

## **MSU Extension Publication Archive**

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Wildfire-resistant Landscape Plants for Michigan

Michigan State University

Cooperative Extension Service

Wildfire Series

Mark F. Hansen, MSU Extension, R. Thomas Fernandez, Department of Horticulture, Michael

R. Penskar, Michigan Natural Features Inventory, MSU Extension

Issued January 2007

12 pages

The PDF file was provided courtesy of the Michigan State University Library

**Scroll down to view the publication.**

# Wildfire Series



Extension Bulletin • E2948  
New, January 2007

MICHIGAN STATE  
UNIVERSITY  
EXTENSION

## Wildfire-resistant Landscape Plants for Michigan

Mark F. Hansen, Michigan State University Extension  
R. Thomas Fernandez, Department of Horticulture, Michigan State University  
Michael R. Penskar, Michigan Natural Features Inventory, Michigan State University Extension

### Introduction

Most Michigan residents are surprised to learn that Michigan experiences 8,000 to 10,000 wild-land fires each year. It is estimated that forest fires, brush fires and grass fires destroy or damage 100 to 200 homes, barns and outbuildings annually. When wildfires occur, the right landscape plants, especially fire-resistant plants, can help increase the chance that a home will survive. Allowing wildland vegetation to grow too close to a structure or placing flammable landscape plants near a home or other structure increases the chance that the structure will ignite.

Wildfires move along the ground or through brush or forests by igniting the vegetation or fuels ahead. Figure 1 shows how coniferous trees can ignite and “torch” during a wildfire. If these trees were growing next to a house or building, the structure would surely ignite. This is why it is important to select fire-resistant plants when landscaping around the home.



**Figure 1. Some trees and plants can burn intensely.** (Courtesy of Michigan DNR.)

### How Homes and Other Structures Ignite During a Wildfire

Studies have shown that homes and other structures can be ignited by a wildfire in three ways. The first of these is through direct contact, otherwise referred to as “convection.” Direct contact of flames to combustible wood decks and siding may easily set the building on fire. When combustible trees and shrubs are touching the home or growing very close to it, they can ignite and bring the home into direct contact with the flames.

A second way that wildfires cause buildings to burn is through radiant heat. This refers to the intense heat that is produced by burning vegetation. If forest fuels or landscape plants grow too close to the structure, the structure can be set on fire by radiant heat, even though the flames may not actually touch the structure. The primary way to protect your home from convection or radiant heat is by eliminating flammable vegetation near the structure. This vegetation will serve as fuel; without this fuel, the fire cannot jump to the structure.

The third and a very common cause of structures catching fire during a wildfire is firebrands. Firebrands are floating embers that are still burning or glowing when they land. Firebrands have been known to travel up to a mile downwind from an intense wildfire. In large wildfires, firebrands are a concern because they will start new spot fires well ahead of the main fire. Experience has shown that firebrands from a wildfire or burning landscape plant may also land on or under decks, in leaves that have collected behind landscape plants, in eave troughs where leaves and vegetative litter have become trapped, or directly on wood shingles. Firebrands that land in or on these flamma-



ble materials can ignite the fuels and destroy the building.

One way to help prevent homes and other structures from catching fire is to eliminate these ignition points by creating defensible space around them. This can be achieved, in part, through proper landscape plant selection and placement. Plants that do not burn easily are less likely to set a structure on fire.

## Selecting Landscape Plants

Given the right conditions, any plant will burn. However, because of the composition of the foliage or moisture content in the leaves, certain plant types are less likely to catch fire and are therefore termed “fire-resistant.” Fire-resistant landscape plants should be your first choice if you live in a rural or urban-wildland interface area where wildfire is a possible threat.

Even before homeowners consider the right trees, shrubs and ground covers, other landscape issues should be considered. For example, a dry lawn can burn and carry a fire to the home or other structure. Lawns should be watered, and dead lawn litter should be raked and either removed from the property or composted. A green lawn will not carry a fire.

In nature, some plants ignite more quickly than others and burn with more intensity. For example, plants that contain resins — such as conifers, certain shrubs and dune grass — ignite easily and create very hot fires that radiate much heat. Firefighters at a wildfire in dune grass near Shelby, Michigan, in 2005 (Figure 2) reported flames as high as 20 feet. Two homes were destroyed in the fire, and a number of others had fire damage.



**Figure 2. This wildfire in dune grass near Shelby, Michigan, in 2005 produced flames 20 feet high and destroyed two homes.** (Courtesy of Michigan DNR.)

Other species, such as junipers, tend to retain dead foliage in the branches, which also serves as an ignition point for firebrands. Other conifers that have branches growing close to the ground can provide “ladder fuels” for a surface fire to climb into the tree canopy.

## Wildfire-resistant Plant Species

The species of trees, shrubs and ground covers in Table 1 are considered wildfire-resistant and are recommended for Michigan’s climate. Remember that any plant may burn if the plant tissue becomes very dry and if the vegetation is exposed to intense heat for a period of time.

Your local lawn and garden centers may sell or have access to many of the fire-resistant plant species mentioned in this publication. An excellent source of information on local landscape dealers is the MSU Extension office in your county. Both the landscape dealer and the Extension agent can provide information on growing characteristics, required growing conditions, winter hardiness and planting sites required for various plants.

## Locating Shrubs and Trees in the Landscape

Where you locate ornamental plants is just as important as the species you select. Spacing between trees and shrubs is important so that fire cannot jump from a plant to the home, nor from one plant to another and finally to your home. Spacing depends on the species selected. It is also important to remember that the distance between two plants will decrease as they grow larger. Space plants according to their mature size, not their size at planting. The spruce trees in Figure 3 were planted too close to the house and are now a threat because of direct flames and radiant heat, should the trees ignite.



**Figure 3. The spruce trees in this photo are located too close to the house. If they catch fire, they will likely create enough radiant heat to ignite the home.** (Courtesy of MSU Extension.)



**Table 1. Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Annuals</b>					
<i>Coreopsis tinctoria nana</i>	Dwarf plains coreopsis	annual	zone 5	SCD*	annual, reseeds
<i>Linum</i> spp.	Flax	annual	SCD*	SCD*	most species annuals, some perennial in zone 5
<b>Groundcovers</b>					
<i>Achillea tomentosa</i>	Woolly yarrow	groundcover	zones 3-7	No	herbaceous perennial
<i>Ajuga reptans</i>	Carpet bugleweed	groundcover	zones 3-9	No	herbaceous perennial
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick or bearberry	groundcover	zones 2-6	Yes	evergreen
<i>Armeria maritima</i>	Sea pink/thrift	groundcover	zones 4-8	No	herbaceous perennial
<i>Asarum canadense</i>	Canadian ginger	groundcover	zones 3-7	Yes	herbaceous perennial
<i>Cotoneaster adpressus praecox</i>	Early cotoneaster	groundcover	zones 5-7	No	deciduous
<i>Epimedium</i> spp.	Barrenwort	groundcover	most zones 5-8	No	herbaceous perennial
<i>Festuca cinerea</i>	Blue fescue	groundcover	zones 5-9	No	herbaceous perennial
<i>Festuca</i> spp.	Fescue	groundcover	SCD*	SCD*	herbaceous perennial
<i>Fragaria</i> spp.	Wild strawberry	groundcover	SCD*	SCD*	perennial
<i>Gaultheria procumbens</i>	Wintergreen	groundcover	zones 4-8	No	evergreen
<i>Glandularia bipinnatifida</i>	Dakota mock vervain	groundcover	zones 5-8	No	herbaceous perennial
<i>Hedera helix</i>	English ivy	groundcover	zones 4-10	No	evergreen
<i>Hosta</i> spp.	Plaintain lily/ hosta lily	groundcover	zones 3-9	No	herbaceous perennial
<i>Iberis sempervirens</i>	Evergreen candytuft	groundcover	zones 3-8	No	herbaceous perennial
<i>Mahonia repens</i>	Dwarf Oregon grape	groundcover	zones 5-7	No	woody evergreen
<i>Pachysandra terminalis</i>	Japanese pachysandra	groundcover	zones 4-9	No	herbaceous evergreen
<i>Phlox subulata</i>	Creeping phlox	groundcover	zones 2-8	No	herbaceous perennial
<i>Potentilla neumanniana</i>	Spring cinquefoil	groundcover	zones 4-7	No	woody perennial
<i>Rosa spinosissima</i>	Scotch rose	groundcover	zones 4-8	No	woody perennial
<i>Sedum album</i>	Green stonecrop	groundcover	zones 4-7	No	herbaceous perennial
<i>Sedum spathulifolium</i>	Stonecrop	groundcover	zones 6-9	No	herbaceous perennial
<i>Sedum spurium</i>	Two-row stonecrop	groundcover	zones 3-7	No	herbaceous perennial
<i>Thymus praecox</i>	Mother of thyme	groundcover	zones 5-8	No	herbaceous perennial
<i>Thymus praecox arcticus</i>	Creeping thyme	groundcover	zones 5-8	No	herbaceous perennial
<i>Thymus pseudolanuginosus</i>	Wooley thyme	groundcover	zones 5-8	No	herbaceous perennial
<i>Thymus pulegioides</i>	Lemon thyme	groundcover	zones 5-8	No	herbaceous perennial
<b>Perennials</b>					
<i>Achillea filipendulina</i>	Fernleaf yarrow	perennial	zones 3-8	No	herbaceous perennial
<i>Achillea millefolium</i>	White yarrow	perennial	zones 3-9	Yes	herbaceous perennial
<i>Achillea</i> spp.	Yarrow	perennial	SCD*	SCD*	herbaceous perennial
<i>Allium schoenoprasum</i>	Chives	perennial	zones 4-7	SCD*	herbaceous perennial
<i>Antennaria</i> spp.	Pussytoes	perennial	SCD*	SCD*	herbaceous perennial
<i>Chamaemelum nobile</i>	Chamomile	perennial	zones 3-7	No	herbaceous perennial

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.

(continued)



**Table 1. (cont.) Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Perennials (continued)</b>					
<i>Aquilegia</i> spp.	Columbine	perennial	SCD*	No	herbaceous perennial
<i>Arabis alpina</i>	Rockcress	perennial	zones 5-7	No	herbaceous perennial
<i>Artemisia caucasica</i>	Silver spreader or Caucasian sagebrush	perennial	zones 5-9	No	herbaceous perennial
<i>Aurinia saxatilis</i>	Basket of gold	perennial	zones 3-7	No	herbaceous perennial
<i>Bergenia cordifolia</i>	Heartleaf bergenia	perennial	zones 4-8	No	semi-evergreen herbaceous perennial
<i>Bergenia</i> spp.	Bergenia	perennial	SCD*	No	semi-evergreen herbaceous perennial
<i>Campanula poscharskyana</i>	Serbian bellflower	perennial	zones 3-7	No	herbaceous perennial
<i>Campanula rotundifolia</i>	Harebell	perennial	zones 2-7	No	herbaceous perennial
<i>Carex</i> spp.	Sedges	perennial	SCD*	SCD*	herbaceous perennial
<i>Caryopteris xclandonensis</i>	Blue mist spirea	perennial	zones 5-9	No	herbaceous to woody perennial
<i>Centranthus ruber</i>	Red valerian	perennial	zones 5-8	No	herbaceous perennial
<i>Cerastium tomentosum</i>	Snow in summer	perennial	zones 2-10	No	herbaceous perennial
<i>Coreopsis auriculata nana</i>	Dwarf coreopsis	perennial	zones 4-9	No	herbaceous perennial
<i>Coreopsis</i> spp.	Coreopsis	perennial	SCD*	SCD*	herbaceous perennial
<i>Dianthus deltoides</i>	Maiden pinks	perennial	zones 3-8	No	herbaceous perennial
<i>Dianthus plumarius</i>	Pinks	perennial	zones 3-8	No	herbaceous perennial
<i>Dianthus</i> spp.	China pinks	perennial	zones 3-8	No	herbaceous perennial
<i>Epilobium angustifolium</i>	Fireweed	perennial	zones 3-7	Yes	herbaceous perennial
<i>Erigeron</i> hybrids	Fleabane	perennial	zones 4-7	SCD*	herbaceous perennial
<i>Erysimum linifolium</i>	Wallflower	perennial	zones 5-8	No	herbaceous perennial
<i>Fragaria chiloensis</i>	Wild strawberry	perennial	zones 4-8	No	herbaceous perennial
<i>Gaillardia xgrandiflora</i>	Blanket flower	perennial	zones 2-9	No	herbaceous perennial
<i>Geranium cinereum</i>	Hardy geranium	perennial	zones 5-7	No	herbaceous perennial
<i>Geranium sanguineum</i>	Bloodred geranium	perennial	zones 3-8	No	herbaceous perennial
<i>Geranium</i> spp.	Geranium	perennial	zones 3-8	No	most species perennial, some annual
<i>Helianthemum nummularium</i>	Sunrose	perennial	zones 5 - 7	No	mounding
<i>Heuchera sanguinea</i>	Coral bells	perennial	zones 3-8	No	herbaceous perennial
<i>Iberis sempervirens</i>	Candytuft	perennial	zones 3-8	No	herbaceous perennial
<i>Iris missouriensis</i>	Wild blue iris	perennial	zones 3-8	No	herbaceous perennial
<i>Iris</i> spp.	Iris	perennial	SCD*	No	most species perennial, some annual
<i>Lavandula angustifolia</i>	Lavender	perennial	zones 5-9	No	herbaceous perennial
<i>Leontopodium alpinum</i>	Edelweiss	perennial	zones 4-7	No	herbaceous perennial
<i>Leucanthemum xsuperbum</i>	Shasta daisy	perennial	zones 4-9	No	herbaceous perennial
<i>Liriope muscari</i>	Blue lily-turf	perennial	zones 6-9	No	herbaceous perennial
<i>Lupinus</i> spp.	Lupine	perennial	SCD*	SCD*	not strong performers in Michigan
<i>Lychnis chalcedonica</i>	Maltese cross	perennial	zones 3-7	No	herbaceous perennial

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.



**Table 1. (cont.) Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Perennials (continued)</b>					
<i>Oenothera macrocarpa</i>	Evening primrose	perennial	zones 4-7	No	herbaceous perennial
<i>Oenothera</i> spp.	Primrose	perennial	SCD*	SCD*	herbaceous perennial
<i>Ophiopogon japonicum</i>	Mondo grass	perennial	zones 6-9	No	herbaceous perennial
<i>Papaver</i> spp.	Poppy	perennial	SCD*	No	most species perennial, some annual
<i>Penstemon</i> spp.	Beard tongue	perennial	SCD*	SCD*	most species perennial, some annual
<i>Phlox drummondii</i>	Creeping phlox	perennial	zones 4-9	No	herbaceous perennial
<i>Potentilla</i> spp.	Potentilla	perennial	SCD*	SCD*	most species perennial, some annual
<i>Primula</i> hybrids	Primrose	perennial	SCD*	SCD*	herbaceous perennial, most hardy to zone 5
<i>Salvia</i> spp.	Sage	perennial	SCD*	No	most species perennial, some annual
<i>Santolina chamaecyparissus</i>	Lavender cotton	perennial	zones 6-10	No	mounding
<i>Sempervivum tectorum</i>	Hens and chicks	perennial	zones 3-7	No	herbaceous perennial
<i>Solidago</i> spp.	Goldenrod	perennial	SCD*	SCD*	herbaceous perennial
<i>Stachys byzantina</i>	Lamb's ear	perennial	zones 4-7	No	herbaceous perennial
<i>Teucrium chamaedrys</i>	Germander	perennial	zones 4-9	No	herbaceous perennial
<i>Thymus praecox arcticus</i>	Creeping thyme	perennial	zone 5-8	No	herbaceous perennial
<b>Shrubs</b>					
<i>Amelanchier alnifolia</i>	Alder-leaved serviceberry	shrub	zones 4-5	No	deciduous, also small tree
<i>Amelanchier</i> spp.	Serviceberry	shrub	zones 4-9	SCD*	deciduous, also small tree
<i>Arctostaphylos uva-ursi</i>	Bearberry	shrub	zones 2-6	Yes	creeping shrub
<i>Aronia arbutifolia</i>	Red chokeberry	shrub	zones 5-8	No	deciduous, also small tree
<i>Aronia melanocarpa</i>	Black chokeberry	shrub	zones 3-8	Yes	deciduous
<i>Berberis buxifolia</i>	Box-leaf barberry	shrub	zones 5-8	No	evergreen
<i>Berberis xmentorensis</i>	Mentor barberry	shrub	zones 5-8	No	deciduous
<i>Buddleia davidii</i>	Butterfly bush	shrub	zones 5-9	No	deciduous, also small tree
<i>Buxus sempervirens</i>	Common boxwood	shrub	zones 5-8	No	evergreen
<i>Chaenomeles speciosa</i>	Flowering quince	shrub	zones 4-8	No	deciduous
<i>Chamaecyparis obtusa</i>	Hinoki falsecypress	shrub	zones 5-8	No	evergreen
<i>Clethra alnifolia</i>	Summersweet	shrub	zones 4-9	No	deciduous
<i>Cornus alba</i>	Tatarian dogwood	shrub	zones 3-7	No	deciduous
<i>Cornus sericea</i>	Yellowtwig dogwood/ red osier dogwood	shrub	zones 2-8	No	deciduous
<i>Corylus avellana</i>	European filbert	shrub	zones 4-8	No	deciduous, also small tree
<i>Cotinus coggygria</i>	Royal purple smoketree	shrub	zones 5-8	No	deciduous
<i>Cotoneaster apiculatus</i>	Cranberry cotoneaster	shrub	zones 4-7	No	deciduous
<i>Cotoneaster dammeri</i>	Coral beauty cotoneaster	shrub	zones 5-8	No	semi-evergreen
<i>Cotoneaster divaricatus</i>	Spreading cotoneaster	shrub	zones 4-7	No	deciduous
<i>Cotoneaster horizontalis</i>	Rock cotoneaster	shrub	zones 5-7	No	deciduous
<i>Cotoneaster</i> spp.	Cotoneaster	shrub	SCD*	No	SCD*
<i>Cytisus decumbens</i>	Creeping broom	shrub	zones 5-7	No	deciduous

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.



(continued)

**Table 1. (cont.) Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Shrubs (continued)</b>					
<i>Daphne cneorum</i>	Garland daphne	shrub	zones 4-7	No	evergreen
<i>Daphne xburkwoodii</i>	Burkwood daphne	shrub	zones 4-7	No	semi-evergreen
<i>Deutzia gracilis</i>	Slender deutzia	shrub	zones 4-8	No	deciduous
<i>Eleutherococcus pentaphyllus</i>	Five-leaf aralia	shrub	zones 4-8	No	deciduous
<i>Euonymus obovatus</i>	Running burning bush	shrub	zones 4-8	Yes	deciduous
<i>Forsythia xintermedia</i>	Lynwood border forsythia	shrub	zones 5-8	No	deciduous
<i>Hibiscus syriacus</i>	Rose of Sharon	shrub	zones 5-8	No	deciduous; also small tree
<i>Hydrangea quercifolia</i>	Oakleaf hydrangea	shrub	zones 5-9	No	deciduous
<i>Ilex crenata</i>	Northern beauty/ Japanese holly	shrub	zones 5-7	No	evergreen
<i>Ilex verticillata</i>	Michigan holly	shrub	zones 3-9	Yes	deciduous
<i>Ilex x meserve</i>	Blue holly	shrub	zones 4-7	No	evergreen
<i>Mahonia aquifolium</i>	Oregon grapeholly	shrub	zones 5-8	No	evergreen
<i>Mahonia repens</i>	Creeping mahonia	shrub	zones 5-7	No	evergreen, also groundcover
<i>Mahonia</i> spp.	Creeping grape holly	shrub	SCD	No	evergreen
<i>Myrica pennsylvanica</i>	Northern bayberry	shrub	zones 3-6	No	deciduous
<i>Philadelphus</i> spp.	Mock orange	shrub	SCD*	No	deciduous
<i>Philadelphus xvirginalis</i>	Minnesota Snowflake Mock Orange	shrub	zones 4-8	No	deciduous
<i>Picea abies 'nidiformis'</i>	Bird's nest spruce	shrub	zones 3-7	No	evergreen
<i>Picea glauca 'conica'</i>	Dwarf Alberta white spruce	shrub	zones 2-6	Yes	evergreen
<i>Pieris japonica</i>	Japanese andromeda	shrub	zones 4-7	No	evergreen
<i>Potentilla fruticosa</i>	Shrubby cinquefoil	shrub	zones 2-6	Yes	deciduous
<i>Prunus americana</i>	Native plum	shrub	zones 3-8	Yes	deciduous, also small tree
<i>Prunus besseyi</i>	Sand cherry	shrub	zones 3-6	No	deciduous
<i>Prunus tomentosa</i>	Nanking cherry	shrub	zones 3-7	No	deciduous
<i>Pyracantha</i> spp.	Pyracantha	shrub	SCD*	No	can have fireblight problems on more vigorous selections
<i>Rhododendron catawbiense</i>	Catawba rhododendron	shrub	zones 4-8	No	evergreen
<i>Rhododendron obtusum</i>	Hiryu azalea	shrub	zones 6-7	No	evergreen
<i>Rhododendron PJM</i>	PJM rhododendron	shrub	zones 4-7	No	evergreen
<i>Rhododendron xkosteranum</i>	Mollis azalea	shrub	zones 6-7	No	deciduous
<i>Rhus</i> spp.	Sumac	shrub	SCD*	SCD*	SCD*
<i>Ribes alpinum</i>	Green mound alpine currant	shrub	zones 2-7	No	deciduous
<i>Rosa carolina</i>	Carolina rose	shrub	zones 4-9	Yes	deciduous
<i>Rosa wichuriana</i>	Memorial rose	shrub	zones 5-8	No	semi-evergreen
<i>Rubus</i> spp.	Raspberry	shrub	SCD*	SCD*	deciduous
<i>Shepherdia canadensis</i>	Russet buffaloberry	shrub	zones 2-6	Yes	deciduous
<i>Shepherdia argentea</i>	Silver buffaloberry	shrub	zones 2-6	No	deciduous, also small tree
<i>Spiraea japonica</i>	Daphne spirea	shrub	zones 4-8	No	deciduous

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.



**Table 1. (cont.) Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Shrubs (continued)</b>					
<i>Spiraea nipponica</i>	Snowmound Nippon spirea	shrub	zones 4-8	No	deciduous
<i>Spiraea xvanhouttei</i>	Vanhoutte spirea	shrub	zones 3-8	No	deciduous
<i>Symphoricarpos albus</i>	Snowberry	shrub	zones 3-7	Yes	deciduous
<i>Syringa</i> spp.	Lilac	shrub	SCD*	No	deciduous
<i>Syringa vulgaris</i>	Common lilac	shrub	zones 3-7	No	deciduous
<i>Syringa xprestoniae</i>	Preston lilac	shrub	zones 3-7	No	deciduous
<i>Taxus cuspidata</i>	Japanese yew	shrub	zones 4-7	No	evergreen
<i>Taxus xmedia</i>	Anglojap yew	shrub	zones 4-7	No	evergreen
<i>Thuja occidentalis</i>	American arborvitae	shrub	zones 3-7	Yes	evergreen
<i>Viburnum trilobum</i>	American cranberrybush viburnum	shrub	zones 2-7	Yes	deciduous
<i>Viburnum trilobum 'compactum'</i>	Dwarf American cranberry-bush viburnum	shrub	zones 2-7	No	deciduous
<i>Viburnum carlesii</i>	Korean spice viburnum	shrub	zones 4-8	No	deciduous
<i>Viburnum cassinoides</i>	Witherod viburnum	shrub	zones 5-9	No	deciduous
<i>Viburnum dentatum</i>	Arrowwood viburnum	shrub	zones 2-8	No	deciduous
<i>Viburnum dilatatum</i>	Linden viburnum	shrub	zones 5-7	No	deciduous
<i>Viburnum lantana</i>	Wayfaringtree viburnum	shrub	zones 4-8	No	deciduous
<i>Viburnum lentago</i>	Nannyberry	shrub	zones 3-7	No	deciduous; also tree
<i>Viburnum plicatum</i> var. <i>tomentosum</i>	Doublefile viburnum	shrub	zones 5-8	No	deciduous
<i>Viburnum wrightii</i>	Wright viburnum	shrub	zones 5-7	No	deciduous
<i>Viburnum xburkwoodii</i>	Burkwood viburnum	shrub	zones 5-8	No	deciduous
<i>Viburnum xcarlcephalum</i>	Fragrant snowball viburnum	shrub	zone 5-8	No	deciduous
<i>Viburnum xjuddii</i>	Judd viburnum	shrub	zone 4-8	No	deciduous
<i>Viburnum xrhytidophylloides</i>	Willowwood or Allegheny viburnum	shrub	zones 5-8	No	deciduous
<i>Viburnum prunifolium</i>	Blackhawk viburnum	shrub	zones 3-9	Yes	deciduous
<i>Viburnum sargentii</i>	Sargent viburnum	shrub	zones 3-7	No	deciduous
<i>Viburnum sieboldii</i>	Siebold viburnum	shrub	zones 4-7	No	deciduous
<i>Viburnum setigerum</i>	Tea viburnum	shrub	zones 5-8	No	deciduous
<i>Weigela florida</i>	Old-fashioned weigela	shrub	zones 5-8	No	deciduous
<b>Trees</b>					
<i>Acer campestre</i>	Hedge maple	tree	zones 4-8	No	deciduous
<i>Acer griseum</i>	Paperbark maple	tree	zones 5-7	No	deciduous
<i>Acer palmatum</i>	Japanese maple	tree	cultivar dependent	No	deciduous
<i>Acer platanoides</i>	Norway maple	tree	zones 4-7	No	deciduous
<i>Acer rubrum</i>	Red maple	tree	cultivar dependent	Yes	deciduous
<i>Acer saccharum</i>	Green Mountain sugar maple	tree	zone 4-8	Yes	deciduous
<i>Aesculus hippocastanum</i>	Horsechestnut	tree	zones 4-7	No	deciduous

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.



(continued)



**Table 1. (cont.) Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Trees (continued)</b>					
<i>Alnus cordata</i>	Italian alder	tree	zones 5-7	No	deciduous
<i>Betula</i> spp.	Birch	tree	SCD*	SCD*	deciduous
<i>Calocedrus decurrens</i>	Incense cedar	tree	zones 5-8	No	evergreen
<i>Carpinus betulus</i>	Upright European hornbeam	tree	zones 4-7	No	deciduous
<i>Catalpa speciosa</i>	Northern catalpa	tree	zones 4-8	No	deciduous
<i>Cedrus</i> spp.	Cedar	tree	SCD*	No	evergreen
<i>Celtis occidentalis</i>	Common hackberry	tree	zones 2-9	Yes	deciduous
<i>Cercis canadensis</i>	Eastern redbud	tree	zones 5-9; best from local seed source	Yes	deciduous
<i>Cercis</i> spp.	Redbud	tree	zones 5-9; best from local seed source	SCD*	deciduous
<i>Chamaecyparis nootkatensis</i>	Nootka weeping falsecypress	tree	zones 4-7	No	evergreen
<i>Chamaecyparis pisifera</i>	Sawara falsecypress	tree	zones 4-8	No	evergreen tree/shrub
<i>Cornus florida</i>	Flowering dogwood	tree	zones 5-8; best from local seed source	Yes	deciduous
<i>Cornus kousa</i>	Chinese kousa dogwood	tree	zones 5-8	No	deciduous
<i>Cornus mas</i>	Cornelian cherry dogwood	tree	zones 4-8	No	deciduous
<i>Crataegus phaenopyrum</i>	Washington hawthorn	tree	zones 4-8	No	deciduous
<i>Crataegus</i> spp.	Hawthorn	tree	zones 4-7	SCD*	deciduous
<i>Fagus</i> spp.	Beech	tree	SCD*	No	deciduous
<i>Fagus sylvatica</i>	European beech	tree	zones 4-7	No	deciduous
<i>Ginkgo biloba</i>	Maidenhair tree/ginkgo	tree	zones 4-8	No	deciduous tree/shrub
<i>Gleditsia triacanthos</i>	Honeylocust	tree	zones 4-9	SCD*	deciduous
<i>Gymnocladus dioicus</i>	Kentucky coffee tree	tree	zones 3-8	Yes	deciduous
<i>Juglans</i> spp.	Walnut	tree	zones 4-7	Yes	deciduous
<i>Liquidambar styraciflua</i>	American sweetgum	tree	zones 5-9		deciduous
<i>Liriodendron tulipifera</i>	Tulip tree	tree	zones 4-9	Yes	deciduous
<i>Magnolia stellata</i>	Star Magnolia	tree	zones 4-9	No	deciduous
<i>Magnolia xloebneri</i>	Dr. Merrill star magnolia	tree	zones 3-8	No	deciduous
<i>Magnolia xsoulangiana</i>	Saucer magnolia	tree	zones 4-9	No	deciduous
<i>Malus</i> spp.	Crabapple	tree	SCD*	SCD*	deciduous
<i>Nyssa sylvatica</i>	Black gum	tree	zones 4-9	Yes	deciduous
<i>Picea abies</i>	Norway spruce	tree	zones 3-7	No	evergreen
<i>Picea glauca</i>	White spruce	tree	zones 2-6	Yes	evergreen
<i>Picea omorika</i>	Serbian spruce	tree	zones 4-7	No	evergreen
<i>Platanus xacerifolia</i>	London planetree	tree	zones 4-8	No	deciduous
<i>Populus</i> spp.	Aspen, cottonwoods, poplar	tree	SCD*	SCD*	deciduous
<i>Populus tremuloides</i>	Quaking aspen	tree	zones 1-6	Yes	deciduous

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.



**Table 1. (cont.) Wildfire-resistant landscape plants for Michigan.**

Botanical name	Common name	Category	Winter hardiness zones***	Native to Mich.**	Descriptors
<b>Trees (continued)</b>					
<i>Prunus cerasifera</i> 'atropurpurea'	Flowering plum	tree	zones 5-8	No	deciduous
<i>Prunus serrulata</i>	Kwanzan Oriental cherry	tree	zones 5-7	No	deciduous
<i>Prunus subhirtella</i>	Higan cherry	tree	zones 5-8	No	deciduous
<i>Prunus virginiana</i>	Chokecherry	tree	zones 2-6	Yes	deciduous
<i>Prunus xyedoensis</i>	Yoshino cherry	tree	zones 5-8	No	deciduous
<i>Pseudotsuga menziesii</i>	Douglas fir	tree	zones 4-6	No	evergreen
<i>Pyrus calleryana</i>	Bradford pear	tree	zones 5-8	No	deciduous, may break under heavy snow/ice loads
<i>Quercus alba</i>	White oak	tree	zones 3-9	Yes	deciduous
<i>Quercus macrocarpa</i>	Bur oak	tree	zones 3-8	Yes	deciduous
<i>Quercus robur</i>	English oak	tree	zones 4-8	No	deciduous
<i>Quercus rubra</i>	Red oak	tree	zones 3-7	Yes	deciduous
<i>Quercus</i> spp.	Oak	tree	SCD*	SCD*	deciduous
<i>Salix</i> spp.	Willow	tree	SCD*	SCD*	deciduous
<i>Sorbus aucuparia</i>	European mountain ash	tree	zones 3-7	No	deciduous, several pest problems
<i>Thuja occidentalis</i>	American arborvitae	tree	zones 3-7	Yes	evergreen
<i>Thuja plicata</i>	Western red cedar	tree	zones 5-7	No	evergreen
<i>Tilia cordata</i>	Greenspire littleleaf linden	tree	zones 3-7	No	deciduous
<i>Tsuga canadensis</i>	Canadian hemlock	tree	zones 3-7	Yes	evergreen
<b>Vines</b>					
<i>Campsis radicans</i>	Trumpet vine	vine	zones 4-9	No	deciduous
<i>Clematis</i> hybrids	Clematis	vine	SCD*	No	deciduous
<i>Hydrangea anomala</i> subsp. <i>petiolaris</i>	Climbing hydrangea	vine	zones 4-7	No	deciduous
<i>Lonicera sempervirens</i>	Trumpet honeysuckle	vine	zones 4-9	No	deciduous
<i>Lonicera xheckrottii</i>	Goldflame honeysuckle	vine	zones 4-9	No	semi-evergreen
<i>Parthenocissus quinquefolia</i>	Virginia creeper	vine	zones 4-9	Yes	deciduous
<i>Parthenocissus tricuspidata</i>	Boston ivy	vine	zones 4-8	No	deciduous
<i>Polygonum aubertii</i>	Silverlace vine	vine	zones 4-7	No	deciduous, can be very vigorous
<i>Wisteria sinensis</i>	Chinese wisteria	vine	zones 5-8	No	deciduous

\*SCD — Species and/or cultivar dependent.

\*\*Michigan's critical dune guidelines allow only native plants to be used within 100 feet of the crest of a dune. In addition, any alteration on the lake side of the dune requires a permit, including establishing or reestablishing.

\*\*\*Winter hardiness refers to the ability of the plant to withstand average low winter temperatures. Winter hardiness zones listed in the table refer to the USDA National Arboretum Plant Hardiness Zone Map (see page 12) which can also be found at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. Other factors will also affect the suitability of a plant for a particular climate, such as heat, humidity, soil characteristics, and water availability.



When creating defensible space in the yard, provide a minimum of 3 feet of clearance between the structure and landscape plants. Non-flammable landscape material such as limestone, marble chips or even mineral soil can be used in this area. Avoid using organic mulch, peat or wood chips within the 3-foot barrier. These materials can ignite when dry.

Leave at least 30 feet of defensible space between the structure and solid stands of wildland vegetation. Studies in the western states have shown that 85 to 90 percent of homes with 30 to 50 feet of defensible space and fire-resistant roofing materials survived major wildfires. Ornamental landscape plants may be placed within the defensible space, but it is important to maintain 10 to 16 feet of space between the crowns of the plants.

Houses and structures built at the crest of a hill should have a minimum of 60 feet of defensible space on the downhill side of the structure, because a fire traveling uphill will be more intense and radiate more heat than a wildfire moving on level ground. Liquid propane tanks, stacks of firewood and other fuels should be located outside the 30- or 60-foot perimeter.

The term “ladder fuels” describes low-hanging branches and limbs that could catch fire from a wildfire moving across the ground. If the tree is combustible, such as a spruce tree, the fire will ignite the lower leaves and move upward. Should this happen, the radiant heat given off could set a nearby house or other structure on fire. Remove limbs and branches of ornamental landscape trees within 6 to 8 feet of the ground so that fire cannot move from the ground to the lower branches of the tree.

### Planting Ornamental Trees and Shrubs

When planting any tree or shrub, it is important to match the species with the conditions in the planting site. Some species may grow better in sandy soils than in heavy clay soils. Some will do better than others in poorly drained areas. Other species may do better in the sun than in the shade. This information is often included on a tag attached to the tree or shrub at the garden center. If there is no tag, ask an informed employee about the preferred environment before purchasing. Again, your local Extension office will likely have this information as well.

At planting time, dig a hole that is larger than the root ball. This will provide an area of soft soil for new feeder roots to expand into and take hold. Fall or spring planting depends on the species selected. Avoid planting during the midsummer months because of high temperatures and sparse rainfall. To obtain more information on planting landscape plants, obtain a copy of Extension bulletin E-2941, *A Guide for the Selection and Use of Plants in the Landscape*, from your county Extension office.

### Maintaining the Yard and Shrubbery

If the landscape is not maintained properly, a wildfire can move across the yard and ignite a home or other structure. To decrease this possibility, keep your lawn mowed and watered. A green lawn is unlikely to catch fire and will typically serve as a protective barrier around the home. On the other hand, a yard that is managed in natural vegetation or a lawn that has become very dry could allow a wildfire to move across it and pose a danger of the wildfire igniting a deck or wood siding, and then the home. The home and garage shown in Figure 4 were damaged because tall



**Figure 4. A wildfire in a grassy field melted the siding on this garage and home.**

(Courtesy of Michigan DNR.)

grass was allowed to grow too close to the structures.

It is also important to provide adequate water for newly planted trees and shrubs. Once these plants have grown and have established extensive root systems, they should usually be able to absorb necessary water from the soil, and nutrients from the soil and from lawn fertilizers. Ornamental plants may or may not need special fertilization.



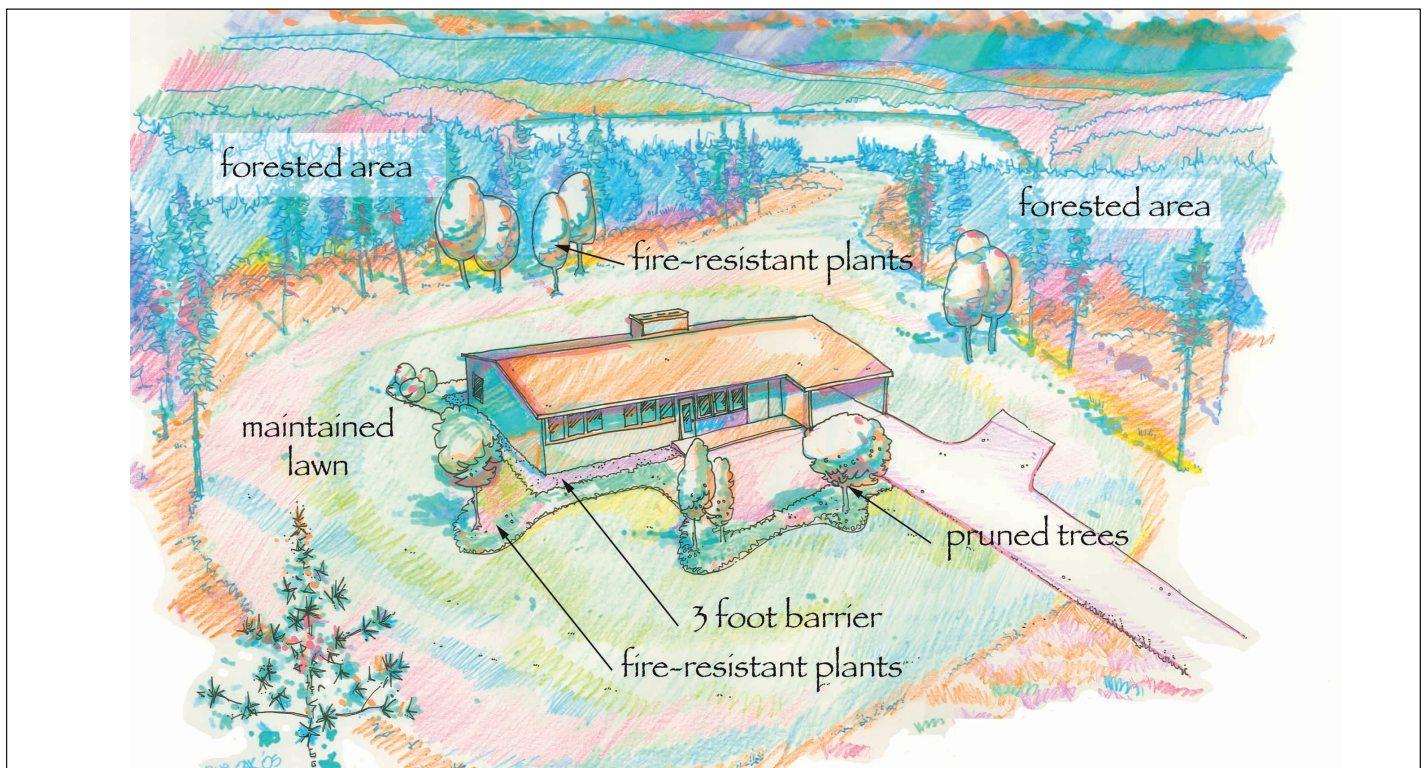
This can be determined by a soil test, which is available through your local Extension office. For more information, pick up a copy of North Central Region publication 356, *Fertilizing Garden & Landscape Plants & Lawns*, from your county Extension office.

### Summary

Each year in Michigan, wildfires damage or destroy homes and other structures. A firewise home includes adequate defensible space, fire-resistant building materials, and eave troughs and spaces around and under the base of the home void of leaves. Firewise homeowners also place

other fuels, such as LP tanks and firewood stacks, at a safe distance from the home. Adding fire-resistant plants and pruning trees can greatly increase the chances that a home or other structures will still be standing after a wildfire passes, while also providing the esthetics that the homeowner desires (Figure 5).

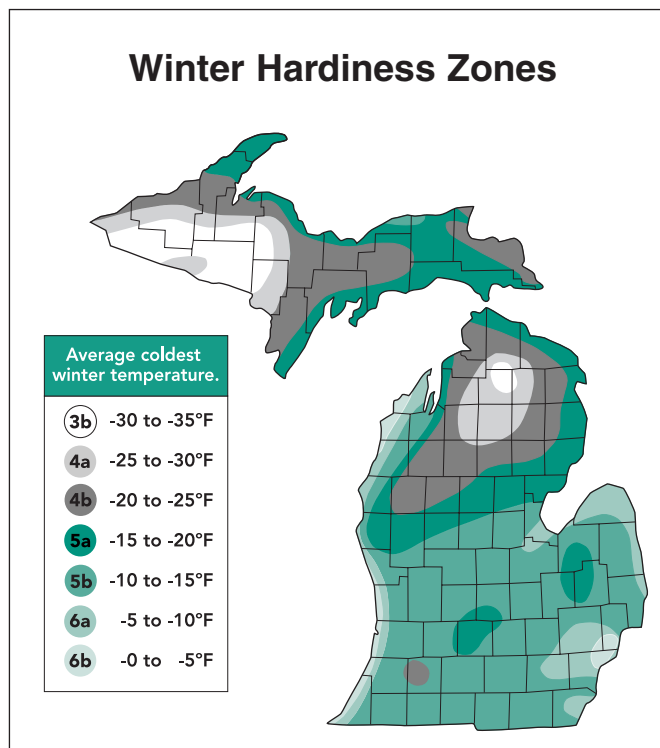
For more information on Michigan wildfires and protecting your home and family, pick up copies of Extension bulletins E-2831, *Protect Your Michigan Home from Wildfire*, and E-2882, *Understanding Wildfire Behavior in Michigan*, from your county Extension office.



**Figure 5. Firewise landscaping reduces the chance of wildfire damage to a home.**

(Courtesy of Dr. Jon Bryan Burley, ASLA, associate professor, LAP director, MSU.)





For an online version of the USDA National Arboretum Plant Hardiness Zone Map for North America, go to:  
<http://www.usna.usda.gov/Hardzone/ushzmap.html>

Other publications in the **Wildfire Series** are available from your MSU county Extension office or the MSU Bulletin Office, 117 Central Services Bldg., Michigan State University, East Lansing, MI 48824.

**E-2831, Protect Your Michigan Home from Wildfire**

**E-2882, Understanding Wildfire Behavior in Michigan**



In Cooperation with  
 Michigan Dept. of Natural Resources  
 and the USDA Forest Service.



MSU is an affirmative-action equal-opportunity institution. Michigan State University Extension programs and materials are open to all without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status, or family status. ■ Issued in furtherance of Extension work in agriculture and home economics, acts of May 8 and June 20, 1914, in cooperation with the U.S. Department of Agriculture. Thomas Coon, Extension director, Michigan State University, E. Lansing, MI 48824. ■ This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by MSU Extension or bias against those not mentioned.

This bulletin becomes public property upon publication and may be printed verbatim with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.

New-1:07-3M-KMF/GP

