

ORGANIC LAWN CARE. Cultural methods that promote turfgrass growth and establishment; reduce insect and disease problems and conserve water.

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Management Practice	Positive results	Negative results
Have a soil test done. It lets you know how acid your soil is and about nutrient availability.	Recommends the proper amount and frequency of application of fertilizer and lime needed for healthy turfgrass growth and establishment.	Without having a soil test done you will not know how much lime to apply to correct a soil pH imbalance. You also would not be safeguarded from using too much or too little fertilizer. Over fertilizing can accelerate turf and weed growth creating a demand for more water than normal.
Mow High: adjust cutting height of mower to be 2.5 to 3 inches. Mow grass when it is dry.	Promotes deeper roots with larger carbohydrate reserves. Taller grass blades capture more of the sun's energy to make food for the roots in the form of carbohydrates and other cell building compounds. The taller the grass, the deeper the roots. Taller grass helps shade out weeds.	Mowing too short (<2"), draws on carbohydrate reserves (food) stored in the roots. Roots become limited in carbohydrate storage capacity. This action causes roots to grow slower. It also reduces the turfgrass blade's ability to make food by the process of photosynthesis. Short grass thins out and allows better weed growth and establishment.
Keep mower blades sharp.	Promotes a clean cut. Sharpen mower blades about once a month.	Dull mower blades tear turfgrass blades creating a larger surface area (i.e. port of entry) for disease organisms. Tearing calls on the roots for more carbohydrate reserves for wound healing thereby, weakening turf.
Leave grass clippings on lawn.	Grass clippings are more than 90% water; acting as a mulch conserving soil moisture and decompose rapidly serving as a substrate for microbial activity releasing nutrients back to the soil. Improves / maintains soil structure.	Removing or bagging clippings reduces natural organic matter that could feed the soil / turfgrass roots. Reduces soil enrichment.
Water deeply and infrequently. Water 1 inch every 5 to 8 days depending upon rainfall.	Promotes deeper roots. Deep roots have better establishment and more carbohydrate storage capacity contributing to better drought resistance. Better resistance to root feeding and blade feeding insects and disease organisms.	Frequent or light watering causes roots to grow close to the soil surface. Shallow or small roots have less resistance to root feeding insects (e.g. white grubs). Smaller roots have less carbohydrate reserves and less drought resistance in hot weather. Too much water promotes root and crown diseases and depletes soil oxygen in soil pore spaces for proper plant growth.
Use organic fertilizers and not quick release (water soluble) synthetic (inorganic) fertilizers.	Organic fertilizers (OF) add nitrogen slowly and they do it over a longer period of time. OF do not burn. They rely on soil microbes, micro-arthropods, and worms to release nutrients. OF do not kill beneficial soil organisms. OF do not acidify soil.	Synthetic and / or water soluble fertilizers acidify the soil (decrease soil pH) and decrease most beneficial soil organisms at each application. Synthetics act quickly bypassing the actions of soil organisms and go directly to the roots. Synthetics can promote succulent blade growth increasing susceptibility to surface feeding insects (chinch bugs, etc.), some diseases, and require more frequent mowing.

Management Practice	Positive results	Negative results
Alleviate soil compaction by soil aeration machines, re-routing foot traffic and mowing patterns. Add gypsum. Incorporate composts into soil.	Promotes better soil oxygen flow and water infiltration to roots for better root growth and top (blade) growth. Aeration helps break up thatch. To reduce competition with weeds, aerate when grass is growing vigorously or in the Fall.	Compacted soils have less microbial activity, poor water and nutrient infiltration, low soil oxygen for roots and reduced microbes. Compacted soils are conducive to puddling when irrigated. Low soil oxygen tolerant weeds become established. Turfgrass is thin or there is bare soil. Compacted soils contribute to thatch build up.
Alleviate thatch build up. Thatch is the dead and dying roots, stolons and rhizomes.	Thatch is high in lignin and, therefore slow to decompose. Lawns with ¼ inch or less of thatch is good. It acts like a mulch, preserving soil moisture; keeps roots cool and adds nitrogen to the soil.	Microorganisms feeding on thatch release nutrients to the soil. The continued or regular use of inorganic lawn chemicals kills off these beneficial microbes with every application. Thatch prevents water and nutrient infiltration, harbors insects and disease organisms and reduces light penetration. Turf growing in thick thatch (>1/2 inch) is thin.
Plant the right turfgrass seed species in the right place when renovating.	Proper turfgrass species grow best when seeded in the right environment (e.g. Bluegrass in the sun, fescues in the shade).	Turfgrass seed not matched to the proper soil / site conditions will result in poor germination, growth, and establishment.
Renovate in the Fall (August 15 to September 15).	Adequate soil moisture and cooler soil temperatures for germination. Less weed competition.	Renovation during Spring / Summer proves troublesome because weeds out compete germinating grasses.
Buy grass seed with endophyte enhanced cultivars and TESTED in year you use it.	The label on the box or bag of grass seed has a DATE TESTED. Don't buy seed over 1 year old. Endophyte enhanced seed has high viability when less than 1 year old.	Old seed has lower germination success. Seed over 1 year old has reduced endophyte viability. Some grass cultivars (ryegrass, fescues) are endophyte enhanced and offer a level of protection against foliar feeding insects.
Top – dressing: apply a light covering (1/4 inch) over lawn of either good quality top soil, finely screened compost, or composted manure.	Encourages soil microorganisms, worm and arthropod activity. These soil organisms promote decomposition of grass clippings and thatch. The actions of these organisms help to suppress some diseases and directly contribute to soil fertility.	Will not encourage or sustain high levels of soil biological activity that contributes to nutrient cycling, recycling and fertility for turfgrass growth and establishment.
White grub control See Newton TAB handout.	Bio-control of white grubs using HB nematodes. Safe for applicator and humans / pets. No residual.	White grub population could increase to damaging levels requiring expensive lawn repairs.

Helpful Publications for Organic Lawn Care

1. Schultz, Warren. 1989. **The Chemical – Free Lawn.** The Newest Varieties and Techniques to Grow Lush, Hardy Grass. Rodale Press, Emmaus, Pennsylvania. ISBN: 0-87857-801-3
2. Franklin, Stuart. 1988. **Building a Healthy Lawn.** A safe and natural approach. Storey Communications, Inc., Pownal, Vermont. ISBN: 0-88266-518-9

3. Tukey, Paul. 2007. Organic Lawn Care Manual. A Natural, Low – Maintenance System for a Beautiful, Safe Lawn. Storey Publishing. ISBN:13 :078-1-58017-649-1.

Note: There are other books on this subject for sale at book stores. Check them out to see which one(s) you like.

Helpful Integrated Pest Management (I.P.M.) publication that includes pesticide options.

3. Professional Guide For **IPM IN TURF** For MASSACHUSETTS 2006-2007
Published by UMass Extension Program, University of Massachusetts, Amherst.

This manual is available for \$22.00 from: **UMass Extension Bookstore**, Draper Hall, 40
Campus Center Way, University of Massachusetts, Amherst, Mass. 01003-9244
Phone: 413-545-2717

Web Site on Horticulture, including turf: www.UMassGreenInfo.org

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