Yard Waste Management

Cooperative Extension Service
College of Agriculture and Home Economics

Guide H-122

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This publication is scheduled to be updated and reissued 6/06.

As much as one-third of the solid waste that goes into New Mexico landfills comes from grass clippings, tree leaves, and other landscape waste. These wastes contain valuable nutrients, which are removed from the landscape when they are discarded. They take up landfill space, increasing service costs and taxes to pay for their removal. Additional fertilizer expenses are incurred to partially replace the nutrients lost when the landscape waste was removed from the site.

The following waste reduction plan was developed by New Mexico State University's Cooperative Extension Service. It is designed to reduce landscape waste entering the landfills, protect the environment, and improve the quality of New Mexico landscapes.

Two major sources of landscape waste are grass clippings and tree leaves. The lawn care and leaf care management plans outlined below will help you reduce the amount of fertilizer you use on the lawn, have a healthier lawn, and to use your grass clippings and leaves rather than sending them to the landfill.

LAWN CARE PLAN

Mowing

Mowing, along with irrigation and fertilization, is one of the most basic turfgrass cultural practices. It involves periodically removing some of a portion of the turfgrass' aboveground plant material (leaves and stems), primarily to increase turf density. This, in return, improves the area's appearance or provides a uniform playing surface for certain sports. Table 1 gives the preferred mowing height of commonly used cool- and warm-season turfgrass species in New Mexico.

Table 1. Mowing heights for warm- and cool-season turfgrass species.

Grass species	Mowing height (in.)
Cool-season	
Fine fescues	0.5 – 1.5
Kentucky bluegrass	0.75 – 2
Perennial ryegrass	0.75 – 2
Tall fescue	1.5 – 3
Warm-season	
Seeded Bermudagrass	1 – 2
Hybrid Bermudagrass	0.5 – 1.5
Buffalograss	1.5 – 4
Seashore paspalum	0.25 – 1.5
St. Augustinegrass	1 – 3
Zoysiagrass	0.5 – 2

Turfgrass areas should be mowed frequently enough to never have more than 30% of the aboveground tissue removed. For example, if a turfgrass area's preferred mowing height is 1 inch, it should be mowed when a height of 1.5 inches is reached. If the desired mowing height is 2 inches it should be mowed at 3 inches. If the proper mowing frequency is followed, clippings can be left on lawns, returning valuable nutrients to the grass plants. Clippings contain approximately 4% nitrogen, 0.5 to 1% phosphorous, and approximately 2% potassium as well as essential micronutrients. Grass clippings returned to the lawn can reduce fertilizer use by 25%.

If turf is mowed at the proper height, clippings will not contribute to thatch accumulation. Thatch describes a mixture of completely decomposed, partly decomposed, and freshly deposited organic matter accumulated at the plant and soil interface. If too much thatch accumulates, turf quality may be reduced, because thatch interferes with water and nutrient availability and can be host to disease organisms.

Three types of mowers are commonly used for mowing turfgrass: flail, reel, and rotary. The mowing component in a flail mower consists of numerous small knives hinged to a horizontal shaft. The shaft rotates, and the knives cut any kind of vegetation and debris to a finely ground mulch. Flail mowers are used on infrequently mowed turfs where appearance does not play a major role (roadsides). Reel mowers use a shearing action with the grass blade caught between the rotating reel and the bedknive. They provide the highest quality of cut of all three types of mowers and are best suited for very low cut areas.

Rotary mowers are the primary type of mower used on most home lawns. A horizontally rotating blade cuts the grass. Models range in size from small push behind units to large riding units that mow large areas in a short period of time. Recent advancements in rotary mower technology led to the development of mulching mowers. Modifications of rotary mowers include specially designed mulching blades and/or restrictions on the grass discharge ports. These modifications produce very small clippings that can be easily decomposed within the turf canopy and on the soil surface. Clippings do not have to be collected and sent to a landfill.

Watering

Proper watering is essential to a healthy lawn. Irrigation should be applied deeply and infrequently. Frequent and shallow watering encourages a shallow root system that makes a lawn more susceptible to drought and grub damage.

The amount of irrigation water to be given to the turf and the irrigation frequency depend on the type of grass and the soil type. Grass on clay soils generally needs to be watered less frequently because of the greater water-holding capacity of these clayey soils. Sandy soils drain faster and have to be watered more frequently in smaller amounts. Warm-season grasses, such as Bermudagrass and Buffalograss, may need only 1 inch of water every 5 days, while cool-season grasses, such as Kentucky bluegrass, perennial ryegrass, and tall fescue, have to be watered 1 inch every second to third day. The best time to water is early morning, because water pressure is usually high and no water is lost through evaporation, as compared to watering midday when temperatures are high.

Fertilizing

An attractive, stress-tolerant lawn must have an adequate supply of mineral nutrients available in the soil. Turfgrasses are most responsive to nitrogen, which promotes shoot growth and enhances green color. Fertilization with phosphorous and potassium should be based on a soil test. For slow and even turf growth, using a slow release fertilizer, such as sulfur coated urea or ureaformaldehyde, is recommended. Table 2 lists nitrogen rates per growing month and application dates for a medium maintenance level lawn.

Table 2. Nitrogen requirements per growing month and application dates for different turfgrass species in a medium maintenance level lawn.

Grass species	lb nitrogen/1,000 ft^2/ growing month	Application dates
Cool-season		
Fine fescues	0.25 – 0.5	mid-April, mid-September, beginning of November
Kentucky bluegrass	0.75 – 1	
Perennial ryegrass	0.75 – 1	
Tall fescue	0.5 – 0.75	
Warm-season		
Seeded Bermudagrass	0.75 – 1.5	mid-May, mid-June,beginning of August, mid-September
Hybrid Bermudagrass	0.5 – 1	
Buffalograss	0.25 – 0.5	mid-May, mid-August
Seashore paspalum	0.25 – 0.5	mid-May, mid-June, beginning of August, mid-September
St. Augustinegrass	0.5 – 0.75	every 8 weeks in growing season
Zoysiagrass	0.25 – 0.5	mid-May, mid-August

LEAF MANAGEMENT PLAN

Fallen tree leaves also contain nutrients that can be used by turfgrass and other plants. Leaves left on the lawn for extended periods can diminish the amount of light reaching the grass and may cause the lawn to thin. In lawns covered with as much as 5 to 6 inches of leaf litter (ankle deep), the leaves may be shredded by mowing and left to decompose without affecting the turf quality. If the fallen leaves are even deeper, remove the leaves. It is important that the leaves, shredded or unshredded, do not cover the lawn for a long period, diminishing the light received by the grass.

It is not necessary to bag fallen leaves for disposal in a landfill. They may remain on the lawn to return or they may be removed to mulch flower and vegetable gardens. A mulch is any material that covers the soil surface and conserves water, moderates soil temperatures, discourages weeds, and reduces soil erosion and crusting. Shredding the leaves or running the lawn mower over them will make them decompose more quickly, create a more uniform mulch, and reduce their tendency to blow away.

Tree leaves also may be composted to create an organic soil amendment to improve garden soil. Compost is decomposed organic material that looks like soil. Composting may be done in piles or bins of simple or elaborate design. To compost fallen leaves, mix the leaves with nitrogen containing material, such as fresh vegetable waste from the kitchen, green grass clippings, or manure. Turn and water the compost to speed decomposition.

The leaf mold made by composting yard waste may be used to enrich the soil of gardens or may be applied as a top dressing to lawns. As a soil amendment it will improve the drainage characteristics of clay soil and increase the water-holding capacity of sandy soil.

For more information regarding composting lawn waste, see NMSU Extension Guide H-110.

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Revised June 2001 **Las Cruces, NM**
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