

| Nomenclature | | Requirements | | | | | | Management | | | Yield | | Hand harvest | | Machine harvest | | Timing | | Notes |
|---|---|--|-----------|---|---|---------------------------|---|--|--|--|------------------------------|------------------|----------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-------------------|---|
| Common Name | Latin name | Native status | pH | Drainage | Pollination | Sun exposure | USDA Hardiness Zone | In-row spacing (feet) | Between row spacing (feet) | Pruning | Pounds per acre | Pounds per plant | Hours per acre | Pounds per hour | Hours per acre | Pounds per hour | Years to (partial) and full bearing | Harvest season | Notes |
| <i>Trees</i> | | | | | | | | | | | | | | | | | | | |
| American plum | <i>Prunus americana</i> | Native to WI | Adaptable | Somewhat poorly drained to well drained | Cross pollinated | Full sun to partial shade | 3-8 | 8 | 16 | Yearly | | 100-150 | | | | | | Aug-Sept | Trees can be thorny and spread to form thickets if not mowed. Early blooming, so avoid frost pockets. Fruit quality is variable and may best be processed into jellies, jams, dried fruit, or fruit leather. Pest control may be necessary. Thinning fruit is recommended when there is a heavy fruit set. |
| Apple (for cider; dessert apples are very high input) | <i>Malus spp.</i> | Several crabapples are native to WI; cultivated apples are introduced | 5.5-7.5 | Moderate to well drained (variable) | Cross-pollinated by compatible variety | Full | Variety dependent | Rootstock dependent | Rootstock dependent | Yearly | 18,000-20,000 | 180-300 | 23-32 | 500-600 | Usually harvested by hand in the US | NA | (4)-6 | July-Nov (varies) | Require pruning and spraying. Equipment access important. Choose varieties that are disease resistant with rootstocks compatible with your region and planting density. Much variability depending upon variety and rootstock. Higher pest pressure. Must be pruned. Labor estimates are for dessert apples: cider apples can take longer. |
| Black walnut | <i>Juglans nigra</i> | Native to WI | 6.0-7.5 | Well drained | Self-pollinated, but 4+ varieties is best | Full | Zones 4-9 | Nuts: 30 x 30 initial, thinning to 42' x 42' at age 20. Timber: 10-12' | Nuts: 30 x 30 initial, thinning to 42' x 42' at age 20. Timber: 10-12' | Early training only | 1500- 2000 | 30-40 | 13-32 | 62 | 1-2 | 350-1200 | (7), 10+ | Sept-Nov | For nut production, use improved cultivars and choose sites with good fertility and soils that are at least 3' deep. Trees managed for timber usually do not produce commercial quantities of nuts. |
| Chestnut (Chinese, Chinese-American Hybrids) | <i>Castanea mollissima, Castanea dentata x mollissima</i> | Introduced | 5.5-6.5 | Well drained | Cross-pollinated | Full | 5b+; see notes | 20-30 initial, 40-42 final | 20-30 initial, 40-42 final | Early training only | 1000-2000+ | 35-75 | 70 | 24-31 | Variable | Variable | 12-15 | Sept-Oct | Hot water bath required for weevils, refrigeration required for storage. Chinese x American seedlings may be hardy to zone 4b. Some pure Chinese up to 5a, but better to use Chinese x American hybrids up to 5a in general. 20' x 20' at start, thin to 40' x 40' |
| Hazelnut (American or American-European hybrid) | <i>Corylus americana, Corylus americana x avellana</i> | <i>C. americana</i> (American hazelnut) and <i>C. cornuta</i> (beaked hazelnut): native, Hybrid hazel is a cross of <i>C. avellana</i> (European hazelnut) | 4.5-7.5 | Somewhat poorly to well drained (no waterlogging) | Cross-pollinated, specific to each variety | Partial, Full* | zone 3+ | 6'-10' | 18-20 | Maintain size for harvest | 200-1400 (300 average) | 0.5-3 | 211 | 6 | -- | -- | (3-6) 8 | Aug-Sep | Produces best in full sun, but can tolerate partial shade. Choose Eastern Filbert Blight (EFB) resistant varieties. New cultivars are coming out, but planting stock may be limited. Machine harvest is being researched. Plantings near woods may experience nut loss to wildlife. Note: other species of hazelnut are not eligible for cost-share, only <i>Corylus americana</i> or <i>cornuta</i>, their improved cultivars, and their hardy hybrids crossed with <i>C. avellana</i>. |
| Red Mulberry | <i>Morus rubra</i> | Red mulberry (<i>M. rubra</i>) is native; white mulberry (<i>M. alba</i>) is introduced and potentially invasive | 6-8.5 | Moderate to well drained | Dioecious: cross-pollinated, monoecious: self-pollinated | Full | zone 5 or warmer | Fruit: 20' initial, thinned to 40' | Fruit: 20' initial, thinned to 40'. | Early training only | -- | 5-25 | -- | -- | NA | NA | 2-3 grafted, 8-12 seedling | May-Jul | Red mulberry is native, but hard to find true <i>M. rubra</i> in nursery stock. Harvest of larger trees may be difficult. Best for value-added processing as fresh fruit do not keep. Suitable for frost pockets, commercial yields per acre difficult to find. Do not plant white mulberry, <i>Morus alba</i>. |
| Pawpaw | <i>Asimina triloba</i> | Native to North America | 5.5-7 | Moderate to well drained | Cross-pollinated; less dense plantings may benefit from hand pollination) | Partial, Full* | zones 5-8, may only be suitable in warmer locations in WI | 8-12 | 15-20 | Early training, removal of root suckers on grafted trees | 5,000-10,000 @295 trees/acre | 20-40 | 250+ | 25-50 | NA | NA | 3-4 grafted, 7-8 seedling | Sept-Oct | Can produce in the shade but full sun is required for high yields. Fruit is used within a few days of picking or pulped and frozen. Fewer pests than some fruits, but control may still be required. Shade is recommended for young trees. Seed must be kept constantly moist in order to stay viable. |
| Pear (European) | <i>Pyrus communis</i> | Introduced | 6-7.5 | Moderate to well drained | Cross -pollinated | Full | Zone 3-9 (cultivar-dependent) | 25', depending on rootstock | 35', depending on rootstock | Periodic | | 50+ | | | NA | NA | 3-6 | July-Oct | Rootstock choice is important for spacing, disease resistance, hardiness, and potential invasiveness (do not use Callery pear rootstock in WI) |
| Pear (Asian) | <i>Pyrus pyrifolia</i> | Introduced | 5.5-7.5 | Somewhat poorly to well drained | Best if cross-pollinated | Full | Zone 5a+; not recommended for northern Wisconsin | 12 | 17-18 | Yearly | 400 bushels | 2-3 bushels | 40 | 10-14 bushels | NA | NA | (2-3) 7 | Aug-Oct | Avoid frost pockets, fruit thinning is required. Choose disease-resistant cultivars. Choose seedling (<i>Pyrus communis</i>) or OH x F, or <i>Pyrus betulaeifolia</i> rootstocks. Do not use callery pear rootstock in Wisconsin. |
| Sour (Tart) Cherry | <i>Prunus cerasus</i> | Introduced | 6-7 | Well drained | Self-pollinated | Full | Zone 4-8 | Rootstock dependent | Rootstock dependent | Yearly | 3000-7000 | 50+ | | | 1.2+ Double Incline Shaker | | 3-5 | August | Sweet cherries, <i>Prunus avium</i>, are not eligible for cost-share. Protection of fruit from birds may be needed. |

| Common Name | Latin name | Native status | pH | Drainage | Pollination | Sun exposure | USDA Hardiness Zone | In-row spacing (feet) | Between row spacing (feet) | Pruning | Pounds per acre | Pounds per plant | Hours per acre | Pounds per hour | Hours per acre | Pounds per hour | Years to (partial) and full bearing | Harvest season | Notes |
|------------------------------------|--|--|-----------------------|---------------------------------|---|-----------------|--|---|---|---|------------------|------------------|---------------------------------|-----------------|-----------------------------------|-----------------|---|----------------|---|
| Pecan (northern) | <i>Carya illinoensis</i> | Native to North America | 6.0-7.5 | Moderate to well drained | Cross pollinated, compatible varieties | Full | zones 6-9; plant only cold-hardy northern varieties | 30 initial and thin, or 35-42 final | 30 initial and thin, or 35-42 final | Early training only | 600-1800 | 30-50 | -- | -- | 2-6.5* Savage 8042 | 275 Savage 8042 | (5-7 grafted), 20-25 full | Sept-Oct | Can start at 30' x 30' spacing and thin to 42' x 42'. 'Northern' pecans need 180 frost-free days (above 28 F) AND 950 'cooling degree days' to be suitable. |
| Persimmon (American) | <i>Diospyros virginiana</i> | Native to North America | 5.0-8.0 | Adaptable | (see notes) | Partial, Full* | zones 5b-9 | 20 | 27 | Early training only | 1500-5800 (2200) | 35-140 | 75-290 | 20 | NA | NA | (5) | Sept-Nov+ | 5b+. Borderline in Wisconsin. Male and female trees, so grafting best. Cross-pollination may be required by some varieties, but others varieties have shown the ability to produce fruit without a compatible male nearby. However, a 5:1 ratio of female to male trees is recommended for good fruit set. |
| Quince | <i>Cydonia oblonga</i> | Introduced | 5.0-6.5 | Moderate to well-drained | Self. Better cross-pollinated | Full to partial | Zone 5-8, 4b if not for fresh use | 6-10 | 6-10 | Periodic | | 1BU | | | NA | NA | 3-6 | October | Usually cooked, generally too astringent to consume fresh in Wisconsin. Fire blight major disease issue. |
| Shrubs | | | | | | | | | | | | | | | | | | | |
| Aronia | <i>Aronia melanocarpa</i> | Native to WI | 5.0-7.0 | Moderate to well drained | Self-pollinated | Full | zone 3+ | 3-4 | 12-14* | Every few years | 4000-16000 | 5-20 | 700+ | 16 | 4 hours machine, 65 hours packing | 500-3000 | (3) 5-6 | Aug-Sept | Best suited for value-added products due to astringent taste when fresh. High labor makes machine harvest most practical. Note that only North American cultivars are eligible for cost-share. |
| Black currant | <i>Ribes nigrum</i> | <i>R. nigrum</i> is introduced, but there are 10 native species of <i>Ribes</i> in WI | 5.5-6.5, but tolerant | Adaptable; avoid standing water | Self-pollinated, but better crop if crossed | Shade to full | zone 2+ | 2 ft for machine harvest; 4-6 ft for hand harvest/ U-Pick | 12-14 | Yearly or coppice on 3-4 year cycles | 2000-9000 | 1-8 | Hand: 170; Pneumatic shaker: 17 | 9-18 | 6.75 machine hours | 500-3000 | (3) 4-5 | July-Aug | Shade-tolerant. Usually machine harvested. Most newer varieties are resistant to White Pine Blister Rust. Note: red currant and white currant (both <i>Ribes rubrum</i>) are not eligible for cost-share. |
| Saskatoon, Juneberry, Serviceberry | <i>Amelanchier arborea</i> or <i>A. laevis</i> | Native to WI | 5.5-7.5 | Moderate to well drained | Self-pollinated | Full sun | zones 2-5, avoid frost pockets | 3-5 | 12-16 (hand) 17-20 (mach.) | Yearly | 2000-6000 | 4-5 | 300-480 | 12-15 | 5+ machinery, unknown total | 500-3000 | 3-6 | June-July | Frost-tolerant bloom, though slight slope is ideal. Must be pruned to keep it harvestable size. Pest control can be a challenge. Downy serviceberry (<i>Amelanchier arborea</i>) and Allegheny serviceberry (<i>A. laevis</i>) are native to WI and commonly available. A. alnifolia (Saskatoon) and A. canadensis are not native to Wisconsin and not eligible for cost-share. |
| American Elderberry | <i>Sambucus canadensis</i> | Native to WI | 5.5-6.5 | Moderate to well drained | Cross-pollinated | Partial, Full* | zones 3-9 | 4 | 10-12 | Yearly; can be coppiced | 4000-8000 | 4.5-15 | 163-650 | 20-25 | NA | NA | (2) 3 | July-Sept | Mainly hand-harvested. Fruit are usually destemmed and frozen at harvest. Spotted wing drosophila may need control in certain areas. Note: non-native elderberry species are not eligible for cost-share. |
| Livestock Forage | | | | | | | | | | | | | | | | | | | |
| Honeylocust | <i>Gleditsia triacanthos</i> | Native to WI | 5-8 | Somewhat poorly to well drained | Cross-pollinated | Full | zones 3-8, but improved varieties may not be hardy in northern areas | 8-10' initial, thinned later | Pod production: 30' for sugar pod varieties; 40' for wild types | Prune as needed to maintain access with equipment | 3,000 | 50-100 | NA | NA | NA | NA | variable; unimproved trees start producing pods around age 10 | Nov-Dec | Yield and years to harvest vary by cultivar and location. Choose thornless, grafted cultivars with sugary pods and high yields such as 'Millwood', 'Ashworth', 'Calhoun' or 'Hershey' for livestock use. Wild genetics may have thorns or be thornless, but usually do not have high-quality pods. Heavy pod producing trees may not be suitable for windbreaks, as they can break in storms. |
| Hybrid Poplar, Aspen, cottonwood | <i>Populus tremuloides</i> , <i>P. grandidentata</i> , <i>P. deltoides</i> . Hybrids are <i>Populus x Populus</i> combinations of different species. | Quaking aspen (<i>P. tremuloides</i>), Bigtooth aspen (<i>P. grandidentata</i>), Eastern cottonwood (<i>P. deltoides</i>) are native to WI | Species dependent | Species dependent | | Full | Species dependent | Spacing is species dependent. | | | | | | | | | | | High palatability. Can be cut during drought periods for additional forage. Adapted to upland sites. Excellent for windbreaks. Some species can be propagated by planting cuttings. |

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| Willow | <i>Salix humilis, S. discolor, S. nigra</i> | Many species native to WI | 5.5-8.5 | Most prefer somewhat poorly to poorly drained soils. <i>S. humilis</i> can also grow in moderate to well drained soil. | N/A to production, but excellent pollinator plant | Full | Species dependent | 20-24". Can be planted in a double row 2.5' apart | Biomass: 6'; Fodder: 20'-60' | | | | | | | | | | Excellent for pollinators. May provide some medicinal benefits to livestock. Additional products include basket willow, biochar, ornamental stems, and wood chip mulch. Can be propagated by cuttings during the dormant period. Note: only native species are eligible for cost-share. Prairie willow (<i>Salix humilis</i>) is a native willow species adapted to upland conditions. Other native species include pussy willow (<i>Salix discolor</i>) and black willow (<i>Salix nigra</i>). Other native species may be approved by WI NRCS State Forester. |
| Red Mulberry | <i>Morus rubra</i> | Red mulberry (<i>M. rubra</i>) is native; white mulberry (<i>M. alba</i>) is introduced and potentially invasive | 6-8.5 | Moderate to well drained | Dioecious: cross-pollinated, monoecious: self-pollinated | Full | 5-8 | Fodder: 6' in-row | Fodder: 20'-60' | | -- | -- | -- | -- | NA | NA | | | Mulberry leaves are similar in feed quality to alfalfa and can form part of a ration for cattle, sheep, hogs, or poultry. Red mulberry is native, but hard to find true <i>M. rubra</i> in nursery stock. Do not plant <i>Morus alba</i>, white mulberry. |

Special thanks to Matt Wilson of Savanna Institute and Mic Armstrong of ACES for creation of this list.