

Maintaining a Healthy Lawn in Western Oregon

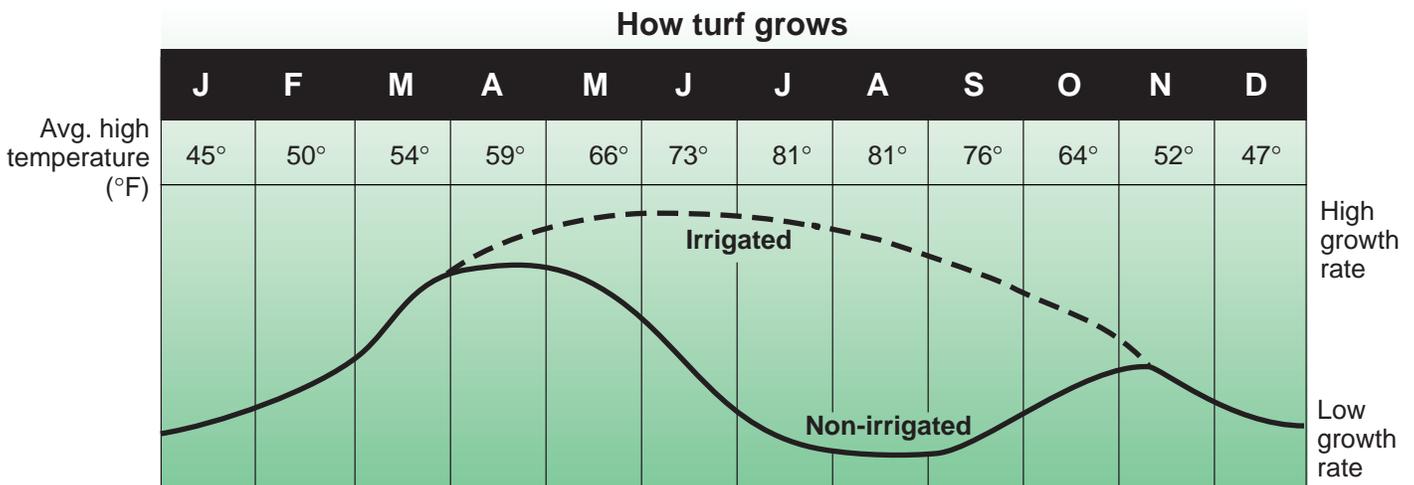
A.M. VanDerZanden and T. Cook

The typical home lawn is an evolving ecosystem that gets more complex each year. At first, it consists of one or two grass species found in a typical seed mix (e.g., Kentucky bluegrass and perennial ryegrass). Over time, it evolves to three or four species that were not part of the original seed mix but are well adapted to western Oregon's environment. This mix of new species is referred to as a "climax lawn." Climax lawns generally consist of bentgrasses (highland, colonial, and creeping) and bluegrasses (annual and roughstalk). The conversion to a climax lawn is a natural process, and the end result is a lawn adapted to your growing environment.

By concentrating on practices such as mowing, irrigating, fertilizing, and dethatching, you can maintain an attractive lawn. You might need to adapt your maintenance practices over time. For example, as the lawn transitions into the climax species, it will need less fertilizer and should be mowed shorter.

In most of western Oregon, moderate temperatures allow for year-round turf growth. Thus, lawn care is important all year long. Keep in mind that timing is everything. Performing critical maintenance tasks at the wrong time generally yields poor results and is wasted effort.

Although weather varies greatly throughout western Oregon, the temperature and precipitation patterns in Corvallis are typical of the entire area. The chart below depicts turf growth patterns during an average year. Note that turf never stops growing in winter and, with irrigation, remains vigorous throughout the summer. Unless watered, most grasses go dormant or semi-dormant in the summer, and the growth rate declines dramatically.



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Ann Marie VanDerZanden, Extension state Master Gardener coordinator, and Thomas Cook, associate professor of horticulture; Oregon State University.

Homeowners differ in their expectations for their lawns. Keeping a lawn lush and green year-round requires more maintenance than does allowing it to go partially dormant in the summer. Thus, this publication provides options for different levels of lawn care. Choose a level of maintenance based on how you want your lawn to look and how much time you are willing to put into it.

Mowing

If you choose to do only one turf maintenance task, choose mowing and do it correctly. It has a greater influence on year-round turf quality than any other practice. Weekly mowing from spring through fall will produce good-quality turf. An occasional mowing during winter might be necessary to keep the turf in good shape before the spring growth spurt. See the chart below for a recommended mowing schedule.

Recommended mowing frequency

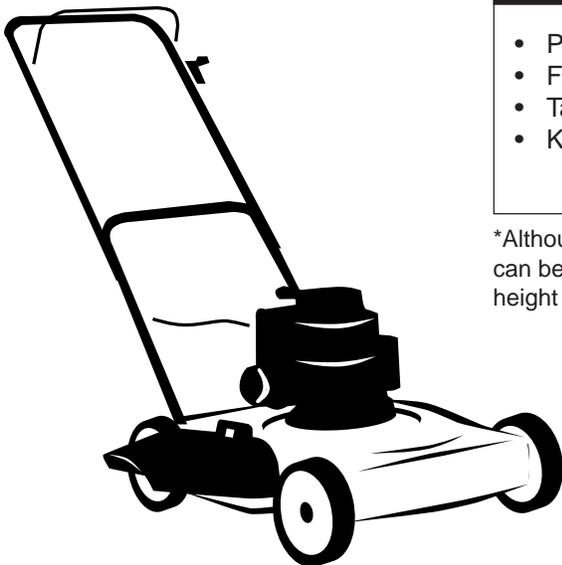
	J	F	M	A	M	J	J	A	S	O	N	D
Mowings per month	0-1	1-2	3-4	4-6	4-6	4-6	4	4	4	3-4	1-2	0-1

Frequent mowing at the proper height requires less time and effort than infrequent mowing. It also results in a healthy, dense, vigorous turf with fewer maintenance problems. The proper cutting height varies for turfgrass species. The table below shows optimum mowing heights for grasses commonly found in western Oregon lawns.

Mowing height

1½ to 2 inches	½ to 1 inch*
<ul style="list-style-type: none"> • Perennial ryegrass • Fine fescue • Tall fescue • Kentucky bluegrass 	<ul style="list-style-type: none"> • Bentgrasses (alone or in a mixture) • Annual bluegrass • Roughstalk bluegrass

*Although the optimum height is ½ to 1 inch, acceptable turf can be maintained at heights up to 1½ inch. With a mowing height over 2 inches, the turf quality drops dramatically.

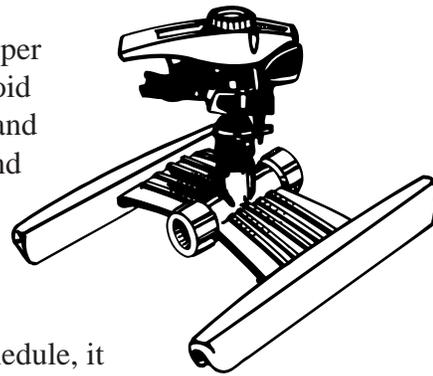


Water requirements for turf

	J	F	M	A	M	J	J	A	S	O	N	D
Inches of water per week	—	—	—	—	0-1	½-1½	¾-1½	¾-1½	½-1	0-½	—	—

Watering

How much and how often are the two biggest questions associated with watering lawns. From June through August, lawns need to be watered one to three times per week in order to apply the right amount of water, avoid runoff (from applying too much water too quickly), and keep the lawn green and lush. However, if a dense and vigorous lawn is not your priority, then one irrigation every 2 weeks is sufficient. This frequency will produce a functional lawn with visible brown spots.



Instead of following a predetermined watering schedule, it is better to observe your turf and check the soil moisture regularly.

This will help you determine how to alter your watering schedule to better meet the needs of your lawn. If the turf is dark green and doesn't spring back after it is stepped on, it needs watering. Or, check the soil moisture by inserting a 6-inch screwdriver into the turf. If it penetrates the soil easily, hold off on watering. If it takes some effort to push it in, then it's time to water. The key is to apply only as much water as the turf actually requires.

For example, during an average July in the Willamette Valley most grass species need 3–5 inches of water ($\frac{3}{4}$ – $1\frac{1}{2}$ inch per week). You can apply 1 inch of water each week with three applications of $\frac{1}{3}$ inch, two applications of $\frac{1}{2}$ inch, or one application of 1 inch. If all of the water goes into the root zone, you should get the same results from each of these three watering schedules. By the end of July, you will have applied 3–5 inches of water, and the lawn should be green and thick.

You can calculate how much water your irrigation system or individual sprinkler applies by placing empty tuna (or similar) cans throughout the area being watered. Run the sprinklers for 20 minutes. Measure the depth of water in each can and calculate the average. Multiply this by 3 to figure out how much water is applied to the area in an hour. Adjust your watering schedule appropriately.

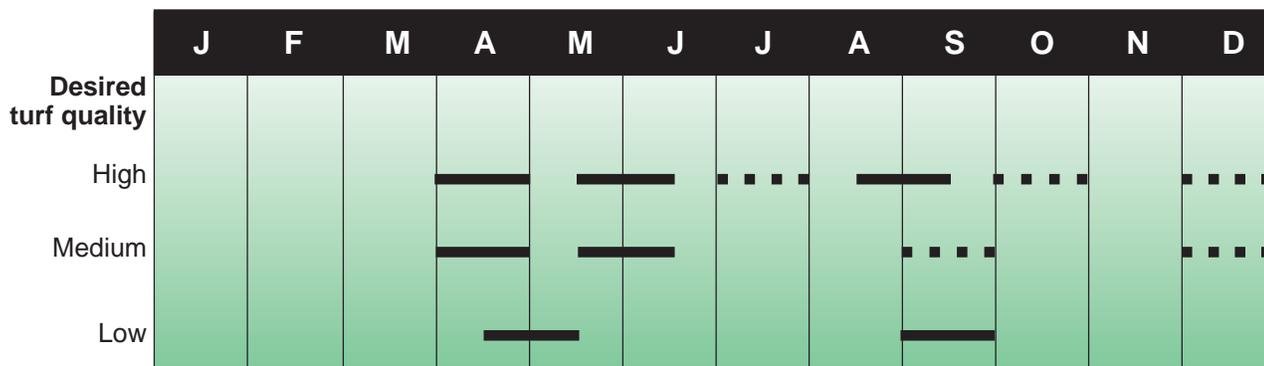
The best irrigation schedule for your lawn will depend on your soil type and how quickly the water moves into the turf's root zone. If you have a clay soil, the more frequent, shorter irrigations might be necessary to avoid runoff. If you have a sandy loam soil, you might be able to apply 1 inch per application, and all of the water applied will move into the root zone.

Fertilizing

Applying the right amount of fertilizer at the right time is important in maintaining healthy, weed-free turf throughout the year. Even if you prefer a low-input lawn, you still should fertilize once or twice a year in order to maintain a relatively healthy lawn that can compete with most weed species and survive disease and insect infestations.

Three different fertilization schedules are shown in the chart below, corresponding to high, medium, and low turf quality. Solid bars indicate approximate times when fertilizer is most beneficial. Dotted bars indicate optional applications. December applications result in greener grass in winter and early spring, but might make it necessary to mow occasionally throughout the winter.

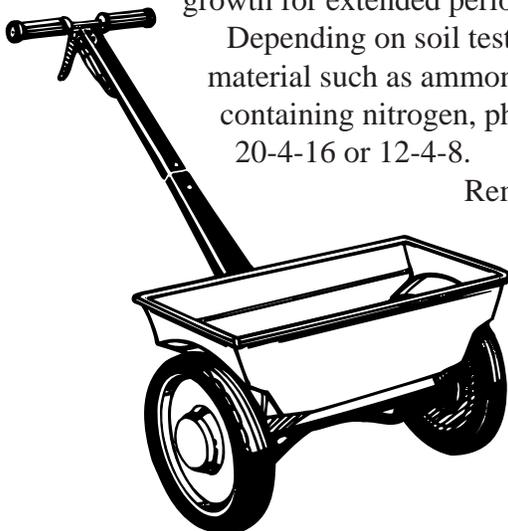
Timing of fertilizer application



Solid bars indicate the times when fertilizer is most beneficial. Dotted bars indicate optional applications.

Water-soluble fertilizers (those containing ammonium sulfate or urea) are a source of quickly available nitrogen and result in a quick green-up of the turf and increased growth. Some fertilizers are labeled “slow release” on the package; they release small amounts of nitrogen over an extended period of time. There is little immediate color and growth response from this type of fertilizer, but they provide nitrogen for turf growth for extended periods of time.

Depending on soil test values, you might choose a straight nitrogen material such as ammonium sulfate (21-0-0) or a complete fertilizer containing nitrogen, phosphorus, and potassium (N-P-K) such as 20-4-16 or 12-4-8.



Removing clippings from lawns also removes plant nutrients, so you might need to fertilize more often than you would if you left clippings on the lawn. In some studies, 25 to 50 percent of applied nutrients have been removed in clippings.

As a general rule, apply 1 lb of N to healthy turf and apply 1½–2 lb of N to turf that is weak or thin. The table at the right shows how much fertilizer to apply based on the percentage of N in the fertilizer and the desired application rate. (See EC 1278, *Fertilizing Home Lawns*, for more information.)

Dethatching

Turf problems such as reduced vigor, poor color, and localized dry spots in summer often are the result of excess thatch. Thatch is a tightly intermingled layer of grass stems and roots, both living and dead, that forms between the soil surface and the green foliage. The main problem with a thick thatch layer is that most of the turf roots grow in it rather than penetrating into the soil. This leads to drought stress because thatch does not hold water as well as soil, so you will have to irrigate more often.

Dethatching can be done with a vertical mower (also called an aeroblade, verticutter, or dethatcher), or you can use a steel rake to rip up the thatch. Once most of the thatch layer has been removed, there will be increased root growth in the soil.

The optimum time to dethatch is when the turf is starting vigorous growth in the spring. Turf dethatched in the spring recovers faster and is less prone to weed encroachment than when dethatched at other times of the year. Early fall dethatching is acceptable, but can lead to severe annual bluegrass invasion.

What do fertilizer labels mean?

The numbers on a fertilizer label represent the percentage of nitrogen (N), phosphorus (P, in the form of P₂O₅), and potassium (K, in the form of K₂O) in the fertilizer, always in that order. Thus, a 20-4-16 fertilizer contains 20 percent N, 4 percent P (in the form of P₂O₅), and 16 percent K (in the form of K₂O). To apply 1 lb of N, you need to apply 5 lb of this fertilizer. See the tables below to find out how much fertilizer to apply based on the percentage of N in the fertilizer.

Fertilizer application rates

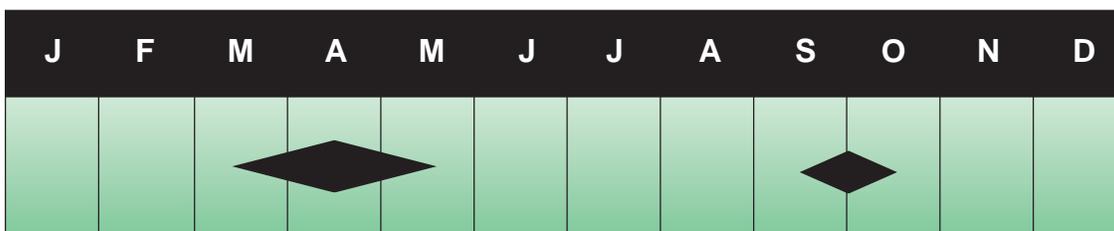
Healthy turf	
Nitrogen in fertilizer	Amount of product to apply (pounds)*
10%	10
15%	7
20%	5
25%	4
30%	3½
35%	3
40%	2½

*To get 1 lb of N per 1,000 square feet

Thin or weak turf	
Nitrogen in fertilizer	Amount of product to apply (pounds)*
10%	15–20
15%	10–13½
20%	7½–10
25%	6–8
30%	5–7
35%	2½–5½
40%	4–5

*To get 1½–2 lb of N per 1,000 square feet

Optimum times for dethatching



Conclusion

Maintaining healthy and functional turf in western Oregon does not have to be labor intensive. However, it does require planting an appropriate grass species (see *Establishing New Lawns by Seeding*, EC 1021), mowing correctly, supplying the right amount of water, and fertilizing at the optimum time and with the correct amount of nutrients. It also entails observing your lawn regularly in order to deal with problems before they become extreme.

For more information

Controlling Moss in Lawns, FS 55 (revised 1988, reprinted 1998). No charge.

Establishing New Lawns by Seeding, EC 1021 (published 1980, reprinted 1996).

No charge.

Establishing New Lawns by Sodding, EC 966 (revised 1989, reprinted 1992).

No charge

Fertilizing Home Lawns, EC 1278 (published 1989, reprinted 1998). \$1.00

Soil Sampling for Home Gardens and Small Acreages, EC 628 (revised 1995, reprinted 2000). No charge.

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