



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road

Hales Corners, WI 53130

(414) 529-6161

TURN OVER A NEW LEAF (YARD WASTE AND COMPOSTING)

Did you know?

- Proper yard waste management can save you time, help the environment, and improve your lawn! Mulching leaves in place and letting them lie on your lawn is a better alternative to burning leaves.
- Backyard burning creates air pollution, is a health hazard to people with asthma and other allergies, creates a fire hazard, and is a nuisance to neighbors. Urbanization makes the old management practice of burning obsolete and wastes resources.
- Compost is a useful soil amendment that improves the health and fertility of soil. It adds nutrients to support soil microorganisms, improves clay soils, and saves water by helping soil hold moisture.
- Backyard management of yard debris saves municipal tax dollars for collection and processing.

What you can do?

- Mulching leaves in place reduces raking time and amends the soil with organic matter and nutrients.
- Leaving grass clippings on the lawn adds valuable nitrogen back into the soil, saving on fertilizer. (Clippings from a 1,000 square foot lawn contain 6 pounds of nitrogen and 1 pound of potassium)
- Using natural areas, ground covers, and planting beds under trees and shrubs allows leaves to be left in these areas to decompose.
- Try any or all of these options along with composting to see what suits your yard.



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road
Hales Corners, WI 53130
(414) 529-6161

MULCH THEM IN PLACE/MOW THEM

Leaves are rich in carbon, phosphorus, and potassium - all essential nutrients needed by plants including turf grasses (Wisconsin Department of Natural Resources). Simply mow your leaves along with the grass during fall, and let the small leaf pieces filter down among the grass blades. Make sure grass is exposed to the sun after the tree leaves have been mulched.

Why Mulch in Place?

- It reuses essential plant nutrients contained in tree leaves.
- It saves the time, trouble, and expense of raking or bagging leaves.
- It does not adversely affect turf quality. According to studies performed at Michigan State University, "... there have been no meaningful differences observed in turf quality ratings, turf density, thickness of the "thatch" layer, amount of organic matter in the "thatch" layer, or the number of dandelions in the plots." In fact, in recent studies, turf receiving mulched tree leaves greened up faster in the spring and required less fertilization the next season.
- It reduces smoke caused from burning leaves.
- The following information on the health hazards of burning leaves is from the Wisconsin Department of Natural Resources.
- The smoke generated by a large number of simultaneous leaf fires can cause significant health problems. Leaf smoke can irritate the eyes, nose and throat of healthy adults. But it can be much more harmful to small children, the elderly, and people with asthma or other lung or heart diseases. This is because the visible smoke from leaf fires is made up almost entirely of tiny particles that can reach deep into lung tissue and cause symptoms such as coughing, wheezing, chest pain and shortness of breath--symptoms that might not occur until several days after exposure to large amounts of leaf smoke.
- Besides being an irritant, leaf smoke contains many hazardous chemicals, including carbon monoxide and benzo(a)pyrene. Carbon monoxide binds with hemoglobin in the bloodstream and thus reduces the amount of oxygen in the blood and lungs. So carbon monoxide can be very dangerous for young children with immature lungs, smokers, the elderly, and people with chronic heart or lung diseases. Benzo(a)pyrene is known to cause cancer in animals and is believed to be a major factor in lung cancer caused by cigarette smoke. It is found in cigarette smoke and coal tar as well as leaf smoke.
- According to U.S. Environmental Protection Agency studies, sometimes concentrations of air pollutants resulting from leaf burning can be so high that the air does not meet federal health standards. In fact, in some areas burning of leaves and brush sometimes causes much higher levels of air pollution than all other forms of air pollution combined (such as factories, vehicles, and lawn and garden equipment).
- Leaf burning can also reduce visibility, create safety hazards, cause a nuisance, soil buildings and other property, and create additional demands on local police and fire protection.

Getting Started

The following guidance is taken from the Department of Horticulture - Michigan State University Green Tips sheet on Mulching Tree Leaves Into Lawns.

- Leave your mower set to the same height you use to mow your lawn
- Use a rotary mower that pulverizes the leaves
- Mow when the leaves are dry
- Make sure that mower blades are sharp and use a slow movement with the mower to help grind the leaves finer

- 3-4 passes may be required to chop leaves fine enough so that they filter through the turf and expose grass leaves to sunlight; i.e. make sure that pulverized leaves do not cover the grass blades completely
- Ground leaves should settle into the turf in a day or two, especially with rain
- It is best to mow tree leaves regularly, not letting them lie more than 3-4 days
- Although additional nitrogen has not shown any major benefit, the Department of Horticulture - Michigan State University suggests applying 1/2 pound of nitrogen per 1,000 square feet in addition to the normal fall fertilization in order to speed tree leaf decomposition



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road

Hales Corners, WI 53130

(414) 529-6161

COMPOSTING

Composting is the natural recycling process that you can begin at home with leaves, grass clippings, and other lawn and garden waste. Natural microorganisms from the ground interact with compost materials to help break down plant matter. Proper moisture, air, and temperature aid these natural microorganisms in their work. Naturally fortified with nutrients, the finished compost is ready for use as an organic plant food and soil amendment in as little as 4-5 weeks.

Why Compost?

- It improves soil drainage in clay and retains moisture in sand to decrease watering needs and nutrient leaching.
- It suppresses certain plant diseases.
- It reduces demand for pesticides/fungicides by adding beneficial microbes and fungi to the soil.
- It can boost crop and flower yields.
- It recovers valuable organic waste from the yard and kitchen.
- It prevents soil erosion.
- It reduces the amount of fertilizer required for plants, saves money and the environment.
- It improves soil structure.
- It recycles organic matter back into the soil where it improves overall soil health.
- It saves landfill space and reduces methane production.

Getting Started

1. Gather green and brown yard waste. Green yard waste is high in nitrogen (N) and includes grass clippings, fruit and vegetable kitchen scraps, sod, weeds (do not compost annual weeds that have gone to seed or plants that spread by underground roots or runners), and manure from plant eating animals. Brown yard waste is high in carbon (C) and includes shredded paper, leaves, pine cones and needles (should be shredded and not make up more than 10% of the mix), and sawdust and wood shavings (are high in C and will require extra N (green materials), do not use sawdust from pressure treated wood).
2. In a heap or bin mix two parts brown yard waste with one part green yard waste.
3. Adding a small amount of garden soil and chopping up leaves before mixing them into the pile will both speed the composting process.
4. Add water so compost is kept as moist as a rung-out sponge.
5. Turn the pile every week. (Not necessary, but will speed the process)
6. When the ingredients are black and no longer recognizable you have finished compost. This will take between 4 weeks to one year depending on frequency of turning and how well you maintain the moisture of the pile.



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road
Hales Corners, WI 53130
(414) 529-6161

MULCHING

Any material that covers the soil surface around and under plants to protect and improve the area is considered a mulch. Mulches offer your garden and landscapes many benefits (See below). Yard wastes such as grass clippings, leaves, and chipped or shredded brush and branches can be used as organic mulches. Organic mulches are usually applied 3 inches deep over the soil and around plants to achieve the benefits of mulching.

Why Mulch?

- It covers the soil surface around plants and helps hold moisture in the soil.
- It moderates soil temperature.
- It reduces soil erosion and compaction.
- It keeps lawn mowers and weed whips away from tree trunks reducing damage that can lead to disease and insect invasion.
- It prevents mud and some disease organisms from splashing up onto leaves, flowers and fruits.

Getting started:

Mulching is as simple as taking the material that you have collected and placing it where you want the mulch. You can even just let leaves lie where they fall if you want an area mulched where the leaves naturally collect.

Apply grass clippings loosely to avoid packing and remember not to use grass clippings as mulch if your lawn has recently been treated with a herbicide or pesticide.

Use raked leaves as mulch beneath trees and shrubs as well as in planting beds. In addition to providing all of the benefits mulch covers provide in gardens, they can also help eliminate some of the hard-to-mow areas in your yard.

Chip or shred tree and shrub prunings to make an excellent mulch material for landscape plants. You can purchase garden-size chipper/shredders at hardware stores and from mail-order garden supply catalogs. They are also available for rent. Some commercial tree services will do custom chipping at the curbside.



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road
Hales Corners, WI 53130
(414) 529-6161

LEAVE THEM LIE - GRASSCYCLING

Grasscycling is leaving grass clippings on the lawn to decompose. Grass clippings are mostly water. When you mow regularly, clippings quickly decompose and release nutrients to fertilize the lawn.

Why Grasscycle?

- It reduces yard waste by 20% - 40% or more.
- It saves the time, trouble, and expense of bagging or putting clippings in cans.
- It saves gas and energy required to transport and process grass clippings.
- It reduces the need for fertilizer. Research shows that when you leave grass clippings on the lawn, you need as much as one third less fertilizer to achieve the same color and grass density found on lawns where the clippings are removed.
- It reduces the demand for water.
- It provides moisture and nutrients to the soil and cushioning layers to reduce wear.

Getting

Started

Just let your grass clipping from your mower or mulching mower lie where they fall. Remember, you only want to remove about 1/3 of the grass blade when you mow. With Kentucky bluegrass and fescue a final turf height of 2 inches is usually recommended. This means mowing off about 1 inch when the grass gets to be 3 inches in overall height. Thatch is not caused by letting grass clippings fall to the lawn, at least when the lawn is mowed on a regular basis. The young grass clippings are over 90% water, and they decompose rapidly (UW Extension InfoSource).

University of Minnesota (U of M) studies show the reduced need for nitrogen fertilization of turf when leaving grass clippings on the lawn. Table 13 shows nitrogen recommendations for established lawns and Table 14 recommends the best time to apply any fertilizer still needed. Both tables are from the Established Lawns and Turf section of the Soil Test Interpretations and Fertilizer Management for Lawns, Turf, Gardens, and Landscape Plants document on the U of M website. (<http://www.extension.umn.edu/distribution/horticulture/components/1731-22.html>)

Table 13. Annual nitrogen recommendations for an established lawn or turfgrass area

Maintenance Practices	Soil organic matter level ¹		
	Low	Medium to high	Organic soil
	Amount of nitrogen (N) to apply ^{2,3}		
	----- lb. N/1000 sq. ft. -----		
Regular irrigation			
Clippings removed	4.0	3.0□	2.00□
Clippings not removed	3.0	2.0□	1.00□
No irrigation		□	
Clippings removed	2.0	1.0□	0.50□
Clippings not removed	1.0	0.5	0.25

¹Low organic matter = less than 3.1%, medium to high = 3.1 to 19%, organic soil = greater than 19% organic matter.

²Multiply by 44 to convert the rates in lb./1000 sq. ft. to lb./acre.

³Apply no more than 1 lb. of quick-release N/1000 sq. ft. in a single application.

Table 14. Timing of annual nitrogen fertilizer applications to established lawn or turfgrass; apply no more than 1 lb. of quick-release nitrogen/1000 sq. ft. in a single application

Number of Applications Required	Optimum timing of applications
1	early Sept.
2	mid to late-Aug.// mid-Oct.
3	May or June // mid to late Aug. // mid-Oct.
4	May or June // Aug. // Sept. // mid-Oct.



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road
Hales Corners, WI 53130
(414) 529-6161

ALTERNATIVE LANDSCAPING

Alternative landscaping requires less maintenance and water use, and creates less yard waste. It could also mean a beautiful yard that attracts birds and butterflies by providing shelter and natural food.

The typical yard consists of grass, several trees, and a flower garden. This type of landscape requires mowing, watering, and the application of pesticides, herbicides, and fertilizers to keep it looking its best. These cultural practices are costly and require a large time investment. Try taking a more natural approach to yard care that will reduce your inputs as well as save you time and money.

Here are some hints:

Lawn Care

- **Water Tips**
A healthy lawn needs about 1 inch of water a week - less if it has some shade and is established. On a clay soil, one application of 1 inch of water a week is recommended. On a sandy soil, two applications of 1/2 inch of water a week are recommended. Check the weather forecast.
- **Rain Barrels**
You may also consider use of a rain barrel. Again in vogue, a rain barrel collects water from a home's roof via downspout(s). This collection helps slow down rainfall runoff. The collected rain water can be used to water plants, your lawn, or even wash a car. Since rain water does not contain the fluoride and chlorine levels of municipally supplied water and is un-softened, it is actually better for plants, especially indoor plants. Check out the DNR's website for more information on rain barrels. The Milwaukee Metropolitan Sewerage District (MMSD) also has information on rain barrels (including purchasing), rain gardens, and disconnecting downspouts. Rain barrels can also be purchased from Keep Greater Milwaukee Beautiful, Inc. or Southeast Wisconsin Master Gardener Marie McGinnis (e-mail mariefann@netzero.net).
- **Grass Clippings**
Leave grass clippings on the lawn. Grass clippings contain nutrients that are otherwise lost if not returned to the soil. Grasscycling can save you in fertilizer costs. The clippings will filter down where microorganisms quickly decompose them.
- **Ultra Low Maintenance Lawns**
If your lawn area is sunny, you can consider using one of the low maintenance lawn mixes available on the market. They won't eliminate all maintenance, but should significantly reduce the amount of time you spend on maintenance while still giving you a green lawn to walk on and enjoy. Start with just a part of your yard to see how it looks.
- **Natural Landscaping**
See below for some ideas on how to make part of your yard native and sustainable.

Natural Landscaping

- Limit your lawn area- If you have a big yard and don't spend time in most of it, consider planting an area of prairie grasses, native shrubs, or trees in the parts you don't use often. This reduces the need for water and mowing.
- Use native species of plants that thrive in Wisconsin's habitats. They don't need to be watered or treated with pesticides.
- Choose from a variety of native grasses, trees, shrubs, or vines to design a beautiful and functional yard. Pick plants that provide food and shelter for a variety of wildlife. Choose carefully to ensure continual bloom from spring through fall while providing food for birds and animals all seasons.



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road
Hales Corners, WI 53130
(414) 529-6161

The Health Hazards of Burning Leaves

Now that the state recycling law prohibits sending yard waste to landfills, Wisconsin residents need to know how they can manage yard waste, including leaves and brush.

Open burning **IS NOT** an environmentally sound way to dispose of leaves and plant clippings at your home. State law currently allows people to burn *small* amounts of dry leaves and brush on their own property so long as leaf burning is not prohibited by local ordinances. However, *you should try to avoid burning leaves whenever possible.*

The smoke generated by a large number of simultaneous leaf fires can cause significant health problems. Leaf smoke can irritate the eyes, nose and throat of healthy adults. But it can be much more harmful to small children, the elderly, and people with asthma or other lung or heart diseases. This is because the visible smoke from leaf fires is made up almost entirely of tiny particles that can reach deep into lung tissue and cause symptoms such as coughing, wheezing, chest pain and shortness of breath--symptoms that might not occur until several days after exposure to large amounts of leaf smoke.

Besides being an irritant, leaf smoke contains many hazardous chemicals, including carbon monoxide and benzo(a)pyrene. Carbon monoxide binds with hemoglobin in the bloodstream and thus reduces the amount of oxygen in the blood and lungs. So carbon monoxide can be very dangerous for young children with immature lungs, smokers, the elderly, and people with chronic heart or lung diseases.

Benzo(a)pyrene is known to cause cancer in animals and is believed to be a major factor in lung cancer caused by cigarette smoke. It is found in cigarette smoke and coal tar as well as leaf smoke.

According to U.S. Environmental Protection Agency studies, sometimes concentrations of air pollutants resulting from leaf burning can be so high that the air does not meet federal health standards. In fact, in some areas burning of leaves and brush sometimes causes much higher levels of air pollution than all other forms of air pollution combined (such as factories, vehicles, and lawn and garden equipment).

Leaf burning can also reduce visibility, create safety hazards, cause a nuisance, soil buildings and other property, and create additional demands on local police and fire protection.

Even though leaf burning may be legal in many localities, it is not a good way to dispose of fallen leaves. Instead of burning your leaves, you can:

- **Compost** leaves and plant clippings. You can reduce the volume of leaves significantly by shredding them before composting.
- **Chip** brush and clean wood to make mulch or decorative chips.
- **Use municipal collection services** if available, or ask your local municipality to offer such a service or a drop-off center.

Source: Wisconsin DNR

An estimated 8% of individuals suffer from asthma, and 6% have either COPD or emphysema, which means there are approximately 800 residents in the Village of Hales Corners who are adversely affected every day leaf burning is allowed.

Source: Hales Corners Health Department



VILLAGE OF HALES CORNERS

5635 S. New Berlin Road
Hales Corners, WI 53130
(414) 529-6161

Open Burning Guide for Individual Property Owners

What materials are individual property owners allowed to burn outdoors?

- *Where not prohibited by local ordinance*, leaf burning and burning of plant clippings and brush is allowed anywhere in the state, as long as weather conditions do not pose a fire hazard. However, **leaf burning is discouraged because of the air pollution it causes and because of the benefits of composting and mulching with these materials.**
- Individual homeowners may burn small quantities of dry combustible rubbish such as paper, cardboard and/or clean untreated wood. Again, local ordinance can override this allowance. This is especially true in populated areas such as southeastern Wisconsin, where most municipalities have banned or severely limited open burning. Paper and cardboard can now be recycled in all communities, and recycling is the best disposal method for these items.

In either case, be sure to contact your local fire authority before you start burning to find out if you need to obtain a burning permit.

What kinds of materials MAY NOT be burned by individual property owners?

The administrative rules of the Air Management and Waste Management Programs prohibit anyone from burning any of the following materials under any conditions:

- wet, combustible rubbish, such as wet cardboard or paper
- oily substances, such as oily or greasy rags, oil filters, etc.
- asphalt, such as asphalt shingles or tar paper
- plastics of any kind, including plastic bottles and plastic bags
- rubber products, including tires and hoses

These prohibitions apply to individual property owners (or renters) as well as to business and industry.

What can individuals do instead of burning household and yard wastes?

Instead of burning, the DNR recommends that you:

- **Reduce** usage--buy in bulk or larger quantities and demand less packaging on the products you buy.
- **Reuse** items--find someone else who can use it, have a yard sale, or donate it to a resale organization.
- **Recycle** newspaper, office paper, cardboard, corrugated cardboard, magazines, aluminum, metal and acceptable plastics.
- **Compost** leaves and plant clippings. Consult DNR regional or service center staff, University of Wisconsin-Extension and your local government to find out whether local ordinances allow you to compost raw vegetables, bread, egg shells and coffee grounds.
- **Chip** brush and clean wood to make mulch or decorative chips, or use it as heating fuel in wood stoves or boilers.
- **Dispose** of allowable waste materials at a licensed landfill. For more information about what items may be disposed of at licensed landfills, contact the Recycling Program at your DNR regional office or service center.