberry



Virgin's Bower



Hay-scented Fern



Checkerberry



Woodbine



Lowbush Blueberry

**Red Oak (*Quercus rubra*)** Grows up to 75 feet. Rapid growth. An impressive shade tree, with reddish-brown bark and dark green leaves. Leaves turn red in fall. Moist, well drained soil. Sun. Zones 3-7. ○=

**Red Pine (*Pinus resinosa*)** Also called Norway Pine. Can reach 80 feet. Rapid growth. Large, handsome, straight tree. Long, dark green, stiff needles. Reddish bark. Makes an excellent windbreak. Full sun. Bet in dry, sandy soil. First discovered near Norway, Maine. Zones 2-5. ○=

**Larch (*Larix laricina*)** Also know as Tamarack. Grows to 65 feet. Narrow and upright with horizontal branches and sweeping twigs. Fine, light-green needles turn yellow in fall and drop. Has the appearance of an evergreen but is not. Full sun. Prefers moist soil but tolerates poor, wet soil and flooding. Zones 2-4. ○=

## Vines and Ground Covers

**Bearberry (*Arctostaphylos uva-ursi*)** Grows from 4 to 6 inches with a spread of 3 feet. Spreads easily to form a mat. Grows best in moist, well-drained, rich, acidic soil. Full sun to partial shade. Light pink, cup-shaped flowers give way to bright red berries in the fall. It is a useful in preventing erosion and is commonly planted along banks. Zones 2-6. ○●=

**Virgin's Bower (*Clematis virginiana*)** A climbing vine that can grow up to 20 feet high. Grows best in soil with average to medium moisture and full sun to partial shade. Attractive clusters of silky seeds follow showy white flowers. Grows best on a trellis or fence. Zones 2-10. ○●=

**Hay-scented Fern (*Dennstaedtia punctiloba*)** Vigorously spreading fern grows to 12 inches with light-green, finely-divided fronds. Foliage is sweet-scented when crushed. Versatile fern grows in many soils and tolerates drought. Found in clearings and on rocky slopes. Part-sun to shade. Moist, well-drained soil. Drought tolerant. Zones 3-8. ●=

**Checkerberry/Wintergreen (*Gaultheria procumbens*)** Also knows as teaberry. Grows up to 6 inches high and spreads 4 to 6 inches annually. Favors well-drained, acidic soil with average moisture. Grows in partial to full shade but produces more fruit with adequate light. Leaves are evergreen and red berries remain on the plant all winter. Young leaves and berries have a wintergreen flavor. Zones 3-5. ●●=

**Woodbine/Virginia Creeper (*Parthenocissus quinquefolia*)** A climbing vine that can reach heights of up to 40 feet. Grows easily. Will tolerate a range of soil types and a variety of light conditions. Drought tolerant. Small white flowers in spring. Foliage turns bright red in the fall and small purple berries are produced. When not in a position to climb it is an excellent ground cover and will put down more roots. Zones 3-9. ○●●=

**Lowbush Blueberry (*Vaccinium angustifolium*)** Grows from 2 to 24 inches and spreads to form colonies. Prefers an acidic, well-drained soil that has previously been untilled. A popular ground cover. Blueberries are attractive to wildlife and humans. Grows well in partial shade to full sun. Zones 2-6. ○●=

## Plant Identification Key

- Full Sun—more than 5 hours of direct sun per day
- Partial Sun—2 to 5 hours of direct sun per day or full day of dappled sun
- Full Shade—Less than 2 hours of direct sun per day

- Wet Soils—Soils that are wet most of the year and/or poorly drained soils
- Dry Soils—Soils that are dry year round and/or well-draining soils



**Lingonberry (*Vaccinium vitis-idaea*)** Also called Crowberry or Mountain Cranberry. Grows to 7 inches and spreads. Small, glossy-green, leathery foliage and small pink or white flowers, followed by small, red fruit, sour but edible. Found in bogs and wet or dry, rocky, mossy slopes. Sun to shade. Dry to moist, well-drained soil. Zones 2-6. ○●●●●=

**Bunchberry (*Cornus canadensis*)** Grows to approximately 6 inches in height and spreads easily. Favors moist, rich, acidic soils. Grows best in partial to full shade. Larger white bracts surround small green flowers. A red berry is produced in the fall is attractive to birds. Zones 2-6. ●●●●●=

**Creeping Juniper (*Juniperus horizontalis*)** Grows approximately 2 feet high with a spread of 8 feet. Tolerates a wide range of soil as long as it is well drained. Grows best in full sun. Foliage is often a silvery blue color. Small, blue, berry-like fruit. Zones 3-9. ○=

**Cranberry (*Vaccinium macrocarpon*)** Grows from 6 to 9 inches high and spreads easily. Prefers an acidic, wet to moist soil. Typically grows in bogs. Grows best in full sun. Small pink flowers bloom in the spring and are followed by the commonly known red berries. Edible by wildlife and humans. Zones 2-6. ○●=

## Perennials

**Harebell (*Campanula rotundifolia*)** Grows from 1 to 2 feet high with a spread of 6 inches. Flowers are deep blue and bell shaped. Blooms from June to September often until the first hard frost. Full to partial sun. Prefers dry to medium sand or gravel soils. Zones 3-8. ○●●=

**Black-eyed Susan (*Rudbeckia hirta*)** Grows from 2 to 3 feet high with a spread of 1 to 2 feet. Leaves are rough, hairy, and lance shaped. Flowers are yellow to orange-yellow with a dark brown center. Full sun to part shade. Prefers dry to medium wet, well-drained soil but is tolerant of heat, drought and a wide range of soils. Low maintenance. Zones 3-9. ○●●●●=

**Tall Meadow Rue (*Thalictrum polygamum*)** Grows from 3 to 8 feet high. Typically found in swampy areas and near water bodies. Small white inflorescences bloom in mid summer. Often recommended for the back border of gardens due to its large size. Prefers average to moist soil with light shade to full sun. Zones 3-8. ○●●●●=

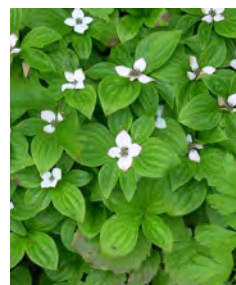
**Appalachian Barren Strawberry (*Waldsteinia fragarioides*)** Grows from 3 to 8 inches high with a ½ to 1 foot spread. A low, mat-forming, strawberry-like plant with evergreen, basal leaves and several yellow flowers on a leafless stalk. Fruit is not fleshy or edible. Sun to shade. Prefers medium wet, well- drained, organic, slightly acidic soil, but tolerates a wide range. Flowers from April to June. Zones 3-9. ○●●●●=

**Columbine (*Aquilegia canadensis*)** Grows from 2 to 3 feet high with a spread of 1 to 1½ feet. Flowers are light pink with yellow to blood red with yellow and bell shaped. Full sun to part shade. Prefers medium wet, well-drained soil but will tolerate a wide range as long as drainage is adequate. Flowers are attractive to hummingbirds. Zones 3-8. ○●●●=

**Goats Beard (*Aruncus dioicus*)** Grows from 4 to 6 feet high with a spread of 2 to 4 feet. Typically bushy and tends to form clumps. Small white flowers are clustered in plumes which extend above the foliage. Blooms occur in early to mid summer. Full sun to part shade. Zones 4-8. ○●●●=



Lingonberry



Bunchberry



Creeping Juniper



Cranberry



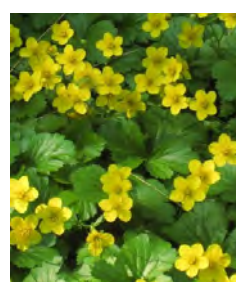
Harebell



Black-eyed Susan



Tall Meadow Rue



Appalachian Strawberry



Columbine



Goats Beard



Marsh Marigold



Turtlehead

**Marsh Marigold (*Caltha palustris*)** Grows from 8 inches to 2 feet high with a spread of approximately 1 foot. Typically found in swamps and marshes and is recommended for planting along stream banks, in bog gardens and near ponds. Bright yellow flowers bloom in late spring to early summer. Prefers wet organic soils and partial to full sun. Zones 1-8. ○●💧



Joe-Pye Weed



Boneset

**Turtlehead (*Chelone glabra*)** Grows to a height of 2 to 3 feet with a spread of 1½ to 2½ feet. Flowers are white with a pinkish tinge and are similar to snapdragons. Prefers a rich, moist to wet, organic soil with partial shade. Zones 3 to 9. ●💧

**Joe Pye Weed (*Eupatorium maculatum*)** Grows from 4 to 5 feet high with a spread of 1.5 to 2 feet. Found naturally growing in damp meadows. Light pink flowers bloom from mid summer to early fall and are attractive to butterflies. Prefers average to wet soil with full sun. Zones 4-8. ○●💧

**Boneset (*Eupatorium perfoliatum*)** Grows 4 to 6 feet high with a spread of 3 to 4 feet. Clusters of small, white flowers bloom in late summer. Leaves are lance shaped and have hairy stems. Full sun to part shade. Prefers medium wet to wet soil and will tolerate sand and clay soils with adequate moisture. Found in swamps and on streambanks. Zones 4-8. ○●💧



Blue Flag Iris



Cardinal Flower

**Blue Flag Iris (*Iris versicolor*)** Grows from 1 to 3 feet with a spread of 6 to 12 feet. Leaves are sword shaped and can be up to 3 feet long. Flowers are usually blue-violet but can be lavender, or red-violet. Full sun to partial shade. Prefers moist to wet, organic, slightly acidic soils. Can tolerate growing in up to 6 inches of standing water. Grows well near bogs and ponds. Zones 3-9. ○●💧

**Cardinal Flower (*Lobelia cardinalis*)** Grows from 2 to 4 feet high with a spread of 1 to 2 feet. Bright red flowers are tubular and bloom in late summer. Lance-shaped leaves are finely toothed, approximately 4 inches long. Full sun to partial shade. Prefers medium wet to wet, rich, organic soil. Found near streams and swamps and in low wooded areas. Attractive to hummingbirds. Zones 3-9. ○●💧



Bee Balm



Bloodroot

**Bee Balm (*Monarda didyma*)** Grows from 2 to 3 feet high with a 1 to 2 foot spread. Spreads easily. Leaves are toothed and have a minty fragrance. Blooms can be purple, red, or pink. Full sun to partial shade. Prefers medium wet to wet, moisture retentive, organic soil. Attractive to hummingbirds, butterflies, and bees. Zones 4-9. ○●💧

**Bloodroot (*Sanguinaria canadensis*)** Grows from 6 to 12 inches high and is usually found in colonies. Part sun to shade. Leaves and root contain an orange/red juice that is poisonous. Flowers in early spring. Grows best in part sun to shade and leaf litter. ○●●💧



Milkweed



New England Aster

**Milkweed (*Asclepias syriaca*)** Grows from 2 to 3 feet high with a spread of approximately 1 foot. Clusters of pink flowers bloom in the late spring into the summer and are attractive to butterflies, particularly Monarch larvae. Very adaptable. Can grow in average, dry to medium wet soils that are well drained. Prefers full sun. Zones 3-9. ○💧 =

**New England Aster (*Aster nova-angliae*)** Grows from 1½ to 2 feet high with a spread of 2 to 3 feet. It grows best in average to wet, well-drained soil with full sun. Blooms in late summer to early fall with dark purple flowers that are attractive to butterflies. Zones 3-9. ○💧 =



**New York Aster (*Aster novi-belgii*)** Grows to a height of 1 to 3 feet. Found in meadows, along stream banks, and in thickets. Flowers are found from August to October. Optimal growth is encouraged by average to moist soil and full sun. Zones 3-9. ☉💧≡

**Obedient Plant (*Physostegia virginiana*)** Grows to a height of 3 to 4 feet with a spread of 2 to 3 feet. Pink or white flowers bloom late in the season. Should be divided every 2-3 years to prevent aggressive spreading. Prefers average to wet, well-drained soil with full sun. Zones 3-9. ☉💧≡

**Echinacea (*Echinacea purpurea*)** Grows from 1 to 3 feet high with a spread of 1 to 2 feet depending on variety. Large, daisy-like flowers can be red, white or light purple. Tends to form clumps. Full sun. Prefers moist, well-drained, neutral to slightly alkaline soil. Heat and drought tolerant. Attracts birds and butterflies. Zones 3-10. ☉≡

**Creeping Phlox (*Phlox stolonifera*)** Grows 6 to 10 inches tall and spreads easily. Approximately ¾ inch wide flowers in spring, ranging from white to purple. Evergreen foliage. Prefers organic soil, but will tolerate drought conditions. Part sun to shade. Zones 2 to 9. ●≡

**Jack-in-the-Pulpit (*Arisaema triphyllum*)** Grows from 1 to 2 feet high with a spread of 1 to 1½ feet. Unusually shaped and striped "flower" in mid-spring; clusters of brilliant red berries in fall. Typically grows in wet woodland areas and may take 5 years to flower if grown from seed. Roots are poisonous. Prefers medium wet to wet rich organic soils and partial to full shade. Zones 3-9. ●💧

**Soloman's Seal (*Polygonatum pubescens*)** Grows from 1 to 3 feet high. Typically found in wooded areas with plenty of shade. Leaves are slightly hairy underneath and flowers are a greenish white in color and flower in late spring to early summer. Deep blue berries in the fall. Grows best in full to partial shade with rich moist soil. Zone 3-9. ●💧

**Marsh Blue Violet (*Viola cucullata*)** Grows from 5 to 10 inches high with a spread of less than 1 foot. Typically found in wet meadows and bogs. Foliage spreads to provide a good groundcover and attracts butterfly larvae. Blue violet flowers bloom from late spring to mid summer. Prefers moist soils and is shade tolerant. Zones 4-8. ●💧

**Round-leaved Violet (*Viola rotundifolia*)** Grows from 2 to 5 inches high. Yellow flowers bloom in late spring. Distinctive leaves are large and glossy. Typically found in wooded areas. Prefers partial shade with moist soil but will tolerate seasonal dryness. Zones 3-9. ●💧

**Bowman's Root (*Gillenia trifoliata*)** Grow up to 3 feet tall with 2 foot spread. Bushy plant with white star-like flowers in late spring and summer. Dark red stems. Good fall color. Moderate moisture, but tolerates dry soil and drought when established. Part sun to shade. Zone 4. ●≡

**Foamflower (*Tiarella cordifolia*)** Grows 8 to 10 inches high with a 1 to ½ foot spread. Masses of tiny white or pink flowers seem to float above the foliage. Broad, maple shaped leaves. Flowers remain up to 6 weeks. Easy to grow in moist to dry soil. Wet soil, especially in winter, can kill the plant. Part shade to shade. Zones 3 to 8. ●≡



New York Aster



Obedient Plant



Echinacea



Creeping Phlox



Jack-in-the Pulpit



Soloman's Seal



Marsh Blue Violet



Round Leaved Violet



Bowman's Root



Foamflower



# WILDFLOWER MEADOW

## Growing a Wildflower Meadow

Wildflower meadows are a beautiful addition to your home's landscape. They are a low maintenance and colorful alternative to a traditional lawn. Meadows attract pollinators, like bees and butterflies, and the plants' strong root systems hold soil in place to prevent erosion and reduce water pollution.

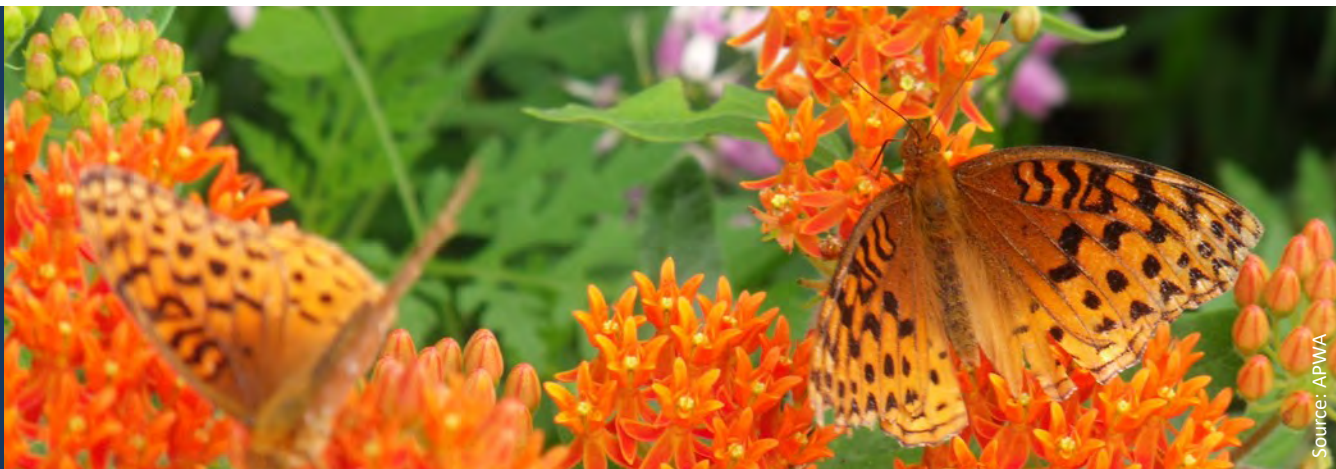
### Planning and Planting Your Meadow

1. Select a location that gets at least six hours of sunlight each day and is not wet.
2. Use a lawnmower or trimmer to cut back existing vegetation. Bag and remove the clippings to eliminate unwanted seeds from your meadow.
3. Loosen the soil to prepare it for seeding. A rake can be used for small areas and shallow rototilling can be done in larger areas.
4. Prepare your seed mixture to plant seeds evenly. Divide the seed equally into two buckets. Add sand or vermiculite to each bucket to equal 1 part seed to 10 parts sand. Mix the sand and seed together. 1/4 lb. of seed will cover approximately 1000 ft<sup>2</sup>. More seed can be used for a denser stand of flowers.
5. Sow the seed by spreading one bucket evenly in one direction and the second bucket in the other direction to prevent bare spots.
6. Press the seed into the soil to ensure good seed to soil contact. This step can be done using a lawn roller or simply walking over the entire area.
7. Keep the area watered so that the soil is moist but not wet until seedlings are 4-6" tall. Once the plants reach this height they should be able to survive with normal rainfall.





# WILDFLOWER MEADOW



## When to Plant

In Maine, meadows can be planted in the spring or in the fall. Make sure planting is done the same day as loosening or tilling the soil to prevent unwanted weeds from taking hold.

- Planting in the spring?  
Wait until the threat of frost is gone - typically around Memorial Day weekend.
- Planting in the fall?  
Wait until after a killing frost - typically around early October.

## Maintaining Your Meadow

Wildflower meadows are LOW maintenance, not no maintenance. Mow your meadow once per year, typically in the late fall after the flowers have dropped their seeds. Mowing will ensure your meadow returns with new, green growth in the spring, and the colors won't be muted by dead growth from the previous year.

## Recommended Wildflowers

Whenever possible, native plants are recommended for your landscape. Local and online retailers sell wildflower seed mixes that will grow well in our area, but it is important to ensure the mixes do not include invasive species. The following are some of the flowers recommended for Maine:



**Butterfly Weed**  
(*Asclepias tuberosa*)



**New England Aster**  
(*Symphyotrichum novae-angliae*)



**Partridge Pea**  
(*Chamaecrista fasciculata*)



**Red Milkweed**  
(*Asclepias incarnata*)



**Purple Coneflower**  
(*Echinacea purpurea*)



**Blazing Star/Gayfeather**  
(*Liatris spicata*)



**Eastern Red Columbine**  
(*Aquilegia canadensis*)

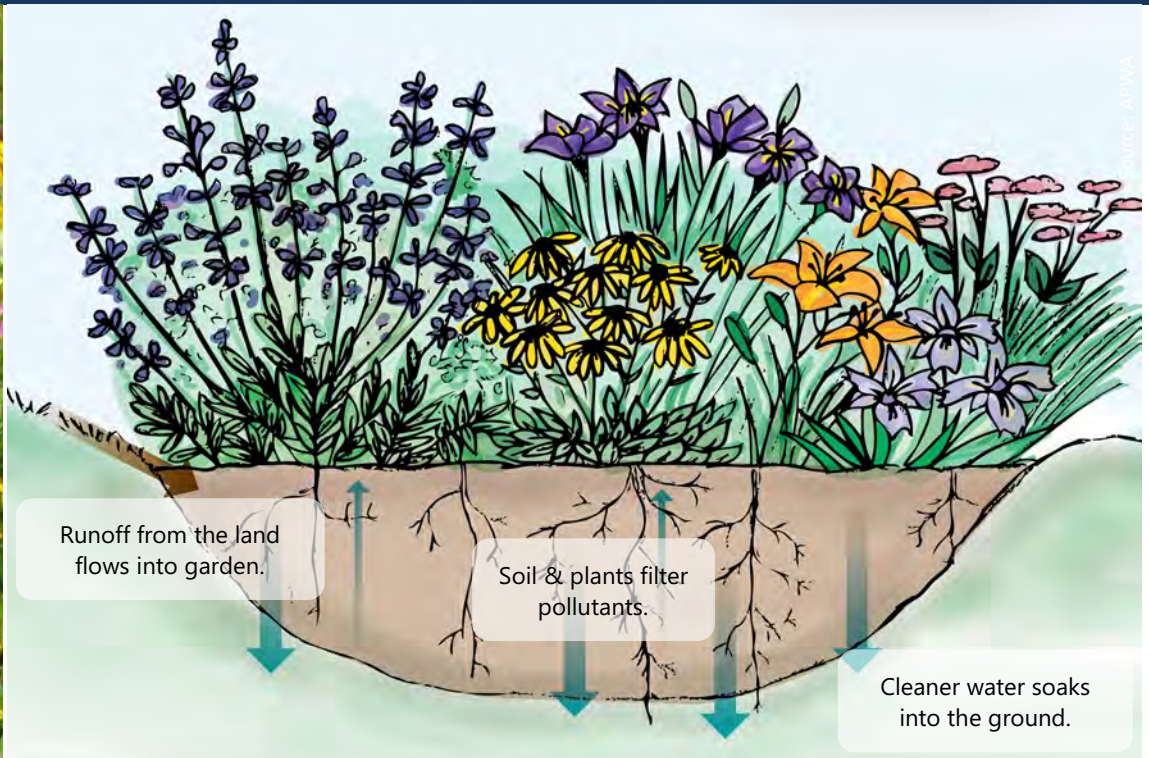


**Black-eyed Susan**  
(*Rudbeckia hirta*)





# RAIN GARDENS



## **Purpose:** Collect and filter rain water

**Description:** Bowl-shaped gardens collect and clean rain water. Soil acts as a filter to remove some pollutants and other pollutants are taken up by the plants. This minimizes the amount of pollution flowing off a property.

**Choosing a location:** Select spot at least 10 feet away from existing structures, downslope of treatment area yet above the seasonal high groundwater table. Direct rain water into garden using grassy swale, stone trench, or gutter extension.

**Sizing the rain garden:** Garden should be 1/3 size of area being treated. Calculate square feet of treatment area and multiply by 0.3. For example, a 1,000 square-foot roof top will require a 300 square foot garden.

**Creating the rain garden:** First call Dig Safe® at 811 to avoid underground utilities.

Check permeability of soil by digging a 12 to 18-inch hole and filling with water. If soil pit holds water for more than 72 hours, an underdrain or soil amendments may be needed.

Dig a bowl-shaped, shallow, flat-bottomed depression with gradually sloping sides no more than 6 to 12 inches deep. A berm can be created on the downhill side of the garden using excavated material. For clay soils not allowing sufficient drainage, excavate to twice the desired depth and replace the clay soils with a mix of 50% sand, 25% topsoil, and 25% organic material. For very sandy soils which drain quickly, mix in organic material with the top 12 inches of parent soils.





# RAIN GARDENS



Source: American Public Works Association

## Choosing plants

Select native plants that can tolerate fluctuations in soil moisture with water tolerant plants planted in the center of the garden, and drought tolerant plants planted around the outer edge. Cover all areas of bare soil with mulch. Determining the number of plants to install can vary depending on the size of the plants and how quickly they spread. However you can estimate the number by dividing the size of the garden by 2.25. A 300 square foot garden would then require approximately 133 native plants spaced at about 18 inches apart.



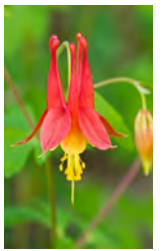
Blue Flag Iris

### Sunny garden plants

Blue Flag (*Iris versicolor*)  
Cardinal Flower (*Lobelia cardinalis*)  
Sheep Laurel (*Kalmia angustifolia*)  
New England Aster (*Aster novae-angliae*)

### Shady garden plants

Turtlehead (*Chelone glabra*)  
Solomon Seal (*Polygonatum commutatum*)  
Columbine (*Aquilegia canadensis*)  
Interrupted Fern (*Osmunda clattoniana*)



Columbine

## Maintaining your rain garden

Frequently water during the first growing season and during extended periods of drought. Weeding is necessary to maintain the look of the garden. As the plants grow, they may need to be divided.

There is no need to fertilize your rain garden. Using fertilizer will add unnecessary nutrients and reduce the ability for the garden to effectively remove pollution from runoff.



Source: Virginia Association of Soil and Water Conservation Districts





# Rain Barrels

Rain barrels are a great way to capture rainwater from your roof and store it for later use. You can use this collected water on lawns, gardens, and indoor plants while lowering your water bill and reducing stormwater runoff.



Two rain barrels collecting roof runoff.

## Installation

- If you have gutters on your roof, place your barrel under the down spout so water flows directly into the top of the barrel.
- If you do not have gutters, but have an area on your roof where a steady stream of rain flows off, place the barrel so the rain will flow off the roof into the top of the barrel.
- A full rain barrel will weigh around 400 pounds, so place your barrel on a level, sturdy surface.
  - Use cinder blocks, landscaping blocks, or a wooden frame.
  - Elevate the barrel so you can place a watering can under the spout or connect a hose.
- Use a screen cover to prevent insects from breeding in your barrel and to stop debris from clogging the spigot. Keep the screen clear of debris.

## Maintenance and Tips

- Keep your gutters and down spout clean of debris and in good working condition. Leaves and pine needles can clog gutters and prevent water from reaching the barrel.
- Never use water collected in the barrel for drinking or cooking.
- Don't use the spigot to help move the barrel, it increases the likelihood of it leaking.
- If your spigot leaks, adjust the tightness or add a seal.
- Freezing water will crack and damage your barrel. Drain the barrel before winter. If storing outside turn the barrel upside down and cover the faucet.
- You can connect multiple rain barrels together to collect and hold more water or place barrels at each gutter downspout.
- You can purchase a rain barrel or make your own. If DIY, make sure the barrel is sturdy and food-safe (was not used to store chemicals).
- If there are areas that are not ideal for a rain barrel, you can plant a rain garden instead to help prevent stormwater runoff on your property.



Downspout directing roof runoff into a rain garden.







# Composting Tips

**Compost should contain a variety of green (nitrogen-rich) and brown (carbon-rich) materials. Follow this guide for composting at home!**

## Kitchen Greens

Fruit & vegetable scraps  
Tea bags (no staples)  
Houseplant cuttings  
Coffee grounds  
Rice & pasta  
Eggshells



## Kitchen Browns

Paper napkins & towels  
Coffee filters  
Bread  
Hair



## Yard Greens

Flowers  
Vegetables  
Plant trimmings  
Hedge clippings



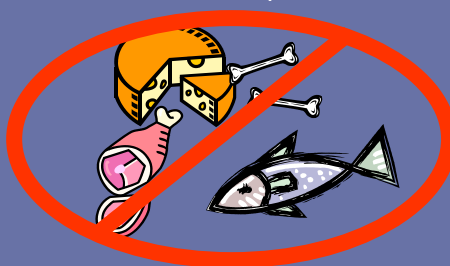
## Yard Browns

Leaves  
Small twigs  
Hay & straw  
Wood chips  
Dead plants



## Don't Compost

Meat, fish, or bones, dairy products, oils, fats, sauces, ash, pet waste, diseased plants, mature weeds with seeds



## Tips

**Chop larger items**, like watermelon rinds and corn cobs, before adding them to the compost.

**Stir the new material** into the existing compost pile using a compost turner or pitch fork.

**Cover the food waste** with a handful of leaves, other dried yard waste, or soil to reduce the chance of fruit flies.

