1. Mowing:
The most important cultural practice associated with turf care is proper mowing. Mow high (3 inches) during the spring and summer months when grass reaches 4 inches. Continue mowing in the fall until the grass stops growing. Mow shorter in late October through the last mowing. The last time you mow, set the mower at 1” to prevent snow mold in spring, and to discourage moles, voles and mice from burrowing in your lawn all winter. In fall, use mulching mower attachments to mulch fallen leaves into the turf. It will not harm the turf and will recycle nutrients back to the trees from where they came. Sharpen the mower blade annually.

2. Fertilizing:
A. A fertility program is based on personal preferences for the desired lawn quality.
B. Apply no more than one pound of nitrogen per 1000 square feet at each application. One-half of this rate is all that is needed in shaded areas.
C. The demand for nitrogen is higher than the other nutrient elements. Phosphorus should be as low a percentage as available. Zero phosphate fertilizer are highly encouraged for lakeshore lawns to minimize phosphorus pollution of to your lake. Never fertilize in April through early May; you will be fertilizing the weeds that are starting to sprout instead of the lawn.
D. Use an annual fertilizer schedule based on your personal need.

<table>
<thead>
<tr>
<th>Need</th>
<th>Times Applied</th>
<th>Dates</th>
<th>Approx. Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Maintenance</td>
<td>One Time</td>
<td>Early to mid-October</td>
<td>26-3-12 (winterizer)</td>
</tr>
<tr>
<td>General Maintenance</td>
<td>Two Times</td>
<td>Early to mid-October</td>
<td>26-3-12 (winterizer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early June</td>
<td>26-3-3</td>
</tr>
<tr>
<td>High Maintenance</td>
<td>Three Times</td>
<td>Early to mid-October</td>
<td>26-3-12 (winterizer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early June</td>
<td>26-3-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early September</td>
<td>26-3-3</td>
</tr>
</tbody>
</table>

Expect to use more fertilizer if clippings are collected and the lawn is regularly irrigated. The only good reason to bag clippings is because it has grown too long between mowing. Never use lime on turf grasses grown on clay soil. Clay soils are already too alkaline.

3. Irrigation
When lawn grass turns a darker green and foot prints can be seen in the turf, it is water stressed. To remain green and growing, irrigate at this stage. Water lawn grasses one inch per week (including rain fall). Avoid light sprinkling as it promotes shallow root growth. It is better to give the turfgrass a deeper watering rather than shorter, lighter watering. Short watering puts more stress on it than if it hadn’t been watered at all. Since browning of lawn grass only puts the turf into dormancy, watering is not necessary to keep the turf alive. Extreme heat and drought however, can damage turf to a point where it will need reseeding.
4. Weed Control
   A. The best weed control is setting the mower at three inches or more. This will allow the turf to crowd out weeds.
   B. The most effective time to use herbicides for broadleaf weeds is late September. This is when dandelions are mature. Treat them in September and they will not be there in spring. Herbicides can also be effective in early May.
   C. The best time for herbicides is not the best time to fertilize. Using fertilizers at a different time and separately from herbicides is therefore advised. Spot treating individual weed plants is more economic and environmentally wise. Do not apply at any other rate higher than the labeled instructions. The most effective herbicide formulation includes 2,4-D, mecoprop and dicamba. This mixed product is known as a Trimec. Most lawn herbicide brands are this formulation.
   D. For crabgrass control, apply a pre-emergence crabgrass herbicide (without fertilizer) in late April or when the Forsythia shrub displays its full, bright yellow bloom.

5. Thatch
Thatch is a layer of dead, undecayed grass stems (rhizomes) in the upper soil layer. Some thatch is desirable (up to ¼ inch). Excessive thatch (more than ½ inch) is associated with an increase of disease and will restrict the movement of water, air and nutrients. Returning grass clippings to the turf does not contribute to thatch. Early spring fertilization (April & May), fertilizing four times a year, over watering and pesticide use contributes to thatch. Core aeration in the months of May or September (when the turf is actively growing) reduces thatch build-up. Excess thatch cultures several turf diseases.

6. Disease
There are about 15 lawn diseases that are caused by parasitic fungi. These turf diseases need professional diagnosis and treatment recommendations. Turf samples can be brought into the County Extension Office to be sent to the Turf Grass Diagnostic Lab in Madison. The cost of the service through the UW Extension is $20. An 8-inch square sample of sod that includes a transition between the healthy and disease sod is needed for diagnosis. Curative treatment almost always involves changing cultural practices such as core aeration and the right timing for fertilization. Lawn fungicides have proven ineffective.

7. Insects
There are two primary insects that can damage turf. June Beetle larva (white grubs) feed below ground on the roots. Chinch Bugs feed by sucking plant fluids at the crown of the grass. To monitor for insect infestation, mix one tablespoon of liquid soap with one gallon of water. Pour over a square yard area. Observe for 10 minutes and collect insects that rise to the surface. For identification and treatment options, bring insect samples to the County Extension Office. Three June Beetle grubs per square foot can do damage to turf grass. A well-watered and fertilized lawn will resist insect damage. New preventative control products are available. Look for brands that contain Imidacloprid or holofenozide for preventative treatment that can be used from late May through July.

Lawn Seeding
For repairing damaged areas in the lawn or to establish a new lawn it is best to know that expensive seed will contain less weed seed and the better grass varieties. Best time to culture a new lawn is between August 15th and September 20th. Mid May is good also.

For sunny areas the grass seed blend should come close to the following ideal mix:

- Kentucky Blue Grass: 65%
- Fine Fescue: 20%
- Perennial Rye Grass: 15%

For Shady areas look for blends close to the following mixture:

- Kentucky Blue Grass: 40%
- Fine Fescue: 50%
- Perennial Rye Grass: 15%