There is something for everyone. Learn how.

Thank you for exchanging ideas about lawn and yard care choices this summer! We appreciate your participation.

This is the first of two pamphlets about lawn and yard care. It focuses on your lawn and yard care choices and practices. Enclosed is a short feedback form. Please fill it out and return it in the next few days.
**STEP ONE:**
SELECT YOUR DESIRED LAWN QUALITY AND FUNCTION.

*Exceptional Lawn Quality:*
Grow an attractive and well-kept green lawn through the optimal use of fertilizer, mowing, and water.

- These lawns have high wear tolerance and need lots of sun. They also require attention and care.

*Low Input Lawn:*
Maintain a healthy lawn with less time, fertilizer, mowing, and water. Save time, money, and reduce inputs. Spend your summer doing other things you enjoy.

- These lawns have low wear tolerance and can tolerate some shade. Once established, they require little attention.

*Conversion of part or all of your lawn:*
Create wildlife habitat, an edible landscape, a rain garden. Imagine an ecosystem in your yard.

- Prairie plantings and rain gardens thrive in sun and woodland plants thrive in shaded areas.

Consider a combination of these types for different parts of your yard.

**STEP TWO:**
UNDERSTAND BASIC LAWN BIOLOGY.

*Fertilize, mow, and water your lawn to:*
- Maintain a healthy, attractive lawn
- Reduce time and cost of lawn maintenance
- Secure environmental benefits of lawns and reduce environmental costs

Lawns in Minnesota consist of cool season grasses. These grasses grow in the spring and early fall.

*Time your lawn care practices to support this growth cycle.*

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- Indicates **best times** for lawn care practice
- Indicates **acceptable times** for lawn care practice

Modified chart from University of Minnesota Sustainable Urban Landscape Information Series (SULIS), www.sustland.umn.edu
**PRACTICE 1: FERTILIZING**

Lawn fertilizer provides nutrients to support healthy lawns. It often contains the nutrients nitrogen (N), phosphorus (P), and potassium (K).

On a bag of **synthetic lawn fertilizer**, three numbers indicate the percentages of each of these nutrients.

**Synthetic lawn fertilizers** also have different mixes of “quick-release” and “slow-release” nitrogen (N). In general, use a fertilizer with 35-50% “slow-release” N.

**Organic fertilizers** include corn gluten meal, animal manures, and compost. Also, lawn clippings and mulched leaves return nutrients to your lawn.

Nutrients in lawn fertilizer support healthy lawns. However, too many nutrients can actually weaken your lawn. Also, rainwater or lawn irrigation may wash excess nutrients to gutters and storm drains, which empty into your lakes and streams. And, excess nutrients can enter the groundwater.

If this happens, the fertilizer you applied to your lawn “fertilizes” algae in lakes and streams and contaminates wells.

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**Nitrogen (N) makes lawns green (chlorophyll production), promotes growth, and helps lawns recover from damage.**

**Too much nitrogen?**

Too much nitrogen can make your lawn unhealthy and unattractive because shoots—the blades of grass—grow more than the roots. This causes shallow root systems relative to grass height, which makes grass weak. Too much nitrogen also increases a lawn’s need for water and its attractiveness to insects.

Excess nitrogen can travel with water through soil layers to groundwater and contaminate wells. Also, rainwater runoff can carry excess nitrogen to nearby lakes and streams; there, it contributes to algae growth.

**Not enough nitrogen?**

Insufficient nitrogen can make your lawn thin and patchy. Lawns with insufficient nitrogen are less competitive against weeds. Also, these lawns don’t absorb rainwater or hold soil in place well.

Therefore, neglected lawns can contribute to soil erosion: rainwater runoff from these lawns can carry soil particles to lakes and streams. This causes sedimentation in lakes and streams. It also contributes to algae growth because eroded soil particles carry phosphorus, another nutrient that promotes algae growth, with them.
Phosphorus (P) promotes root development.

In Minnesota, *most soils have plenty of phosphorus and do not need supplements.*

Minnesota law prohibits the application of fertilizer that contains phosphorus to lawns unless a soil test indicates phosphorus deficiency or you are establishing a new lawn.

Why do we need the law?
Rainwater runoff carries excess phosphorus to storm drains, which empty into your nearby lakes and streams. There, phosphorus encourages accelerated algae growth, which, in turn, depletes dissolved oxygen aquatic life needs to survive. Algae growth also causes a bad smell and poor recreational conditions.

Your fertilizer bag should indicate 0 for P.

If you prefer organic fertilizer, corn gluten meal is an example of a phosphorus-free organic fertilizer.

Potassium (K) supports plants’ physiological processes.

Insufficient potassium can contribute to increased grass stress.

Excess potassium is not known to have the same detrimental environmental effects as nitrogen and phosphorus.

Test your soil to know exactly what nutrients your lawn needs.

Information about soil tests is available at soiltest.cfans.umn.edu

PRACTICE 2: MOWING

Mow your lawn to a height of 2 ½ inches or taller to help your grass grow deeper roots and increase shoot density.

Deep roots make grass healthier and more attractive because they can reach more nutrients and water deeper in the soil. This reduces the need for supplemental water and fertilizer. Taller grass also acts as natural weed control.

2 ½ inches

Mowing too short causes shallow root growth. This grass needs more supplemental water and nutrients and is less competitive against weeds.

Source: University of Minnesota Extension, Robert Mugaas, Extension Horticulturalist. www.extension.umn.edu

Root depth increases with grass height.

Deep roots = healthy lawns.
Plants need water for photosynthesis (a plant’s production of food) and to absorb nutrients.

Too much water?
Too much water can make your lawn unhealthy and unattractive. Healthy roots and root growth require about equal amounts of oxygen and moisture in the soil. Excess water takes up soil air space and causes shallow root growth. Also, excess water may run off your yard to gutters and storm drains, taking nutrients and soil with it. And, it can cause nutrient loss by carrying nutrients through the soil to groundwater. Finally, too much water creates favorable conditions for insect infestations and disease infections.

Not enough water?
Water deficiency limits nutrient uptake, photosynthesis, and ability to recover from wear.

Summer Dormancy:
During hot summer months, grasses can temporarily turn brown. This is known as summer dormancy.

In most cases, rain will allow grasses to recover on their own.

If temperatures exceed 90°F for several days, give your grass some water.

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### PRACTICE 3: WATERING

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<tr>
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<th>Exceptional Lawn Quality</th>
<th>Low Input Lawn</th>
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<tr>
<td><strong>Suitable Grass Types</strong></td>
<td>Kentucky Bluegrass or Kentucky Bluegrass/ Perennial Rye grass mix</td>
<td>Fine Fescues Fine Fescue/Kentucky Bluegrass mix</td>
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<tr>
<td><strong>Use</strong></td>
<td>High wear tolerance</td>
<td>Low wear tolerance</td>
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<td><strong>Sunlight</strong></td>
<td>Low shade tolerance</td>
<td>Moderate shade tolerance</td>
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</table>
| **Fertilizer**  | 2 to 2.5 lbs N per 1,000 square feet per year   | 1 lb N per 1,000 square feet, every other year, around Labor Day Leave grass clippings on lawn
  Example: 0.5 lbs N at first spring mowing; 0.5 lbs N around Memorial Day; 0-0.5 lbs N first week of August; 1 lb N around Labor Day Leave grass clippings on lawn
| **Mowing**      | Mow 2.5 inches or greater Mow less than 1/3 of grass blade height each time | Mow 3 inches or greater Mow less than 1/3 of grass blade height each time |
| **Watering**    | 1 inch per week, including rainfall Gradually decrease water approaching dry months to increase drought tolerance | Little to none May need water if temperatures exceed 90°F for several days |

* For more information and grass identification see [www.sustland.umn.edu/maint/maint.htm](http://www.sustland.umn.edu/maint/maint.htm)

** Do not exceed 1 lb N per 1,000 square feet in a single application. Try less.

To determine how many lbs of fertilizer to use to apply desired amount of N, use this calculator: [aggieturf.tamu.edu/aggieturf2/calculators/fertsheet.html](http://aggieturf.tamu.edu/aggieturf2/calculators/fertsheet.html)
Imagine an ecosystem in your yard. Create beautiful landscapes.

Prevent soil erosion during lawn conversion:
- Convert in stages to minimize bare soil
- Use mulch to cover bare soil

Sunny areas
Prairie plants, rain gardens, edible landscapes

Possible information sources include:
- Prairie plantings: www.dnr.state.mn.us/gardens/nativeplants/prairie.html
- Wet meadows: www.dnr.state.mn.us/gardens/nativeplants/meadow.html
- Rain gardens: www.extension.umn.edu/distribution/naturalresources/components/DD8241_4.pdf

Shaded areas
Woodland and shade tolerant plants

Possible information sources include:
- Native shade garden: www.dnr.state.mn.us/gardens/nativeplants/nativeshade.html

Use plant selector tools to help find plants suitable for your yard’s conditions. Possible information sources include:
- www.sustland.umn.edu/plant/search.asp