Recommended Alternatives to Ash Trees for Michigan's Lower Peninsula

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This guide gives suggestions for species that should be considered in situations where a homeowner, landscaper, or urban forester may have planted an ash in the past. General species characteristics, mature form and size, and other noteworthy characteristics are given; all are hardy to at least zone 5. Diversity of species is also important. Look around you, and plant a variety trees.

‘Autumn blaze’ Freeman maple
*Acer x freemanii*

**Height:** 50-55 ft.
**Spread:** 30-40 ft.
**Site preferences:** Zone 4-7. Prefers moist soil but is drought tolerant. pH: adaptable. Fast growing.
**Ornamental characteristics:** Shape: oval-rounded. Foliage has excellent orange-red fall color.
**Insect/disease factors:** None serious.
**Cultivars:** Marmo, Sienna Glen

Hedge maple
*Acer campestre*

**Height:** 25-30 ft.
**Spread:** 25-30 ft.
**Site preferences:** Zone 5a-8b. Sun to partial shade. Tolerates drought. Moderate salt tolerance. pH: 5.0-8.2. Adapted to compaction, severe pruning.
**Ornamental characteristics:** Shape: round. Excellent residential use under utility lines. Easily transplanted in spring or fall. Cultivars: ‘Queen Elizabeth’ (more upright, vigorous [zone 6b-7b]); ‘Schichtel’s Upright’ (5b-8b). Introduced from Europe, Near East and Africa.
**Insect/disease factors:** Occasional problems with verticillium wilt.

Trident maple
*Acer buergeranum*

**Height:** 20-25 ft.
**Spread:** 20-35 ft.
**Site preferences:** Zone 5b or 6a-8a. Prefers full sun. Adapted to urban conditions. Moderate salt tolerance. Tolerates moderate drought. pH: 5.0-7.0.
**Ornamental characteristics:** Shape: round. Mottled bark, shedding with age; dense, dark green leaves turning orange to red in the fall. Introduced from China.
**Insect/disease factors:** None serious.

Miyabe maple
*Acer miyabei*

**Height:** 30-40 ft.
**Spread:** 20-30 ft.
**Site preferences:** Zone 4-7. Moist, well-drained soil. pH: adaptable.
**Ornamental characteristics:** Shape: rounded.
**Insect/disease factors:** None serious.
**Cultivars:** ‘State Street’ — fast growing, upright oval habit, dark green leaves with yellow fall color, corky bark.
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### Norway maple  *Acer platanoides*

- **Height:** 40-50 ft.
- **Spread:** 30-50 ft.
- **Site preferences:** Zone 4-7.
  - Prefers moist soils and will tolerate clay (but not wet) soil. pH: very adaptable.
- **Ornamental characteristics:**
  - Shape: rounded. Foliage is dark green with occasionally good yellow fall color.
- **Insect/disease factors:**
  - Verticillium wilt and anthracnose.
- **Cultivars:**
  - ‘Crimson King’ — reddish purple foliage;
  - ‘Columnare’ — narrow oval habit (20-ft. spread);
  - ‘Summershade’ — fast growing, heat resistant;
  - ‘Easy Street’ — narrow oval.

### Sugar maple  *Acer saccharum*

- **Height:** 60-80 ft.
- **Spread:** 40-50 ft.
- **Site preferences:** Zone 4-8.
  - Prefers moist, well-drained soil. pH: neutral to slightly acidic.
- **Ornamental characteristics:**
  - Shape: oval to rounded. Good fall color of yellow, orange or red.
- **Insects/disease factors:** verticillium wilt, leaf scorch.
- **Cultivars:**
  - ‘Crescendo’ — dark green foliage with good orange-red fall color, heat and drought tolerant; ‘Green Mountain’ — thick, dark green leaves that resist leaf scorch, yellow fall color; ‘Legacy’ — thick and glossy dark green leaves, drought tolerant, yellow-orange fall color.

### Red maple  *Acer rubrum*

- **Height:** 40-60 ft.
- **Site preferences:** Zone 3b-9a.
  - Moist soils necessary; flood tolerance of specific cultivars is listed below. Salt sensitive.
  - pH: 5.0-7.0 (chlorosis occurs at high pH).
- **Ornamental characteristics:**
  - Shape: round, upright. Good fall color.
- **Insect/disease factors:**
  - Leafhopper and borers.
- **Cultivars:**
  - ‘Autumn Flame’ (early, low flood tolerance, persistent red fall color, zone 3b);
  - ‘Northwood’ (low flood tolerance, good orange-red fall color, zone 3b);
  - ‘October Glory’ (intermediate flood tolerance, excellent red fall color, zone 5a);
  - ‘Red Skin’ (large, thick foliage, early reddish maroon fall color, rare, zone 4);
  - ‘Red Sunset’.
  - Transplant in spring, high flood tolerance, specify ‘own-rooted’ — graft incompatibility can be a problem.
  - ‘Redpointe’ — pyramidal with dominant central leader.

### Shantung maple  *Acer truncatum*

- **Height:** 25-30 ft.
- **Spread:** 20-30 ft.
- **Site preferences:** Zone 5a-7b (species is variable; hybrid cultivars, zone 5).
  - Requires moist, well-drained site; tolerates moderate drought.
  - Moderate salt tolerance.
  - pH: 5.0-8.2. Resistant to leaf scorch.
- **Ornamental characteristics:**
  - Shape: round. Dark green, glossy leaves with early fall color of yellow-orange to bright red.
- **Cultivars:** Hybrids of *A. platanoides* are ‘Norwegian Sunset’ (upright round, orange-red to red fall color, more heat and drought tolerant than *A. platanoides*) and ‘Pacific Sunset’ (upright oval, finer branched and earlier red fall color than ‘Norwegian Sunset’).
- **Insect/disease factors:** None serious.
### American hornbeam  *Carpinus caroliniana*

**Height:** 20-30 ft.  
**Spread:** 20-30 ft.  
**Site preferences:** Zone 3b-9a. Prefers moist, well-drained soils. pH: 5.0-8.2.  
**Ornamental characteristics:** Shape: round, spreading. “Muscled” bark, good orange-red fall color, clumps or single stem.  
**Insect/disease factors:** Relatively pest and disease free, requires little maintenance, though damage by ice storms can be a problem. Cankers can occur with specimens of southern origin, so it is important to know the source of the tree.  
**Additional:** Transplant in spring; somewhat slow to establish. Native to Michigan and eastern United States.

### Upright European hornbeam  *Carpinus betulus ‘Fastigiata’*

**Height:** 35 ft.  
**Spread:** 25 ft.  
**Site preferences:** Zone 5a-7a. Tolerates drought, heavy soil. Salt sensitive. pH: 5.0-8.2.  
**Ornamental characteristics:** Shape: narrow when young, becoming oval; narrow branching angles.  
**Insect/disease factors:** Canker, leaf spot and twig blight can occur if the tree is stressed.  
**Additional:** Transplant in spring; somewhat slow to establish from bare root.

### Hackberry  *Celtis occidentalis*

**Height:** 40-60 ft.  
**Spread:** 30 ft.  
**Site preferences:** Zone 3b-8b. Tolerates drought. Salt sensitive. pH: 5.0-8.2. Tolerates light shade, wind, heat.  
**Ornamental characteristics:** Shape: pyramidal when young; open, irregular when mature, with dark green, leathery leaves.  
**Insect/disease factors:** Witch’s broom and insect galls (aesthetic but not life-threatening problems).  
**Cultivars:** ‘Prairie Pride’ (rapid, compact grower; thick, leathery foliage).  
**Additional:** Transplant in spring; somewhat slow to establish.

### Horse chestnut  *Aesculus hippocastanum*

**Height:** 50 ft. -75 ft.  
**Spread:** 40 ft. -70 ft.  
**Site preferences:** Zone 4-8. Prefers moist, well-drained soils. pH: adaptable.  
**Ornamental characteristics:** Shape: rounded. Other: showy white flowers in mid-May.  
**Insect/disease factors:** Leaf scorch can occur under hot/dry conditions in late summer.  
**Cultivars:** ‘Baumanii’ more showy with longer lasting flowers and seedless.
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**Katsura tree Cercidiphyllum japonicum**

Height: 40 ft.
Spread: 40 ft.
Site preferences: Zone 5a-9a. Requires evenly moist soils; not drought tolerant. pH: 5.0-8.2. Does not tolerate compaction or heavy soils; tolerates light shade. Protected site best.
Ornamental characteristics: Shape: upright, pyramidal when young, becoming rounded with age. New leaves are bright red when unfolding; good yellow fall color; dry leaves have caramel scent; clump or single stem.
Insect/disease factors: None serious.

**Yellowwood Cladrastis kentukea**

Height: 30 ft.
Spread: 40 ft.
Site preferences: Zone 4b-8a. Best in moist, well-drained soils; not drought tolerant. pH: 5.0-8.2.
Ornamental characteristics: Shape: round. Bright green foliage; showy, fragrant flowers in late spring.
Insect/disease factors: None.
Additional: Prune only in summer — profuse bleeding will occur at other times of the year. Specify single leader — can be weak-wooded with poor crotch angles that split out as the trees grow older. Transplant in spring.

**Turkish filbert Corylus colurna**

Height: 40-50 ft.
Spread: 20-30 ft.
Site preferences: Zone 4-7. Drought tolerant once established. pH: adaptable.
Ornamental characteristics: Shape: broad pyramidal, maintains formal shape. Other: attractive dark green foliage.
Insect/disease factors: None serious.
Additional: This is a low-maintenance but attractive species that is quite underused.

**Hardy rubber tree Eucommia ulmoides**

Height: 40-60 ft.
Spread: 45 ft.
Site preferences: Zone 5b-8.2. Tolerates drought; intolerant of poor drainage. pH: 5.0-8.2. Tolerates heat; needs full sun.
Ornamental characteristics: Shape: round, wide, spreading with ascending branches. Glossy green foliage.
Insect/disease factors: None.
Additional: Transplants easily in spring or fall.
**Gingko**  *Gingko biloba*

Height: 40-50 ft.
Spread: Variable, depending on cultivar.
Site preferences: Zone 4b-8b. Tolerates drought. Moderate salt tolerance. pH: 5.0-8.2.
Ornamental characteristics: Shape: irregular when young, becoming pyramidal with age. Yellow fall color.
Cultivars: ‘Autumn Gold’ (symmetrical, broad, outstanding fall color); ‘Lakeview’; and ‘Princeton Sentry’ (very narrow upright); ‘Presidential Gold’ (broadly oval, well branched).
Additional: Specify male trees because of noxious fruit smell (all cultivars are male). Transplant in spring or fall.
Insect/disease factors: None serious.

**Thornless honeylocust**  *Gleditsia triacanthos inermis*

Height: 40-100 ft.
Spread: 40 ft.
Site preferences: Zone 4b-9a. Tolerates wet and dry sites. High salt tolerance. pH: 5.0-8.2.
Ornamental characteristics: Shape: Open, spreading.
Insect/disease factors: Overplanting has encouraged severe insect problems in many areas (honeylocust plant bug, spider mite, borer, webworm).
Cultivars: ‘Shademaster’ (high, vase-shaped canopy, essentially fruitless); ‘Skyline’ (upright, pyramidal, strong central leader, good fall color); ‘Northern Acclaim’ (most cold hardy, good form).
Additional: Transplants easily in spring. ‘Inermis’ refers to the thornless selection.

**Kentucky coffee tree**  *Gymnocladus dioicus*

Height: 60-75 ft.
Spread: 40-50 ft.
Ornamental characteristics: Shape: oval crown with irregular branching. Foliage is dark green with compound leaves; can sometimes have a good yellow fall color.
Insect/disease factors: None serious.

**Sweetgum**  *Liquidambar styraciflua*

Height: 70-100 ft.
Spread: 40-65 ft.
Site preferences: Zone 5b-9a. Tolerates intermittent flooding, moderate drought. pH: 5.0-7.5. Best on moist, sunny sites.
Ornamental characteristics: Shape: pyramidal when young, becoming round with age. Excellent fall color. Fruit litter may be objectionable.
Insect/disease factors: None serious.
Cultivars: ‘Moraine’ (most cold hardy, zone 4b, bright red fall color); ‘Rotundaloba’ (fruitless, not as hardy); ‘Worplesdon’ (orange-red fall color, broadly pyramidal to oval).
Additional: Northern seed source recommended. Transplant in spring. Iron chlorosis can occur.
Tulip tree  *Liriodendron tulipifera*

Height: 80-120 ft.
Spread: 35-50 ft.
Ornamental characteristics: Shape: broad pyramidal. Yellow fall color. Somewhat weak-wooded.
Insect/disease factors: Occasional problems with leaf scorch, canker, and verticillium wilt.
Additional: Transplant in spring. Northern seed source recommended.

Dawn redwood  *Metasequoia glyptostroboides*

Height: 70-100 ft.
Spread: 25 ft.
Site preferences: Zone 5b-9a. Requires moist sites, will not tolerate dry sites. Salt sensitive. pH: 5.0-7.5.
Ornamental characteristics: Shape: pyramidal. Lower branches need to be removed for streetside use. Fast growing.
Insect/disease factors: Relatively trouble free, though Japanese beetle can be a nuisance.
Additional: Transplant in spring or fall.

Amur maackia  *Maackia amurensis*

Height: 20-30 ft.
Spread: 30 ft.
Ornamental characteristics: Shape: rounded. White flowers in June; copper-brown, peeling, attractive bark.
Insect/disease factors: None serious.

Tupelo  *Nyssa sylvatica*

Height: 35 ft.
Spread: 20 ft.
Site preferences: Zone 5a-9a. Tolerates wet sites, intermittent drought. Relatively salt tolerant. pH: 5.5-7.0.
Ornamental characteristics: Shape: pyramidal. Bright red fall color.
Insect/disease factors: None.
Additional: Difficult to transplant — use small sizes, balled and burlapped only. Slow to recover from transplanting. Transplant in spring.
American hophornbeam  *Ostrya virginiana*

- **Height:** 40 ft.
- **Spread:** 25 ft.
- **Site preferences:** Zone 3b-9a. Prefers moist soil but will tolerate moderately dry soils once established. Very salt sensitive. pH: 5.0-8.2. Tolerates light shade.
- **Ornamental characteristics:** Shape: upright oval. Foliage is dark green; fall color is yellow. Slow growing.
- **Insect/disease factors:** None.
- **Additional:** Slow to recover from transplanting. Transplant in spring.

Amur corktree  *Phellodendron amurense*

- **Height:** 30-45 ft.
- **Spread:** 40-50 ft.
- **Site preferences:** Zone 3b-7. Drought and pollution tolerant. pH: adaptable.
- **Ornamental characteristics:** Shape: broad, rounded. Yellow to bronze-yellow fall color. Ridged, corky bark in old age.
- **Insect/disease factors:** None serious.
- **Cultivars:** ‘Eye Stopper’  
  ‘His Majesty’  
  ‘Macho’

London planetree  *Platanus x acerifolia*

- **Height:** 50 ft.
- **Spread:** 40 ft.
- **Site preferences:** Zone 5b-9a. Tolerates wet and intermittently flooded sites; drought tolerant. Salt tolerant. pH: 5.0-8.2.
- **Ornamental characteristics:** Shape: pyramidal when young, becoming open, spreading with age. Medium green foliage, exfoliating bark.
- **Insect/disease factors:** Overplanting has encouraged disease and insect problems in New York City. ‘Liberty’ resistant to anthracnose and powdery mildew; ‘Bloodgood’ moderately resistant. Cankerstain may be a problem.
- **Cultivars:** ‘Bloodgood’ (maple-green foliage; tolerates severe pruning; rapid grower); ‘Liberty’.
- **Additional:** Transplant in spring or fall.

Common chokecherry  *Prunus virginiana*

- **Height:** 20-30 ft.
- **Spread:** 18-25 ft.
- **Site preferences:** Zone 2-6. Tolerant of moist and dry sites. pH: adaptable.
- **Ornamental characteristics:** Shape: rounded. White flowers in early May, red fruit that ripen to a dark purple.
- **Insect/disease factors:** Black knot.
- **Cultivars:** ‘Schubert’ and ‘Canada Red’ — foliage emerges green but changes to a reddish purple for the remainder of the growing season; pyramidal habit.
**Callery pear** *Pyrus calleryana*

- **Height:** 50 ft.
- **Spread:** 30 ft.
- **Site preferences:** Zone 5-8. Tolerant of moist and dry sites. pH: adaptable.
- **Ornamental characteristics:** Shape: formal rounded pyramidal. Foliage is glossy dark green; good red to purplish fall color. White flowers in late April or early May.
- **Insect/disease factors:** Fire blight.
- **Cultivars:** ‘Aristocrat’ — wider shape, yellow to red fall color; ‘Red spire’ — pyramidal habit, yellow fall color; ‘Chanticleer’ — oval to narrow oval.

**Swamp white oak** *Quercus bicolor*

- **Height:** 45 ft.
- **Spread:** 45 ft.
- **Site preferences:** Zone 4a-8b. Tolerates temporary flooding, wet soils and somewhat dry soils. Salt sensitive. pH: 5.0-7.0.
- **Ornamental characteristics:** Shape: broad oval with round top. Foliage is green with wavy margins.
- **Insect/disease factors:** None serious. Variable susceptibility to iron chlorosis.

**Sawtooth oak** *Quercus acutissima*

- **Height:** 40 ft.
- **Spread:** 40 ft.
- **Site preferences:** Zone 5b or 6a-9a. Tolerates moderately dry soils. Moderate salt tolerance. pH: 5.0-7.5. Good growth rate in moist sites.
- **Ornamental characteristics:** Shape: rounded. Foliage is dark green, glossy. Fall color is yellow.
- **Insect/disease factors:** Reasonably pest free; preferred by orange-striped oak-worm.

**Northern pin oak** *Quercus ellipsoidalis*

- **Height:** 50-60 ft.
- **Spread:** 50 ft.
- **Site preferences:** Zone 4-6. Prefers moist, well-drained soil but tolerates wet and dry conditions. pH: neutral to slightly acidic.
- **Ornamental characteristics:** Shape: pyramidal. Can have nice fall color.
- **Insect/disease factors:** Stem and leaf galls.
- **Additional:** Does not have the chlorosis problems that occur in pin oak.
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**Shingle oak  *Quercus imbricaria***

- **Height:** 50 ft.
- **Spread:** 40 ft.
- **Site preferences:** Zone 5a-9a. Prefers moist soil but will tolerate intermittent drought.
  
  **Ornamental characteristics:** Shape: broadly oval. Foliage is dark green, glossy. Fall color is yellowish to rusty red.

- **Insect/disease factors:** Anthracnose, canker, powdery mildew, rust, wilt, galls, scales, borers, miners, etc., may be a problem.

- **Additional:** Slow to recover from transplanting. Transplants well in spring.

**Chinkapin oak  *Quercus muehlenbergii***

- **Height:** 45 ft.
- **Spread:** 45 ft.
- **Site preferences:** Zone 5a-9a. Prefers moist soil but will tolerate intermittent drought.
  
  **Ornamental characteristics:** Shape: broadly oval. Foliage is dark green, glossy. Fall color is yellowish to rusty red.

- **Insect/disease factors:** Anthracnose, canker, powdery mildew, rust, wilt, galls, scales, borers, miners, etc., may be a problem.

- **Additional:** Slow to recover from transplanting. Transplants well in spring.

**Bur oak  *Quercus macrocarpa***

- **Height:** 55 ft.
- **Spread:** 45 ft.
- **Site preferences:** Zone 3a-9a. Tolerates drought and intermittent flooding.
  
  **Ornamental characteristics:** Shape: broadly oval, irregular and open. Foliage is dark green. Fall color is yellow to yellow-brown. Corky bark.

- **Insect/disease factors:** Susceptible to anthracnose, intermediate preference by orange-striped oakworm but generally not seriously affected.

- **Additional:** Slow growing, massive tree needs adequate space. Transplant small sizes in spring.

**Japanese pagodatree  *Sophora japonica***

- **Height:** 50-70 ft.
- **Spread:** 40-70 ft.
- **Site preferences:** Zone 5b-9a. Tolerates drought. Salt tolerant.
  
  **Ornamental characteristics:** Shape: dense, round. Attractive cream-colored flowers in late July.

- **Insect/disease factors:** ‘Regent’ resistant to leafhoppers, twig dieback and stem canker in colder zones.

- **Cultivars:** ‘Princeton Upright’ (upright); ‘Regent’ (rapid growth, profuse flowering, resistant to leaf chewers).

- **Additional:** Fixes own nitrogen. Transplant in spring or fall. Somewhat weak wooded.
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Linden or Basswood  *Tilia americana*

**Height:** 35-50 ft.  
**Spread:** 25-30 ft.  
**Site preferences:** Zone 3a-8a. Requires moist, well-drained sites but will tolerate intermittent drought once established. Salt sensitive. pH: 6.5-8.2.  
**Ornamental characteristics:** Shape: narrow to broad pyramidal, depending on cultivar. Foliage is light green to dark green, depending on cultivar. Fragrant flowers in June.  
**Insect/disease factors:** Very susceptible to Japanese beetles; mites, aphids, borers, leaf miners and scale may also be problematic.  
**Cultivars:** ‘Boulevard’ (narrowly pyramidal, hardy to zone 3); Legend® (broadly pyramidal, zone 4, medium green); ‘Redmond’ (pyramidal, light green foliage).  
**Additional:** Transplant in spring or fall.

**Insects/disease factors:** Japanese beetle, aphids, scab and linden mite.  
**Cultivars:** ‘Greenspire’ — single leader and nice branching form; ‘June Bride’ — more formal habit and greater flowering; ‘Harvest Gold’ — very hardy, bright yellow fall color.

Silver linden  *Tilia tomentosa*

**Height:** 50-70 ft.  
**Spread:** 30-50 ft.  
**Site preferences:**  
Zone 3b-7. Prefers moist, well-drained soils but is somewhat drought and heat tolerant.  
**pH:** adaptable.  
**Ornamental characteristics:** Shape: upright oval. Glassy dark green leaves that are silvery underneath. Yellowish white, fragrant flowers in early July.  
**Insect/disease factors:** Same as little-leaf linden but less susceptible.  
**Cultivars:** ‘Green Mountain’ — fast growing, better drought and heat tolerance; ‘Sterling’ — broad pyramidal habit, resistant to Japanese beetle.

Little-leaf linden  *Tilia cordata*

**Height:** 60-70 ft.  
**Spread:** 40-50 ft.  
**Site preferences:**  
**Ornamental characteristics:** Shape: rounded and densely branched. Yellowish, fragrant flowers that emerge in late June.
**Elm hybrids  *Ulmus spp.***

- **Height:** 40-50 ft.
- **Spread:** 30-50 ft.
- **Site preferences:** Zone varies. Tolerates intermittent flooding and drought once established. pH: 5.0-8.2.
- **Ornamental characteristics:** Shape: upright vase.
- **Cultivars:** Cultivars reportedly resistant to Dutch elm disease:
  - Hybrids: ‘Accolade’
    - ‘Commendation’
    - ‘Frontier’
    - ‘Homestead’
    - ‘New Horizon’
    - ‘Triumph’
  - American: ‘Valley Forge’
    - ‘Princeton’
    - ‘Jefferson’

**Japanese zelkova  *Zelkova serrata***

- **Height:** 50-80 ft.
- **Spread:** 40-50 ft.
- **Site preferences:** Zone 5. Prefers moist, well-drained soil but is drought tolerant. pH: adaptable.
- **Ornamental characteristics:** Shape: vase-shaped. Foliage has rusty orange fall color. Flaky, attractive bark.
- **Insect/disease factors:** None serious.
- **Cultivars:** ‘Green Vase’ — fast growing, nice branching habit, good fall color.

Thanks also to Keith Warren of J. Frank Schmidt & Son Company for his expertise in developing this publication.
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ZONE MAP

Average coldest winter temperature.

-30 to -35°F
-25 to -30°F
-20 to -25°F
-15 to -20°F
-10 to -15°F
-5 to -10°F
0 to -5°F

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