



Growing Lilacs in Montana

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This publication contains information about one of the plants best adapted to Montana's climate. It includes sections on hardiness; colors and fragrances; advice on which cultivars to plant; recommended techniques for planting, watering, fertilizing and pruning; and information about diseases and insect problems.

LILACS ARE THE BEACON OF SPRING TO MANY

Montanans. The earliest homesteaders brought lilacs to the state and found them to be one of the few exotic flowering shrubs to thrive on the Great Plains. Even today, many of these hardy shrubs survive next to long-abandoned homesteads.

The most well-known lilacs belong to the common lilac species *Syringa vulgaris*, which includes "old fashioned" lilacs and the many French hybrids. However, there are over 100 lilac species and many hybrids, none of which are native to North America. Two species, *Syringa vulgaris* and *S. josikaea*, are native to Eastern Europe; the rest come from Asia. Lilacs were brought to New England from Europe perhaps as early as 1620.

Today's lilacs are very different from those of early varieties. Flowers are larger and more diverse in color and form. Plant size ranges from three-foot tall dwarfs to 30-foot tall tree forms. Those grown in Montana typically stay under 10 feet.

About Lilacs

Hardiness of lilacs

Lilacs are adapted to USDA Hardiness Map zones 3, 4, 5 and milder areas of zone 2. They thrive in sunny sites with good air circulation. Although some varieties can withstand -40°F, they need protection from cold winds that can kill flower buds. Lilacs will not tolerate poorly drained sites where the roots freeze in blocks of ice during the winter.

Do not plant them in "frost pockets" or against warm, light-colored buildings that force the buds prematurely. Lilacs on their own roots are far more hardy than grafted lilacs.

Lilac blooms

Modern lilacs can be white, violet, blue, lavender (true lilac), pink, magenta, purple or some variation. Colors are most

intense during cool, damp springs. Often the buds and open flowers are of different colors. This "unfolding of the colors" is part of the captivating charm of lilacs.

The date of common lilac bloom is a good predictor of whether spring is early or late in a particular year. Bloom date depends on average spring temperatures (growing degree days), although the different lilacs bloom in a fairly reliable chronological order (i.e., common lilacs always bloom before Preston lilacs). From the beginning of bud color to the fading of the flowers, common lilacs typically bloom for 16 to 20 days, the longest bloom period of all lilacs. If you plant several species in a garden, various lilacs can be in full bloom for at least six weeks.

Lilac fragrance

Lilac fragrance varies considerably with species and cultivar. Even on the same shrub, fragrance depends upon stage of bloom, time of day and temperature. Lilacs are most fragrant on a warm, sunny afternoon when the florets are fully open.

The lilac scent familiar to most Americans is that of the common lilac. However, cultivars of common lilacs differ widely in amount of fragrance, with many newer cultivars having little fragrance. Small, dark, single florets generally are more fragrant than larger, lighter, double ones, although there are exceptions.

Asian lilacs have different fragrances, many of which are heavy, "spicy" and pleasant.

Fall color

Most lilacs have little fall color. Exceptions include the Manchurian lilac with its burgundy fall color, and the Meyer lilac with its reddish-brown autumn leaves.

Choosing Which Lilacs to Plant

With approximately 2000 cultivars to choose from, selecting lilacs to plant is not easy. All of the lilacs described here are hardy in Montana, although the early-blooming Hyacinthifloras are not recommended for locations with frosts occurring in May. By planting lilacs from several different groups in a garden, the blooming season can be extended

to create more variety in flowering as well as in shrub form, leaf texture, and fall color.

Hyacinthiflora lilacs (*Syringa x hyacinthiflora*) (Zone 3b)
Hyacinthifloras are very vigorous hybrid lilacs that look like French hybrids but bloom seven to 14 days earlier. The shrubs themselves are very hardy, but since they are early bloomers, they should be planted only where May frosts are less frequent. Many grow 10 to 12 feet tall, but there are some dwarfs available. Cultivars include the lavender 'Assessippi,' pink 'Maiden's Blush,' and violet 'Pocahantas.'

Meyer lilac (dwarf Korean lilac) (*Syringa pubescens* and subsp. *microphylla*) (Zone 4a)
The Meyer lilac is a spectacular and unusual spreading shrub that grows only four to five feet high and suckers freely. This lilac flowers abundantly with heavy, spicy fragrance even when very young. 'Palabin' is a popular cultivar for low hedges. It also can be used as a focal point in a rock garden or where space is limited. The fall color is a nice reddish brown. Meyer lilac is resistant to powdery mildew.

European common lilac and French hybrids (*Syringa vulgaris*) (Zone 3a)
The European common (or "old fashioned") lilac is the best known lilac. Common lilacs have flowers in most colors, and account for the majority of lilacs planted in Montana. These lilacs are fragrant, very hardy, quite drought tolerant and inexpensive. In general, they sucker more than other species, a characteristic that has allowed them to persist on abandoned homesteads. They are used commonly in shelterbelts and as hedges.

As a group, *S. vulgaris* cultivars are susceptible to more diseases and pests than other lilacs, although these typically cause fewer problems in Montana than in wetter, more humid climates.

Chinese lilac (*Syringa x chinensis*) (Zone 4a)
The Chinese lilac is a spreading shrub growing 10 to 12 feet tall and six to eight feet wide. Compared to the common lilac, the leaves are smaller and the flowers are more delicate and abundant. Very fragrant flowers bloom with, or just, after the common lilac. Chinese lilacs do not produce many suckers, so they stay "in bounds" more easily than do common lilacs. Some winter injury can occur during very severe winters or in colder areas of Montana. Chinese lilacs are very susceptible to powdery mildew and susceptible to bacterial blight. This is one of the best lilacs for taller hedges.

Manchurian lilac (*Syringa pubescens* subsp. *patula*) (Zone 3b)
The Manchurian lilac is rare among lilacs in that it provides four seasons of interest. Deep purple buds open to fragrant,

purple-blue flowers. Flowering occurs shortly after the common lilac season. Leaves turn burgundy in autumn. The best cultivar, pale violet 'Miss Kim,' is a vigorous, upright shrub that grows from five to seven feet tall. 'Miss Kim' resists powdery mildew.

Preston hybrids (Preston lilac, Canadian hybrids)
(*Syringa x prestoniae*) (Zone 3a)

Preston hybrids are very valuable in areas where spring frosts often freeze the flowers of earlier blooming lilacs. Prestons bloom about a week after common lilacs. Most cultivars have pink or lavender flowers with a unique scent. They grow quickly and have showy blooms and large, dark green leaves which are resistant to powdery mildew and bacterial blight, and mostly free of insects. Among the best cultivars are the purple 'Donald Wyman,' and the blue 'Nocturne.'

Preston hybrids grow strongly 6 to 10 feet high. As shrubs, Prestons are effective along backyard property lines, as corner accents or along garage walls or service areas. By pruning them to three to five upright trunks while still young, they become wonderful small, spreading trees. When planted near small patios or decks, pruned Prestons provide excellent shade and focal beauty.

Late lilac (*Syringa villosa*) (Zone 3b)

Late lilac grows up to 12 feet tall and wide. Its pink flowers emerge a week after common lilacs, are lightly fragrant, and smell like cloves. Late lilacs are susceptible to powdery mildew. They are unusual in that their flowers are borne on current years' wood rather than the previous'.

Japanese tree lilac (*Syringa reticulata*) (Zone 3a)

The June blooms of the Japanese tree lilac bring the lilac season to a brilliant close. This small, vase-shaped tree has a refined beauty that is rare among trees that will survive in Montana. The form is graceful with and without leaves, and the showy cream-colored flowers are lightly honey-scented. The glossy, reddish-brown bark is similar to cherry bark. The leaves of some varieties of Japanese tree lilac can be variegated, but they have little fall color. Seed heads persist into winter and complement the branching pattern and bark.

This hardy tree grows slowly and may reach 25 feet high and 15 feet wide in 30 years. Japanese tree lilacs can be grown as single-stemmed or multi-stemmed trees. The single-stem form makes an excellent small shade or street tree, and is tolerant of winter salt. The multi-stemmed form can be a fine focal point in larger areas. 'Ivory Silk' is similar to the species except the crown form is narrower, and it flowers at a younger age than most. This lilac resists powdery mildew, scale and borers. Several new cultivars are available.

Pekin lilac (*Syringa reticulata* subsp. *pekinensis*) (Zone 4a)
The Pekin lilac grows to a 15- to 25-foot tree form and differs from the Japanese tree lilac in its more vigorous growth and interesting peeling bark. There are white and yellow flowering cultivars. Pekin lilac tends to flower heavily in alternating years.

Lilac Cultivation

Planting location

Plant lilacs where they will receive at least six hours of sunlight each day. Shade greatly reduces flowering, causes plants to become leggy and increases powdery mildew problems. Dark-flowered lilacs seem to tolerate dappled shade better than lighter ones. However, do not plant dark-flowered lilacs on sites that receive hot afternoon sun, which fades the flowers quickly. Avoid windswept locations and warm areas near reflective, light-colored buildings where the buds will be killed or forced prematurely.

Neutral soil is ideal, but lilacs will tolerate soil with a pH of 6.5 to 8.5 if it is well-drained. Soil type sometimes alters flower colors so arboretum specimens may not look the same in your garden.

For specimen plants, plant lilacs 10 to 15 feet apart. Spacing of plants for a hedge depends on the hedge height. For a three- to four-foot tall hedge, space plants 18 to 24 inches on center. A six- to eight-foot tall hedge requires spacing of two to three feet on center. For a very tall, informal hedge, spacing could be as far apart as six feet. Plant lilacs at least five feet from buildings, since their root systems can damage foundations over time.

Watering

Lilacs need approximately one inch of water per week during June and July. Begin decreasing irrigation in early August to encourage the shrubs to harden tissues for winter. New transplants need occasional water during this “taper off” period to prevent wilting. Deep water lilacs in late fall after they are dormant to ensure they have adequate soil moisture during winter.

Fertilization

In general, lilacs in Montana do not need fertilizers, although low rates of phosphorous and potassium sometimes are beneficial. Most soils contain enough nutrients for adequate growth and flowering. Nitrogen can harm lilacs for two reasons. First, nitrogen encourages plants to produce more leaves and shoots and less blooms. Second, succulent new shoots often cannot harden off sufficiently, and winter damage results.

Fertilizing lilacs within two years of transplanting can harm the roots. However, if plant growth remains weak after two years, and soil tests indicate nutrient deficiencies, apply about one pound of 5-10-10 or equivalent fertilizer to each

mature bush in early spring. Spread the fertilizer around the shrub in a broad band beneath the dripline. Use no more than a small handful of fertilizer on young plants.

Pruning and rejuvenation

New shoots that continually sprout from the roots allow lilacs to remain young and in prime flowering condition for many years. Suckers are such effective rejuvenators that lilacs planted centuries ago are still thriving today

Newly transplanted lilacs usually need no pruning for five years or until they are six to eight feet tall. After that, regular pruning is essential to maintain healthy flowering. An ideal lilac is one growing on its own roots with seven to 12 stems, all of different ages and thicknesses. Stems of one to two inches in diameter produce better blooms than stems that are three or more inches thick. The branches should not cross each other, and they should produce flowers all over the bush, not just at the top. If left to themselves, many lilacs will reach a height of 18 feet with a similar spread. However, a height of eight feet can be maintained with regular stem renewal and pruning.

The best time to prune is immediately after flowering, since the flowering buds for the next year are produced in June and July on almost all species. Prune out all diseased canes, old and declining stems, thin suckers, and twiggy, small branches.

To rejuvenate overgrown or declining lilacs, cut to the ground one-third of the largest trunks each year to encourage the growth of new shoots from the base. Over a three-year period, the lilacs will rejuvenate without a complete loss in bloom or canopy. Pruning in early spring when leaves are absent will make it easier to see which stems need to be removed.

Older literature recommends removing dead flowers (deadheading) immediately after flowering to prevent energy from going into seed production. On established lilacs, deadheading does not improve flowering significantly and is very labor intensive. However, we do recommend deadheading young lilacs since this encourages them to bloom well at an earlier age.

Diseases and Insects

Bacterial blight (*Pseudomonas syringae* pv. *syringae*)

Bacterial blight causes brown leaf spots (often surrounded by yellow areas) and rapid browning of young shoots. Young tissues are more severely infected. The lilac pathogen also attacks pear, cherry, maple and other ornamentals.

As with most bacterial diseases, mild, moist weather favors lilac blight. Factors that weaken or injure plants make infection more likely. These include wounds, frost damage, improper nutrition or other diseases or insects. The bacteria spread via wind, rain, insects, tools and infected nursery stock.

Most common and French hybrid lilacs are susceptible, and some experts say that white-flowered lilacs seem most susceptible. When purchasing plants, look for one of the many bacterial blight resistant cultivars.

Adequate plant spacing and pruning to allow good air circulation can minimize blight. In addition, do not allow irrigation systems to hit leaves. Prune out and burn all affected tissues as soon as you see them. After each cut, sterilize pruning shears in rubbing alcohol or diluted bleach (one part bleach to nine parts water). When spring weather is favorable for infection, bactericide treatments should be used on plants with a history of blight. Always follow instructions on the pesticide label.

Powdery mildew (*Erysiphe syringae*)

Powdery mildew forms a grayish-white powdery mat on leaves. Infected leaves may turn yellow and fall off. New growth often is stunted. Hot, humid weather favors mildew. Generally, mildew occurs in late summer and does little harm. Most French hybrids are very susceptible, but Manchurian lilacs, Meyer lilacs and Japanese tree lilacs are quite resistant to mildew.

Lilac borer (*Podosesia syringae*)

Lilac borers are most common east of the Rockies. These moths resemble wasps as adults because of their brownish, clear wings. The moths fly to lilacs and lay their eggs on trunks and branches in late spring. Near wounds and cracks, larvae tunnel into branches, feeding on sapwood and heartwood. They cause branch tips to wilt in late summer, especially when weather is warm and dry. Lower branches swell and crack, and sawdust appears around the borer holes. Affected branches may die or break. The best control for the lilac borer is prevention. Annually prune out 1/3 of the oldest branches to the ground. Pheromone traps can be used to monitor the adults during the egg-laying period. Apply insecticides two to three weeks after the first adult moths are captured to disrupt their egg-laying period.

Lilac leafminers (*Caloptilia syringella*)

Lilac leafminers occur most commonly in western Montana. Leafminer damage first appears as light green blotches on the leaves in early summer. The outer cell layer of the leaf separates easily from other layers as a pale yellow larva, up to 1/3 inch long, grows inside. Most damage is cosmetic and plants will usually recover unless the infestation is an annual occurrence. When infested heavily, nearly every leaf turns brown, causing the shrub to appear burned.

Scales

Scale insects cover lilac trunks and branches with scaly bumps that can be scraped from the branch. The hard covering protects the insect underneath. Scales extract fluids from the plant, resulting in stunting, leaf yellowing and premature leaf drop. Scales may infest lilac, ash, maple and many other trees.

Eggs hatch in late May or June. Young scales (crawlers) are small (1/10 inch), mobile and pale yellow or orange. After emergence they move to a new spot on the plant, attach to the plant and begin sucking its sap. Prune heavily infested branches. Crawler stage insects can be trapped with double-sided tape and adhesive barriers. This is also the most effective stage to apply chemical controls. These products must contact the crawlers directly so thorough coverage is necessary. Lilac is prone to phytotoxicity from some insecticides; follow label directions carefully.

Insecticidal soap or oil sprays, applied at three- to four-day intervals during the crawler stage, can also be effective.

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**YARD AND GARDEN
(FLOWERS)**

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