



Michigan State University Extension
Land Use Series

Wildfire-resistant Landscape Plants for Michigan, E2948

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Introduction

Selecting the correct landscape plants to place next to or near your home could save it from catching fire. When wildfires occur, the fire moves along the ground or through brush or forests by igniting the vegetation or fuels ahead. If flammable vegetation is planted too close to a home or building and the vegetation ignites, it could also ignite the structure. Figure 1 depicts 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.

*“Thirty seven million acres is
all the Michigan we will ever have”*
William G. Milliken

This is a fact sheet developed by experts on the topic(s) covered within MSU Extension. Its intent and use is to assist Michigan communities making public policy decisions on these issues. This work refers to university-based peer reviewed research, when available and conclusive, and based on the parameters of the law as it relates to the topic(s) in Michigan. This document is written for use in Michigan and is based only on Michigan law and statute. One should not assume the concepts and rules for zoning or other regulation by Michigan municipalities and counties apply in other states. In most cases they do not. This is not original research or a study proposing new findings or conclusions.

Most Michigan residents are surprised to learn that Michigan experiences as many as 8,000 to 10,000 wildland fires each year. These forest fires, brush fires and grass fires destroy or severely damage 100 to 200 homes, barns and outbuildings annually. This can happen when firebrands (floating embers or pieces of burning debris) land in dry leaves that have collected under decks, around landscape plants and in eaves troughs, setting the leaves on fire. Firebrands can also ignite a wood roof. Many structures also catch fire when flames or intense heat from burning vegetation catches the deck or sides of the house on fire. 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. In these situations, vegetation planted or allowed to grow too close to the house served as fuel, igniting the wooden stairways, decks and siding.

To help prevent homes and buildings from catching fire — i.e., to make them "firewise" — simply eliminate these ignition points by creating defensible space around the home. 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 building on fire.



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

Any Plant Can Burn

It is important to understand that any plant can burn if the plant is dry enough or if it is exposed to intense heat long enough. This is true even of plants that are defined as fire-resistant. A fire-resistant plant possesses several characteristics that make it less likely to ignite. For example, conifers and certain other plants contain resins and can ignite even when green; they also produce intense flames and heat. Plants such as maple, dogwood and Michigan holly do not contain such resins. Fire-resistant plants also have foliage and stems that retain moisture, such as hosta. Plants that retain dead leaves or needles, such as juniper, are not considered fire-resistant because these dead plant parts can serve as ignition points or intensify a fire. Fire-resistant landscape plants should be your first choice if you live in a rural area or an urban community bordered by natural vegetation where wildfire is a possible threat.



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.)

Even before homeowners consider the right trees, shrubs and ground covers, they should look at all landscape issues. 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.

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. Therefore, no plant is completely fireproof. In addition, some plants containing resins will burn even when green. The term “fire-resistant”

in this bulletin refers to plants that will not ignite easily as long as they are alive, green and watered. It does not apply to dead plants or dead leaves and plant debris from these plants.

The plants and trees listed were selected after the authors reviewed and compared 15 fire-resistant plant lists from the United States, Canada and Tasmania. Because basic research where plants were exposed to fire in a laboratory setting is limited, most of the species are listed on the basis of observations of survival after being exposed to real wildfire or structural fire situations. In some cases, an entire genus is listed in the table; in other genera, only selected species are listed. One must also recognize that although the canopy of *Quercus* species (oak trees) will typically not ignite, dead oak leaves on the ground do not decompose quickly and are very flammable. Oak leaves serve as one of the more common fuel threats in Michigan wildfires. Therefore, it is important to keep oak leaves and other dead leaves, needles and plant debris from collecting around foundations and under decks

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 species.

Locating Shrubs and Trees in the Landscape

Where you locate ornamental plants is just as critical as the species selected. Spacing between trees and shrubs is important so that fire cannot jump from a plant to a structure or 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 shown in Figure 3 were planted too close to the home and are now a threat because of direct flames and radiant heat if the trees ignite.

When creating defensible space in the yard, provide a minimum of 3 feet of clearance between the building 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 such as peat or wood chips within the 3-foot barrier. These materials can ignite when dry.



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 – Wildfire-resistance landscape plants for Michigan

Groundcovers

Groundcover's Botanical name	Groundcover's Common name	Winter hardiness zones ¹	Native to Michigan ²	Descriptors
<i>Achillea tomentosa</i>	Woolly yarrow	zones 3-7	No	herbaceous perennial
<i>Ajuga reptans</i>	Carpet bugleweed	zones 3-9	No	herbaceous perennial
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick or bearberry	zones 2-6	Yes	Evergreen
<i>Armeria maritima</i>	Sea pink thrift	zones 4-8	No	Herbaceous perennial
<i>Asarum canadense</i>	Canadian ginger	zones 3-7	Yes	Herbaceous perennial
<i>Cotoneaster adpressus praecox</i>	Early cotoneaster	zones 5-7	No	Deciduous
<i>Epimedium spp.</i>	Barrenwort	Most spp in zone 5-9	No	Herbaceous perennial
<i>Festuca cinerea</i>	Blue fescue	zones 5-9	No	Herbaceous perennial

¹ 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 appendix B) 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.

² 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.

Groundcover's Botanical name	Groundcover's Common name	Winter hardiness zones ¹	Native to Michigan ²	Descriptors
<i>Festuca rubra</i>	Red fescue	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial
<i>Fragaria spp.</i>	Wild strawberry	Species and/or cultivar dependent	Species and/or cultivar dependent	Perennial
<i>Gaultheria procumbens</i>	Wintergreen	zones 4-8	No	Evergreen
<i>Hedera helix</i>	English ivy	zones 4-10	No	Evergreen
<i>Hosta spp.</i>	Plaintain lily/ hosta lily	zones 3-9	No	Herbaceous perennial
<i>Iberis sempervirens</i>	Evergreen candytuft	zones 3-8	No	Herbaceous perennial
<i>Mahonia repens</i>	Dwarf Oregon grape	zones 5-7	No	Herbaceous perennial
<i>Pachysandra terminalis</i>	Japanese pachysandra	zones 4-9	No	Herbaceous perennial
<i>Phlox subulata</i>	Creeping phlox	zones 2-8	No	Herbaceous perennial
<i>Potentilla neumanniana</i>	Spring cinquefoil	zones 4-7	No	woody perennial
<i>Sedum album</i>	Green stonecrop	zones 4-7	No	Herbaceous perennial
<i>Sedum spathyuifolium</i>	Stonecrop	zones 6-9	No	Herbaceous perennial
<i>Thymus praecox</i>	Mother of thyme	zones 5-8	No	Herbaceous perennial
<i>Thymus praecox arcticus</i>	Creeping thyme	zones 5-8	No	Herbaceous perennial
<i>Thymus pseudolanuginosus</i>	Woolly thyme	zones 5-8	No	Herbaceous perennial

Table – Wildfire-resistance landscape plants for Michigan

Perennials

Perennial's Botanical name	Perennial's Common name	Winter hardiness zones ³	Native to Michigan ⁴	Descriptors
<i>Achillea filipendulina</i>	Fernleaf yarrow	zones 3-8	No	Herbaceous perennial
<i>Achillea millefolium</i>	White yarrow	zones 3-9	Yes	Herbaceous perennial
<i>Achillea spp.</i>	Yarrow	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial

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Perennial's Botanical name	Perennial's Common name	Winter hardiness zones ³	Native to Michigan ⁴	Descriptors
<i>Allium schoenoprasum</i>	Chives	zones 4-7	Species and/or cultivar dependent	Herbaceous perennial
<i>Antennaria spp.</i>	Pussytoes	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial
<i>Aquilegia spp.</i>	Columbine	Species and/or cultivar dependent	No	Herbaceous perennial
<i>Arabis alpina</i>	Rock cress	zones 5-7	No	Herbaceous perennial
<i>Artemisia caucasica</i>	Silver spreader or Caucasian sagebrush	zones 5-9	No	Herbaceous perennial
<i>Aurinia saxatilis</i>	Basket of gold	zones 3-7	No	Herbaceous perennial
<i>Bergenia cordifolia</i>	Heartleaf bergenia	zones 4-8	No	semi-evergreen herbaceous perennial
<i>Bergenia spp.</i>	Bergenia	Species and/or cultivar dependent	No	semi-evergreen herbaceous perennial
<i>Campanula poscharskyana</i>	Serbian bellflower	zones 3-7	No	Herbaceous perennial
<i>Campanula rotundifolia</i>	Harebell	zones 2-7	No	Herbaceous perennial
<i>Carex spp.</i>	Sedges	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial
<i>Caryopteris xclandonensis</i>	Blue mist spirea	zones 5-9	No	herbaceous to woody perennial
<i>Centranthus ruber</i>	Red valerian	zones 5-8	No	Herbaceous perennial
<i>Cerastium tomentosum</i>	Snow in summer	zones 2-10	No	Herbaceous perennial
<i>Coreopsis auriculata nana</i>	Dwarf coreopsis	zones 4-9	No	Herbaceous perennial
<i>Coreopsis spp.</i>	Coreopsis	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial
<i>Dianthus deltoides</i>	Maiden pinks	zones 3-8	No	Herbaceous perennial
<i>Dianthus plumarius</i>	Pinks	zones 3-8	No	Herbaceous perennial
<i>Dianthus spp.</i>	China pinks	zones 3-8	No	Herbaceous perennial
<i>Epilobium angustifolium</i>	Fireweed	zones 3-7	Yes	Herbaceous perennial
<i>Erigeron hybrids</i>	Fleabane	zones 4-7	Species and/or cultivar dependent	Herbaceous perennial

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Perennial's Botanical name	Perennial's Common name	Winter hardiness zones ³	Native to Michigan ⁴	Descriptors
<i>Fragaria chiloensis</i>	Wild strawberry	zones 4-8	No	Herbaceous perennial
<i>Gaillardia xgrandiflora</i>	Blanket flower	zones 2-9	No	Herbaceous perennial
<i>Geranium cinereum</i>	Hardy geranium	zones 5-7	No	Herbaceous perennial
<i>Geranium sanguineum</i>	Blood red geranium	zones 3-8	No	Herbaceous perennial
<i>Geranium spp.</i>	Geranium	zones 3-8	No	Most species perennial, some annual
<i>Helianthemum nummularium</i>	Sunrose	zones 5-7	No	Mounding
<i>Heuchera sanguinea</i>	Coral bells	zones 3-8	No	Herbaceous perennial
<i>Iberis sempervirens</i>	Candytuft	zones 3-8	No	Herbaceous perennial
<i>Iris missouriensis</i>	Wild blue iris	zones 3-8	No	Herbaceous perennial
<i>Iris spp.</i>	Iris	Species and/or cultivar dependent	No	most species perennial, some annual
<i>Lavandula angustifolia</i>	Lavender	zones 5-9	No	Herbaceous perennial
<i>Leucanthemum xsuperbum</i>	Shasta daisy	zones 4-9	No	Herbaceous perennial
<i>Liriope muscari</i>	Blue lily-turf	zones 6-9	No	Herbaceous perennial
<i>Lupinus spp.</i>	Lupine	Species and/or cultivar dependent	Species and/or cultivar dependent	not strong performers in Michigan
<i>Oenothera macrocarpa</i>	Evening primrose	zones 4-7	No	Herbaceous perennial
<i>Oenothera spp.</i>	Primrose	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial
<i>Papaver spp.</i>	Poppy	Species and/or cultivar dependent	No	most species perennial, some annual
<i>Penstemon spp.</i>	Beard tongue	Species and/or cultivar dependent	Species and/or cultivar dependent	most species perennial, some annual
<i>Phlox drummondii</i>	Creeping phlox	zones 4-9	No	Herbaceous perennial
<i>Potentilla spp.</i>	Potentilla	Species and/or cultivar dependent	Species and/or cultivar dependent	most species perennial, some annual
<i>Salvia spp.</i>	Sage	Species and/or cultivar dependent	No	most species perennial, some annual

Perennial's Botanical name	Perennial's Common name	Winter hardiness zones ³	Native to Michigan ⁴	Descriptors
<i>Santolina chamaecyparissus</i>	Lavender cotton	zones 6-10	No	Mounding
<i>Sempervivum tectorum</i>	Hens and chicks	zones 3-7	No	Herbaceous perennial
<i>Solidago spp.</i>	Goldenrod	Species and/or cultivar dependent	Species and/or cultivar dependent	Herbaceous perennial
<i>Stachys byzantina</i>	Lamb's ear	zones 4-7	No	Herbaceous perennial
<i>Thymus praecox arcticus</i>	Creeping thyme	zones 5-8	No	Herbaceous perennial

Table – Wildfire-resistance landscape plants for Michigan

Shrubs

Shrub's Botanical name	Shrub's Common name	Winter hardiness zones ⁵	Native to Michigan ⁶	Descriptors
<i>Amelanchier alnifolia</i>	Alder-leaved serviceberry	zones 4-5	No	deciduous, also small tree
<i>Amelanchier spp.</i>	Serviceberry	zones 4-9	Species and/or cultivar dependent	deciduous, also small tree
<i>Arctostaphylos uva-ursi</i>	Bearberry	zones 2 - 6	Yes	creeping shrub
<i>Aronia arbutifolia</i>	Red chokeberry	zones 5-8	No	deciduous, also small tree
<i>Aronia melanocarpa</i>	Black chokeberry	zones 3-8	Yes	deciduous
<i>Berberis buxifolia</i>	Box-leaf barberry	zones 5-8	No	evergreen
<i>Berberis xmentorensis</i>	Mentor barberry	zones 5-8	No	deciduous
<i>Buddleia davidii</i>	Butterfly bush	zones 5-9	No	deciduous, also small tree
<i>Chaenomeles speciosa</i>	Flowering quince	zones 4-8	No	deciduous
<i>Clethra alnifolia</i>	Summersweet	zones 4-9	No	deciduous
<i>Cornus sericea</i>	Yellowtwig dogwood/ red osier dogwood	zones 2-8	No	deciduous
<i>Corylus avellana</i>	European filbert	zones 4-8	No	deciduous, also small tree
<i>Cotinus coggygria</i>	Royal purple smoketree	zones 5-8	No	deciduous

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Shrub's Botanical name	Shrub's Common name	Winter hardiness zones ⁵	Native to Michigan ⁶	Descriptors
<i>Cotoneaster apiculatus</i>	Cranberry cotoneaster	zones 4-7	No	deciduous
<i>Cotoneaster divaricatus</i>	Spreading cotoneaster	zones 4-7	No	deciduous
<i>Cotoneaster horizontalis</i>	Rock cotoneaster	zones 5-7	No	deciduous
<i>Cotoneaster spp.</i>	Cotoneaster	Species and/or cultivar dependent	No	Species and/or cultivar dependent
<i>Daphne xburkwoodii</i>	Burkwood daphne	zones 4-7	No	semi-evergreen
<i>Deutzia gracilis</i>	Slender deutzia	zones 4-8	No	deciduous
<i>Forsythia xintermedia</i>	Lynwood border forsythia	zones 5-8	No	deciduous
<i>Hibiscus syriacus</i>	Rose of Sharon	zones 5-8	No	deciduous, also small tree
<i>Hydrangea macrophylla</i>	Bigleaf Hydrangea	zones 5-8	No	deciduous
<i>Hydrangea quercifolia</i>	Oakleaf hydrangea	zones 5-9	No	deciduous
<i>Ilex verticillata</i>	Michigan holly	zones 3-9	Yes	deciduous
<i>Mahonia repens</i>	Creeping mahonia	zones 5-7	No	evergreen, also ground cover
<i>Mahonia spp.</i>	Creeping grape holly	Species and/or cultivar dependent	No	evergreen
<i>Myrica pensylvanica</i>	Northern bayberry	zones 3-6	No	Deciduous
<i>Philadelphus spp.</i>	Mock orange	Species and/or cultivar dependent	No	deciduous
<i>Potentilla fruticosa</i>	Shrubby cinquefoil	zones 2-6	Yes	deciduous
<i>Prunus americana</i>	Native plum	zones 3-8	Yes	deciduous, also small tree
<i>Prunus besseyi</i>	Sand cherry	zones 3-6	No	deciduous
<i>Prunus tomentosa</i>	Nanking cherry	zones 3-7	No	deciduous
<i>Pyracantha spp.</i>	Pyracantha	Species and/or cultivar dependent	No	can have fireblight problems on more vigorous selection
<i>Rhus spp.</i>	Sumac	Species and/or cultivar dependent	Species and/or cultivar dependent	Species and/or cultivar dependent
<i>Ribes alpinum</i>	Green mound Alpine currant	zones 2-7	No	deciduous
<i>Rosa carolina</i>	Carolina rose	zones 4-9	Yes	deciduous

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Shrub's Botanical name	Shrub's Common name	Winter hardiness zones ⁵	Native to Michigan ⁶	Descriptors
<i>Rosa wichuriana</i>	Memorial rose	zones 5-8	No	semi-evergreen
<i>Rubus spp.</i>	Raspberry	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Shepherdia canadensis</i>	Russet buffaloberry	zones 2-6	Yes	deciduous
<i>Shepherdia argentea</i>	Silver buffaloberry	zones 2-6	No	deciduous, also small tree
<i>Spiraea japonica</i>	Daphne spiraea	zones 4-8	No	deciduous
<i>Spiraea nipponica</i>	Snowmound Nippon spiraea	zones 4-8	No	deciduous
<i>Spiraea xvanhouttei</i>	Vanhoutte spiraea	zones 3-8	No	deciduous
<i>Symphoricarpos albus</i>	Snowberry	zones 3-7	Yes	deciduous
<i>Syringa spp.</i>	Lilac	Species and/or cultivar dependent	No	deciduous
<i>Syringa vulgaris</i>	Common lilac	zones 3-7	No	deciduous
<i>Syringa xprestoniae</i>	Preston lilac	zones 3-7	No	deciduous
<i>Viburnum trilobum</i>	American cranberrybush viburnum	zones 2-7	Yes	deciduous
<i>Viburnum trilobum</i> 'Compactum'	Dwarf American cranberrybush viburnum	zones 2-7	No	deciduous
<i>Viburnum carlesii</i>	Korean spice viburnum	zones 4-8	No	deciduous
<i>Viburnum dentatum</i>	Arrowwood viburnum	zones 2-8	No	deciduous
<i>Viburnum lentago</i>	Nannyberry	zones 3-7	No	deciduous, also tree
<i>Viburnum plicatum</i> var. <i>tomentosum</i>	Doublefile viburnum	zones 5-8	No	deciduous
<i>Viburnum prunifolium</i>	Blackhawk viburnum	zones 3-9	Yes	deciduous
<i>Viburnum xburkwoodii</i>	Burkwood viburnum	zones 5-8	No	deciduous
<i>Viburnum xrhynchophylloides</i>	Willowwood or Allegheny viburnum	zones 5-8	No	deciduous
<i>Weigela florida</i>	Old fashioned weigela	zones 5-8	No	deciduous

Table – Wildfire-resistance landscape plants for Michigan

Trees

Tree's Botanical name	Tree's Common name	Winter hardiness zones ⁷	Native to Michigan ⁸	Descriptors
<i>Acer campestre</i>	Hedge maple	zones 4-8	No	deciduous
<i>Acer griseum</i>	Paperbark maple	zones 5-7	No	deciduous
<i>Acer palmatum</i>	Japanese maple	Species and/or cultivar dependent	No	deciduous
<i>Acer platanoides</i>	Norway maple	zones 4-7	No	deciduous
<i>Acer rubrum</i>	Red maple	Species and/or cultivar dependent	Yes	deciduous
<i>Acer saccharum</i>	Green Mountain sugar maple	zones 4-8	Yes	deciduous
<i>Acer spp.</i>	Maple	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Aesculus hippocastanum</i>	Horsechestnut	zones 4-7	No	deciduous
<i>Alnus cordata</i>	Italian alder	zones 5-7	No	deciduous
<i>Betula nigra</i>	River birch	zones 3-9	No	deciduous
<i>Betula spp.</i>	Birch	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Carpinus betulus</i>	Upright European hornbeam	zones 4-7	No	deciduous
<i>Catalpa speciosa</i>	Northern catalpa	zones 4-8	No	deciduous
<i>Celtis occidentalis</i>	Common hackberry	zones 2-9	Yes	deciduous
<i>Cercis canadensis</i>	Eastern redbud	zones 5-9; best from local seed source	Yes	deciduous
<i>Cercis spp.</i>	Redbud	zones 5-9; best from local seed source	Species and/or cultivar dependent	deciduous

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Tree's Botanical name	Tree's Common name	Winter hardiness zones ⁷	Native to Michigan ⁸	Descriptors
<i>Cornus florida</i>	Flowering dogwood	zones 5-8; best from local seed source	Yes	deciduous
<i>Crataegus phaenopyrum</i>	Washington hawthorn	zones 4-8	No	deciduous
<i>Crataegus spp.</i>	Hawthorn	zones 4-7	Species and/or cultivar dependent	deciduous
<i>Fagus spp.</i>	Beech	Species and/or cultivar dependent	No	deciduous
<i>Fagus sylvatica</i>	European beech	zones 4-7	No	deciduous
<i>Gleditsia triacanthos</i>	Honeylocust	zones 4-9	Species and/or cultivar dependent	deciduous
<i>Gymnocladus dioicus</i>	Kentucky coffee tree	zones 3-8	Yes	deciduous
<i>Juglans spp.</i>	Walnut	zones 4-7	Yes	deciduous
<i>Liquidambar styraciflua</i>	American sweetgum	zones 5-9		deciduous
<i>Liriodendron tulipifera</i>	Tulip tree	zones 4-9	Yes	deciduous
<i>Magnolia stellata</i>	Star magnolia	zones 4-9	No	deciduous
<i>Magnolia xsoulangiana</i>	Saucer magnolia	zones 4-9	No	deciduous
<i>Malus spp.</i>	Crabapple	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Nyssa sylvatica</i>	Black gum	zones 4-9	Yes	deciduous
<i>Plantanus occidentalis</i>	Eastern sycamore	zones 4-9	Yes	deciduous
<i>Platanus xacerifolia</i>	London planetree	zones 4-8	No	Deciduous
<i>Populus spp.</i>	Aspens, cottonwoods, poplars	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Populus tremuloides</i>	Quaking aspen	zones 1-6	Yes	deciduous
<i>Prunus cerasifera</i> 'Atrohurburea'	Flowering plum	zones 5-8	No	deciduous
<i>Prunus serrulata</i>	Kwanzan Oriental cherry	zones 5-7	No	deciduous
<i>Prunus subhirtella</i>	Higan cherry	zone 5-8	No	deciduous
<i>Prunus virginiana</i>	Chokecherry	zones 2-6	Yes	deciduous
<i>Prunus xyedoensis</i>	Yoshino cherry	zones 5-8	No	deciduous
<i>Pyrus calleryana</i>	Callery pear	zones 5-8	No	deciduous, may break under heavy snow/ice loads

Tree's Botanical name	Tree's Common name	Winter hardiness zones ⁷	Native to Michigan ⁸	Descriptors
<i>Quercus alba</i>	White oak	zones 3-9	Yes	deciduous
<i>Quercus macrocarpa</i>	Bur oak	zones 3-8	Yes	deciduous
<i>Quercus rubra</i>	Red oak	zones 3-7	Yes	deciduous
<i>Quercus spp.</i>	Oak	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Salix spp.</i>	Willow	Species and/or cultivar dependent	Species and/or cultivar dependent	deciduous
<i>Sorbus aucuparia</i>	European Mountain ash	zones 3-7	No	deciduous, several pest problems

Table – Wildfire-resistance landscape plants for Michigan

Vines

Vine's Botanical name	Vine's Common name	Winter hardiness zones ⁹	Native to Michigan ¹⁰	Descriptors
<i>Campsis radicans</i>	Trumpet vine	zones 4-9	No	deciduous
<i>Clematis hybrids</i>	Clematis	Species and/or cultivar dependent	No	deciduous
<i>Lonicera sempervirens</i>	Trumpet honeysuckle	zones 4-9	No	deciduous
<i>Lonicera xheckrottii</i>	Goldflame honeysuckle	zones 4-9	No	semi-evergreen
<i>Parthenocissus quinquefolia</i>	Virginia creeper	zones 4-9	Yes	deciduous
<i>Wisteria sinensis</i>	Chinese wisteria	zones 5-8	No	deciduous

Leave at least 30 feet of defensible space between the building and solid stands of natural vegetation. Studies from two major wildfires in the western United States have shown that 85 to 90 percent of homes that survived those wildfires had 30 to 50 feet of defensible space and fire-resistant roofing materials. Liquid propane tanks, stacks of firewood and other potential fuels should also be located outside of this perimeter.

⁹ 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 appendix B) 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.

¹⁰ 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.

Houses and structures built at the crest of a hill should have 60 feet of defensible space because fire traveling uphill will move faster, be more intense and radiate more heat than a wildfire moving on level ground.

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 or pine, the fire will ignite the lower branches and move upward. Should this happen, the radiant heat given off could set a nearby house or building on fire. Remove limbs and branches of combustible 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 and then into the canopy.

When you're 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. 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 and other structures. 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 igniting a deck or wood siding and then the house. The home and garage shown in Figure 4 were damaged because tall 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 sufficient nutrients from the soil and from lawn fertilizers. Regular watering will still be necessary, however, to reduce the possibility of ignition. 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.



Figure 4 A wildfire in a grassy field melted the siding on this garage and home. (Courtesy of Michigan DNR.)

Summary

Each year in Michigan, wildfires damage or destroy homes and other structures. A firewise home requires adequate defensible space, fire-resistant building materials, and eaves troughs and spaces around and under the base of the home kept clean of accumulated plant litter and debris. Firewise homeowners also place other fuels such as LP tanks and firewood stacks at a safe distance from the home (Figure 5). Adding fire-resistant plants and pruning trees can greatly increase the chances that a home or outbuilding will still be standing after a wildfire passes, while also providing the esthetics that the homeowner desires.

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.

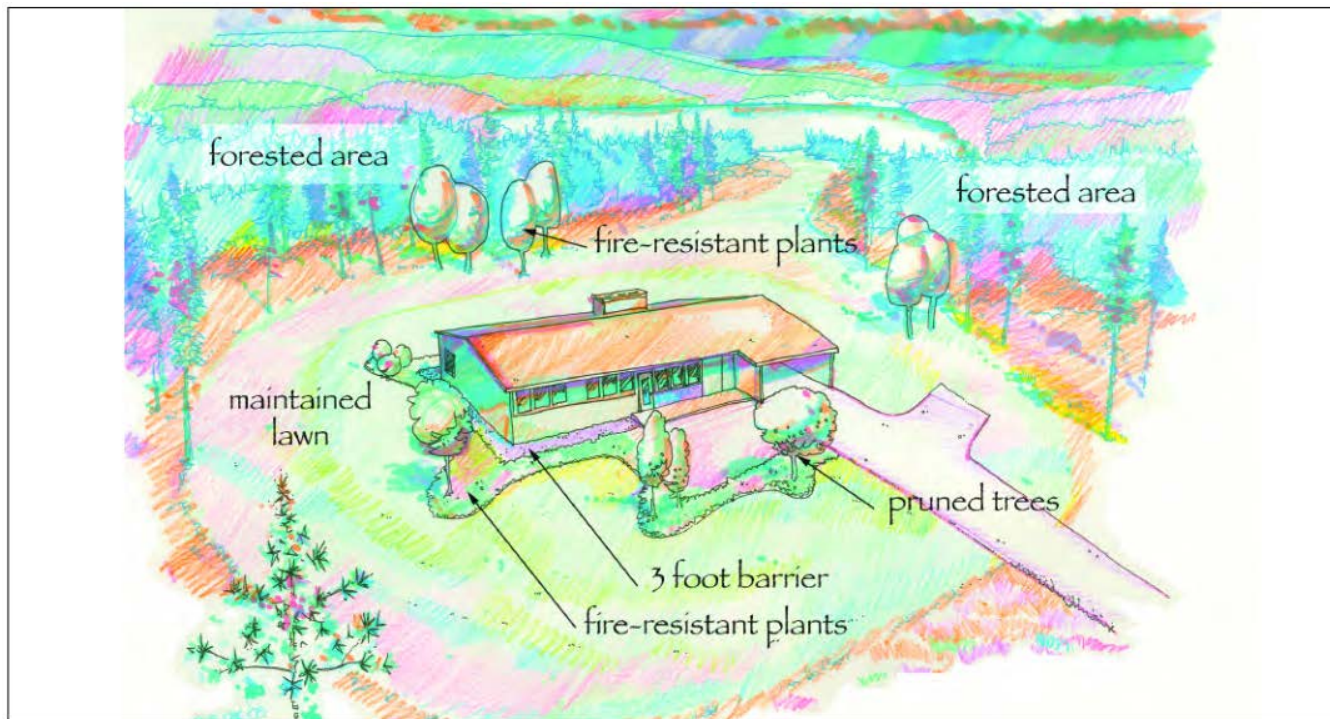


Figure 5: Firewise landscaping reduced the change of wildfire damage to a home. (Courtesy of Dr. Jon Bryan Burley, ASLA, associate professor, LAP director, MSU.)

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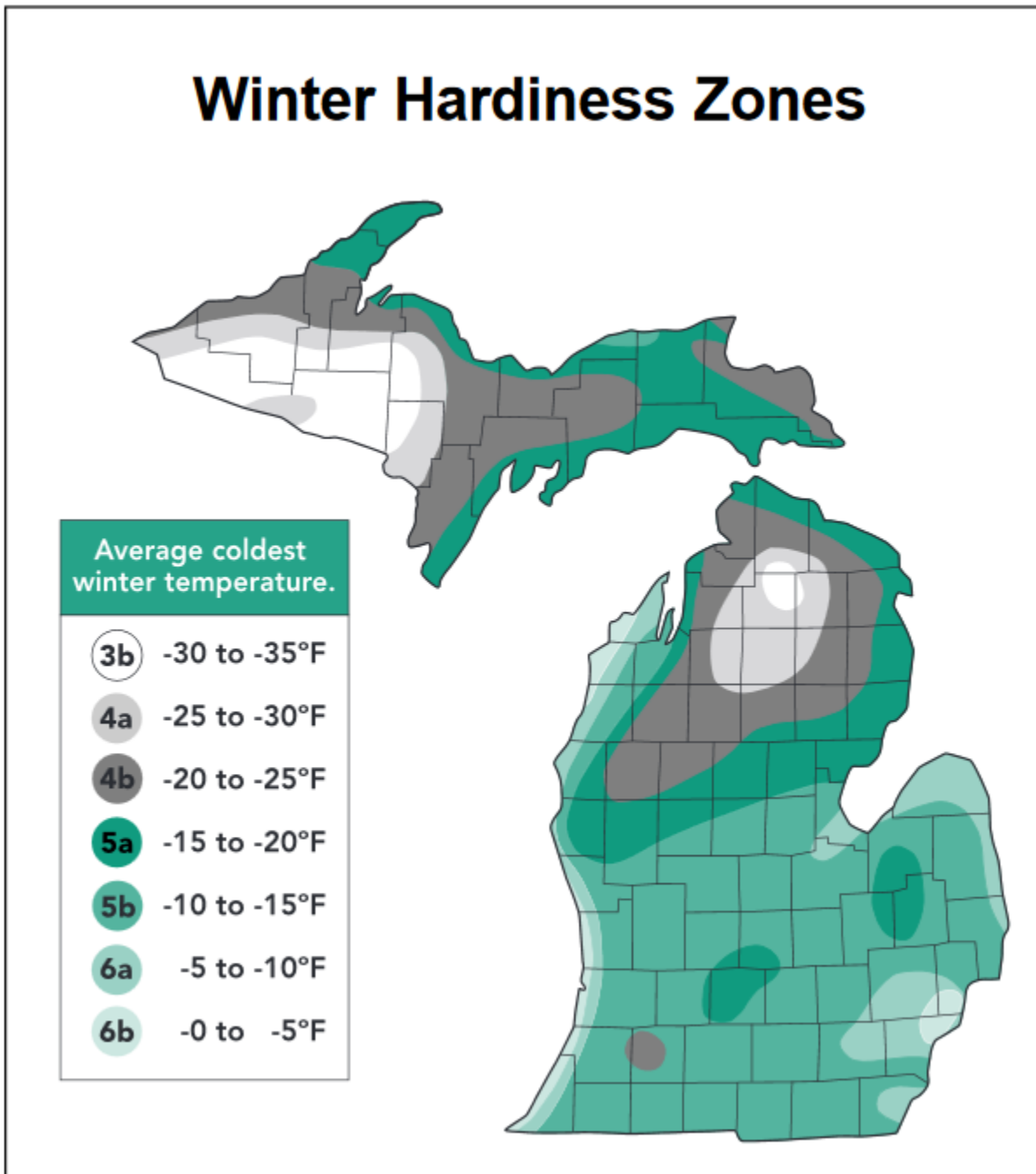
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Appendix A – Supporting Resources

- Wildfire in Michigan www.firewise.msu.edu
- Firewise Communities, 2009 www.firewise.org
- Firewise Plant Lists, 2009, Firewise Communities/USA. www.firewise.org/usa/fw_plantlists.htm
- Living With Fire: A Guide for the Black Hills Homeowner. www.state.sd.us/doa/forestry/publications/Living%20With%20Fire.pdf
- Firewise Plants Offer Colorful Choices for Fire Safe Gardens www.firewise.org/usa/files/ArkansasPlantGuide.pdf
- Fire Resistant Landscaping Plants for the Sierra Springs Area <http://ceeldorado.ucdavis.edu/files/4017.pdf>
- Firewise Plant Materials www.ext.colostate.edu/pubs/natres/06305.html
- Making Your Landscape More Resistant to Wildfires www.firewise.org/usa/files/florida.pdf
- Protecting and Landscaping Homes in the Wildland/Urban Interface www.cnr.uidaho.edu/extforest/FireProtectBro.pdf
- Fire-Resistant Plants for Montana Landscapes <http://extn.msu.montana.edu/publications.asp>
- Firewise Plant Materials http://aces.nmsu.edu/defensible_zone/protect/docs_pdf/fire_wise.pdf
- Firewise Plant Materials www.ces.ncsu.edu/forestry/pdf/ag/firewise_landscaping.pdf
- Fire-Resistant Plants for Home Landscapes <http://extension.oregonstate.edu/catalog/html/pnw/pnw590/pnw590.pdf>
- Fire Retardant Garden Plants for the Urban Fringe and Rural Areas www.fire.tas.gov.au/mysite/publications/1709%20Brochure.pdf
- Quick Guide to Firewise Shrubs www.interfacesouth.org/products/pdf/Shrub_Flammability.pdf
- Firewise Plants for Utah Landscapes www.utahfireinfo.gov/prevention/firewiseplants.pdf
- Fire Resistant Plants www.srd.gov.ab.ca/wildfires/firesmart/default.aspx
- Fire Resistant Plants for your Landscape http://plumasfiresafe.org/Documents/PNF_BRD%20Fire%20Resistant%20Plants.pdf
- Firewise Landscaping <http://estore.osu-extension.org/productdetails.cfm?PC=2050>

Appendix B – Winter hardiness Zones



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>