
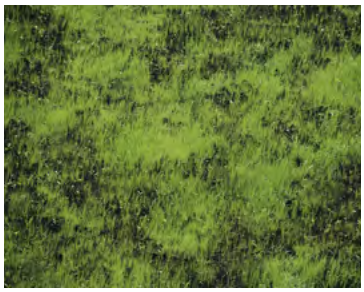

Fall Tips to Ensure a Healthy Green Yard for Spring

As the leaves change, and colors of fall become more beautiful, it is also the ideal season to complete turfgrass maintenance practices. This is the most important time to focus on cultural practices of mowing, aeration, fertilization, and seeding. The work you do in the fall helps your lawn recover from summer stresses and prepares it for another Iowa winter. The best ways to ensure a healthy lawn through the fall months and next spring is to start with the necessary steps.

Mowing

Mowing is the most time-consuming maintenance practice, but many aspects of mowing are misunderstood and performed incorrectly. Proper mowing practices play a vital role in helping to maintain a healthy, sustainable home lawn. Because lawns often look attractive after mowing, it is easy to assume that grass thrives on mowing. In reality, mowing is a very destructive process that injures the grass plant. Each mowing temporarily stops root growth, decreases carbohydrates, increases water loss, decreases water absorption by the roots, and increases susceptibility to disease. It is important to minimize these stresses through sound and consistent mowing practices.

In general, taller mowing heights result in healthier grass that is better able to resist drought as well as possible harm from weeds, insects, and disease. The correct height depends on the grass species and environmental conditions.

Kentucky bluegrass and the fine leaf fescue grasses can be mowed slightly shorter compared to perennial ryegrass and tall fescue grass. Mowing below these recommended heights can result in a rapid decline in lawn quality.

Mowing height should be increased temporarily during stressful high-temperature periods. Raising the mowing height results in a deeper root system and helps the plant find available water and nutrients. The additional leaf tissue also allows grass plants to produce more energy, helping plants better withstand stressful periods. However, mowing well above the recommended heights can lead to a thin spindly lawn, where the grass plants lay over on themselves. This matting condition can result in increased disease development.

Recommended Mowing Heights

Species	Cool weather	High-temperature stress periods
	Mowing height (inches)	
Kentucky bluegrass	2.00–2.50	2.50–3.00
Perennial ryegrass	2.00–2.50	2.50–3.00
Fine leaf fescue	1.50–2.00	2.00–2.50
Tall fescue	2.00–2.50	2.50–3.00

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How often should I mow?
The decision whether to mow should be based on the growth rate of the grass, not by a set weekly schedule. The grass species, time of year, and rainfall are all influencing factors of growth rate. You will notice during the spring, your lawn will grow at a much faster rate and require more frequent mowing. As fall approaches, the tissue growth slows, and more plant resources are focused toward the root system.

As a general rule, mow as often as needed so that no more than one-third of the total leaf area is removed in a single mowing. For example, a lawn maintained at 3 inches should be mowed before it reaches 4.5 inches. Removing more than one-third of the total leaf area can result in scalping and is detrimental to plant health. Shorter lawns require more frequent mowing.

Weed Control

Mechanical weed control refers to the physical removal of undesirable plants. Mowing eliminates a wide variety of plants that have upright growth habits, such as velvet-leaf, lambsquarter, and sunflower. Some perennial weeds also may be controlled in time by continuous mowing.

Manually removing plants by pulling or digging is also an efficient means of control in small lawns, or when only a few weeds are present. The key to manually pulling undesirable plants is to remove the entire weed including its root system. The effectiveness of pulling or digging is best accomplished after a soaking rain or deep watering.

Perennial broadleaf weeds can be controlled with an application of a broadleaf herbicide (late-September to early-November in Iowa). In the fall, perennial broadleaf weeds are transporting carbohydrates from their foliage to their roots in preparation for winter. Broadleaf herbicides applied in fall will be absorbed by the broadleaf weed's foliage and transported to the roots along with the carbohydrates, resulting in the destruction of broadleaf weeds. The most effective broadleaf herbicide products contain a mixture of two or three herbicides as no single compound will control all broadleaf weeds. The most common broadleaf herbicides are 2,4-D, dicamba, triclopyr, mecoprop (MCPP), and quinclorac.

It is important to remember that some broadleaf herbicides may affect new seedlings. To avoid damage wait to apply herbicide until new seedlings have been mowed two or three times.

Thatch and Aerification

Thatch is an intermingled layer of living and dead plant material that accumulates above the soil surface. It bears a resemblance to a spongy peat moss layer. Thatch can be beneficial and problematic. Thatch supplies necessary food sources for microbes and organic matter. However, excessive thatch can harbor diseases and insects. When properly balanced, thatch promotes growth and appearance of a well-groomed lawn. Proper balance of thatch requires a combination of management practices. These include: preventing thatch buildup by reducing plant growth, adding only the necessary nitrogen fertilization, and mechanical removal of thatch when necessary. It is important to remember that tall fescue, fine fescue, and perennial ryegrass are other lawn species used in Iowa that seldom develop thatch problems.

A core aerator punches hollow tines into the soil and removes small soil cores about the size of an index finger. Core aerating should not be looked upon as a method of removing large amounts of thatch. Rather, it is most

effective as a means of preventing thatch from developing and reducing soil compaction. Homeowners who have lawns requiring high maintenance should have annual core aerating.

A vertical mower is the most common machine to physically remove excess thatch that has accumulated overtime. The vertical mower has evenly spaced knife-like blades that rotate perpendicularly to the thatch surface. The vertical mower blades slice through the thatch and about 1/4 inch into the soil surface. It is important to set the machine low enough so that some soil is deposited on the surface. After vertical mowing, hand rake the loose thatch from the surface and leave the soil. In addition to dethatching, a vertical mower can be used when renovating and preparing the surface for over seeding. A power rake is another type of machine used to remove thatch. It is different from a vertical mower because it has spring steel tines that loosen thatch without cutting into the soil. Vertical mowing and power raking are effective means of removing thatch; however, the slicing and ripping action during dethatching causes considerable stress on the lawn. For cool season grasses, such as Kentucky bluegrass, early fall dethatching is most desirable.

Aeration, vertical mowing, and power raking services are available from some professional lawn care companies and the machines are usually available at rental companies.

Seeding

The best time to seed a lawn in Iowa is between mid-August and mid- to late-September. However, lawns can be successfully established as late as late-September in central Iowa and early October in southern Iowa. Late summer planting is preferred over spring seeding because seeds germinate and grow rapidly in the warm soil. The warm days and cool nights are ideal for seedling growth.

Fertilization is very important at the time of seeding. This is the only time you will be able to incorporate required soil amendments or fertilizer into the root zone.

Prior to preparing the seedbed, broadcast fertilizer according to soil test recommendations, then incorporate to a depth of 4 to 6 inches. When testing soil, use a Soil sample information sheet for horticulture crops (ST 0011).

Select high quality seed for the grass species best adapted to the site. Perennial ryegrasses may be included in seed mixtures for spring plantings to help the lawn establish quickly. However, for late summer planting, a mixture of three or four Kentucky bluegrass varieties is preferred in

areas that receive full sun. Fine fescue is the most shade-tolerant grass recommended for Iowa lawns. Fine fescue that will not grow in a shade situation should be replaced with shrubs, ground covers, or mulches that are suitable for low light conditions.

Refer to "Selecting a Grass Species for Iowa Lawns" (HORT 3023) for more information on selecting the right grass species.

To apply, divide the total seed quantity in half. Using a dropseeder, sow one half in one direction and the other half in a direction perpendicular to the first. After the starter fertilizer and seed have been broadcast, lightly rake the area to cover the seed to a depth of no greater than 1/4 to 1/2 inches. Seeding depth varies based upon seed size. The larger the seed size, the deeper it can be covered with soil. Roll the area lightly to firm the soil around the seed.

Grass seedlings are very susceptible to desiccation, and the surface of a newly seeded lawn should not be allowed to dry. Water should be applied only in amounts necessary to keep the soil surface moist. Avoid overwatering and runoff. Two light applications of water per day will usually be sufficient unless it is hot and windy. In more extreme conditions, up to four light waterings per day may be necessary.

When irrigation is not available, mulching the lawn with clean, weed-free straw will help conserve moisture and prevent erosion. Using 1 to 1 1/2 bales of straw per 1,000 square feet will give a light mulch covering that will not have to be removed after germination. There are also other mulching materials available for lawn establishment. These include pelletized newspaper and excelsior (wood shavings) mats.

Fertilization

The number of applications of fertilizer depends on the desires and expectations of the homeowner, soil type, cultural practices, and other factors. A single application of fertilizer in late-October or early-November containing 1 pound of nitrogen per 1,000 square feet may be sufficient for low maintenance lawns. Highly maintained lawns may need additional fertilizer in the spring (0.5–0.75 pounds/N per 1,000 square feet), September (0.75–1 pounds/N per square feet), and late-October/early-November (0.75–1 pounds/N per 1,000 square feet).

For additional information on any of these topics, refer to the following Iowa State turfgrass publications at https://store.extension.iastate.edu/Topic/Yard-and-Garden/Lawn-Shrubs-Trees.

- "Weed Control in Home Lawns" (PM 930)
- "Lawn Fertilization" (PM 1057)
- "Turfgrass Management Calendar: Kentucky Bluegrass Lawns" (PM 1063)
- "Establishing a Lawn from Seed" (PM 1072)
- "Understanding Thatch in the Home Lawn" (PM 1755)

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