



HOME*A*SYST

Home Assessment System

Michigan residents use their lawns for a wide range of activities. Some desire a formal, manicured appearance; others are interested in using their lawn as a soccer field. It is important to identify your objectives for your lawn and the level of maintenance you wish to invest in it.

Lawn*A*Syst will identify the proper lawn care techniques that will help you achieve your objectives and protect both groundwater and surface waters. Michigan residents depend on these water resources for their drinking water.

Properly maintained lawns contribute to Michigan's healthy environment.

Your lawn has the ability to:

- ✓ Filter contaminants from rainwater and the atmosphere.
- ✓ Absorb nutrients and prevent losses to the groundwater.
- ✓ Reduce runoff and erosion.
- ✓ Absorb heat, light and noise.
- ✓ Provide an ideal surface for recreational activities.



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Michigan
Groundwater
Stewardship
Program

MICHIGAN STATE
UNIVERSITY
EXTENSION

Lawn*A*Syst: An environmental risk assessment guide for lawn care practices

Assessment Tables

The following tables are designed to examine and rank your lawn maintenance practices for their risk to water resources. For each practice, indicate your risk in the fourth column. Some choices may not correspond exactly to your situation — choose the response that best fits your lawn maintenance activities.

Responding to Risks

Your goal is to lower your potential risks to water quality. Turn to the action checklist on page 6 to record the high- and medium-risk practices you identified. Use the information in the tables and the MSU Turf Tips To Preserve Water Quality to help plan actions to reduce your risks to water quality: www.turf.msu.edu.



The Home*A*Syst Assessment Guide (Extension Bulletin WQ-51) is available from County MSUE Extension offices.

✓ Lawn Care Practice Summary

PRACTICE (Rate each practice by completing Assessments 1, 2 and 3)

Fertilization

Maintaining a healthy lawn requires proper fertility. Improper fertilizer use, however, can waste money and increase the likelihood of water contamination. A lawn-fertilizing schedule should be adjusted according to soil fertility, the health of the lawn and the owner's objectives. A low-maintenance lawn may require only one fertilizer application per year, while a high-quality lawn may require as many as five applications.

Mowing

It is essential to mow a lawn at the correct height and frequency to maintain a healthy lawn. Many people mow their lawns too short, inviting weeds and other pests. Mowing should provide a uniform, pleasing appearance while improving the density of the grass plants by promoting the development of roots and leaves. High-density grass discourages weed invasion and the loss of fertilizers and pesticides.

Irrigation

To maintain a high-quality lawn, irrigation is often required. When irrigation is done properly, the lawn can tolerate more pest damage without the use of pesticides than unirrigated lawns. When irrigation is done improperly, it increases the chance for surface and groundwater pollution and is a waste of money and water.

Pest control

When pests invade lawns, consider tolerating the damage. If pest control is desired consider the full range of pest control options: cultural (including those listed above), biological, mechanical and chemical (pesticides). Use pesticides together with other control methods. Improperly applied pesticides may contaminate groundwater and surface water. For the latest lawn pest control recommendations, contact your county MSU Extension office.

Seeding

The best time to seed or repair a lawn is in the fall or spring, with mid-August to late September providing the most reliable results. Later seedings may fail if the seedlings have insufficient growth to survive the winter. A dormant seeding made in November is acceptable because low temperatures will prevent germination until the following spring. Summer seedings are often unsuccessful because of high temperatures, lack of moisture and competition from weeds. Runoff from areas of bare soil can be a major source of pollution in lakes and rivers.

✓ **Assessment 1 — Spring Lawn Care (late April – June)**

1. LOW RISK Recommended	2. MED. RISK Potential hazard	3. HIGH RISK Unsafe situation	YOUR RISK	NOTES
No fertilizer applied, or fertilizer applied based on soil test and owner's objectives.	Fertilizer applied before spring green-up. (Fertilization too early may increase the potential for nutrient loss to water resources.)			A lawn fertilization program that begins late summer/fall will delay the need for spring fertilization and promote a healthy lawn.
Lawn mowed at 2.5-4" height. Mowed with a frequency to remove only 1/3 of the leaf blade each mowing.		Lawn mowed short (less than 2") and/or more than 1/3 of leaf blade removed.		Spring conditions may require mowing the lawn more than once a week.
				Lawn irrigation is usually not required at this time.
Crabgrass managed by maintaining a healthy lawn.	Crabgrass preventer applied at correct time: forsythia bloom.			A vigorous lawn will shade out crabgrass.
Broadleaf weeds managed by maintaining a healthy lawn, or herbicide(s) used to spot treat weeds.	Herbicide(s) used to treat entire lawn area.			Broadleaf weeds are best controlled with a fall herbicide application.
New and weak lawn areas seeded in early spring.		Bare areas not seeded (or sodded) and subject to soil erosion.		Spring is an effective time to seed a lawn, although expect more weed competition than with a fall seeding.



✓ Assessment 2 — Summer Lawn Care (July – mid-August)

1. LOW RISK Recommended	2. MED. RISK Potential hazard	3. HIGH RISK Unsafe situation	YOUR RISK	NOTES	
No fertilizer applied, or fertilizer applied based on soil test and owner's objectives.		Fertilizer applied without regard to owner's objectives.		Non-irrigated lawns often require little fertilization during summers with little rainfall.	
	Clippings returned to the lawn or composted.	Clippings removed from the lawn and not composted.			Returning clippings to the lawn can reduce the total need for fertilizer.
	Sharp mower blade maintained.	Mower blade not sharpened for entire season.			A sharp blade will reduce damage to grass plants.
Lawn not irrigated or light, frequent irrigation (.1 or .2") applied when needed.		Heavy (1" or more) infrequent lawn irrigation and/or irrigation during rainy periods.		Do not apply more than .5" of water after fertilizer and/or pesticide application.	
Weeds managed by maintaining a healthy lawn.	Herbicide(s) applied despite hot and dry weather.			Herbicides generally perform poorly during periods of slow weed growth.	
Insects and diseases managed by maintaining a healthy lawn. or Insect/disease identified. Pesticide applied according to label instructions.		Pesticide applied without pest identification and without regard to label instructions.		Many home lawns do not require the use of a lawn insecticide or fungicide.	
				Lawn seeding is usually not recommended at this time.	

✓ Assessment 3 — Late Summer/Fall Lawn Care (mid-August – November)

1. LOW RISK Recommended	2. MED. RISK Potential hazard	3. HIGH RISK Unsafe situation	YOUR RISK	NOTES
Late summer/fall or dormant fertilizer application (late Oct.-early Nov.) to strengthen root system.	No late summer/fall or dormant fertilization, resulting in a weaker lawn in the spring and summer.			If you fertilize once per year, late summer or fall is the best time.
Lawn mowed as long as growth continues.	Lawn mowing discontinued before growth stops.			Unmowed grass over the winter months may result in disease and other pest problems.
Tree leaves composted or mowed into the lawn.	Fall leaves not collected nor mowed into the lawn.	Leaves dumped or allowed to enter water bodies.		Leaves left over the winter may kill grass plants.
				Lawn irrigation is usually not required at this time.
Weeds managed by maintaining a healthy lawn or herbicide(s) used to spot treat weeds.	Herbicide(s) used to treat entire lawn area.			Fall application provides best broadleaf weed control and allows lawn grasses to fill in open areas.
Insects and diseases managed by maintaining a healthy lawn.	Insect/disease identified. Pesticide applied according to label instructions.	Pesticide applied without pest identification and without regard to label instructions.		Many home lawns do not require the use of a lawn insecticide or fungicide.
New and weak lawn areas seeded between mid-August and late September.	Lawn areas seeded in November or later.	Bare areas not seeded (or sodded) and subject to soil erosion.		Dormant seedings should be limited to level areas and mulched to prevent erosion.

✓ Assessment 4 — Other Lawn Care Practices

PRACTICE	1. LOW RISK Recommended	2. MED. RISK Potential Hazard	3. HIGH RISK Unsafe Situation	YOUR RISK	NOTES
Mower fueling	Funnel or nozzle always used. Equipment fueled on paved surface. Any spill cleaned up.		Equipment fueled on lawn. Spills may occur.		Gasoline spills may contaminate groundwater and will kill lawn grasses.
Used oil disposal	Used oil from mower collected and recycled.		Used oil disposed of on driveway or other on-site locations or placed in trash.		Many used oil collection sites are available throughout Michigan.
Fertilizer and pesticide application	Materials not applied to paved surfaces or brushed off onto lawn areas.		Materials applied to sidewalks and driveways.		Materials applied to paved surfaces may run off to storm drains/water bodies.
Fertilizer and pesticide equipment maintenance	Application equipment well maintained and calibrated for accurate delivery rate and placement.		Application equipment assumed to be accurately calibrated.		Measure lawn area, pesticides and fertilizers. Adjust equipment so recommended rates are applied.
Nitrogen fertilizer selection	Slow-release nitrogen fertilizer used.		Water-soluble nitrogen fertilizer used at rates in excess of 1 lb. N/1000 sq. ft. lawn area.		Nitrogen fertilizer forms are listed on the label. Numerous slow-release forms are available.

Responding to Risks – Action Checklist

WRITE ALL HIGH AND MEDIUM RISKS HERE.	WHAT CAN YOU DO TO REDUCE THE RISKS?	TARGET DATE FOR ACTION:
<i>Example: Spring fertilizer applied before green up.</i>	<i>Delay spring fertilizer until green up.</i>	<i>Next Spring</i>